



444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

March 2, 2021

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

**Re: Private Well Sampling Results Letters - January & February 2021  
La Crosse Municipal Wells 23 &  
24 WDNR BRRTS # 02-32-000065**

Dear Mr. Rozeboom:

Please find attached 61 letters to property owners and occupants conveying the PFAS results of the private wells sampling on French Island. This represents all lab reports received and letters sent in January and February, 2021. As of March 1, 79 wells had been sampled and 10 had been re-sampled since our last summary, dated January 1, 2021. As of March 1, we had yet to receive the lab reports for eighteen (18) additional samples, the last of which was collected on February 24, 2021. The attached table 1 presents private well sampling points. It provides the sampling point number keyed to tax parcel number, address, owner, occupant, well information, sampling date, lab report date, results letter and email dates, and the date the occupant signed the bottled water agreement. The Expanded Sampling Area # column describes whether the well is in the original sampling area (0), the area immediately west (1), the area south of I-90 (2), the area west of the airport (3), or an area outside a targeted sampling area (OUT). The attached table 2 provides the same information for 10 wells that have been re-sampled. The re-sampling was conducted based on this criteria: Wells were re-sampled if original results were equal to or greater than 75% of a proposed enforcement standard for any PFAS compound. Sampling point 250-0 was re-sampled because although the original sample results were below that criteria, the adjacent neighboring well had some of the higher results observed.

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](mailto:John.storlie@theOSgrp.com)

Attachments: Tables 1 & 2 Private Well Sampling Points  
Private well results letters (Jan & Feb 2021)

Cc: Mayor Kabat (w/o letter attachments)  
Randy Turtenwald (w/o letter attachments)

Table 1 Private Well Sampling Points

Sampling Point Number	Tax Parcel Number	Owner Name	Expanded Sampling Area #	Property Address	Property City	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)	Static water level (ft bgs)	Lab Report Date	Results e-mail Date	Results Letter Date	Bottled Water Ack. Date	Resample Completed date	Lab Report 2 Date	Results 2 e-mail Date	Results 2 Letter Date
10267-80	17-10267-80	[REDACTED]	0	2604 FANTA REED RD	LA CROSSE	54603-1223	No	12/22/2020	Kathy Raymond	12/23/2020				1/19/2021	1/19/2021	1/19/2021	1/22/2021 -owner 1/22/21 - Tennant				
111-0	4-111-0	[REDACTED]	0	2548 BAINBRIDGE ST	LA CROSSE	54603	Yes	1/14/2021		1/14/2021				2/2/2021	2/2/2021	2/2/2021	2/3/2021				
114-01-B	4-114-0	[REDACTED]	1	301, 303, 305, 307, 309, 401, 403, 405, 407, 409 Callaway Ct	LA CROSSE	54603	No	1/14/2021	See King Properties Tenants Spreadsheet	1/18/2021	UJ245 Hicap well #69475	60-66	20	2/2/2021	2/3/2021	2/3/2021					
114-0-A	4-114-0	[REDACTED]	1	101, 103, 105, 107, 201, 203, 205, 207, 209, 211 Callaway Ct	LA CROSSE	54603	No	1/14/2021	See King Properties Tenants Spreadsheet	1/18/2021	UJ230	61-67	24	2/2/2021	2/3/2021	2/3/2021					
1223-0	4-1223-0	[REDACTED]	OUT	1905 Cherokee Ave	LA CROSSE	54603		2/11/2021		2/11/2021											
135-0	4-135-0	[REDACTED]	2	2312 BAINBRIDGE ST	LA CROSSE	54603		1/18/2021		1/21/2021				2/9/2021	2/9/2021	2/9/2021					
1365-0	4-1365-0	[REDACTED]	OUT	137 USHER ST	LA CROSSE	54603	Yes	1/18/2021		1/21/2021				2/9/2021	2/10/2021	2/10/2021					
1438-0	4-1438-0	[REDACTED]	OUT	3507 Lakeshore Drive	LA CROSSE	54603	Yes	1/29/2021		1/31/2021	KS265	63-66	15	2/18/2021	2/18/2021	2/18/2021					
144-0	4-144-0	[REDACTED]	2	2306 BAINBRIDGE ST	LA CROSSE	54603	Yes	1/18/2021		1/26/2021				2/12/2021	na	2/13/2021					
144-1	4-144-1	[REDACTED]	2	2304 BAINBRIDGE ST	LA CROSSE	54603		1/22/2021		1/26/2021				2/12/2021	na	2/13/2021					
151-3-A	4-151-3	[REDACTED]	2	101-209 CAMPBELL CT	LA CROSSE	54603	No	1/14/2021	See King Properties Tenants Spreadsheet	1/18/2021	RR179	57-63	20	2/2/2021	2/3/2021	2/3/2021					
151-3-E	4-151-3	[REDACTED]	2	302-408 CAMPBELL CT (even)	LA CROSSE	54603	No	1/14/2021	See King Properties Tenants Spreadsheet	1/18/2021	RR 176 or RR 177?	57-63	18	2/2/2021	2/3/2021	2/3/2021					
151-3-O	4-151-3	[REDACTED]	2	301-507 CAMPBELL CT (odd)	LA CROSSE	54603	No	1/14/2021	See King Properties Tenants Spreadsheet	1/18/2021	RR 176 or RR 177?	57-63	18	2/2/2021	2/3/2021	2/3/2021					
151-5	4-151-5	[REDACTED]	2	2100 DAWSON AVE	LA CROSSE	54603	Yes	2/11/2021		2/11/2021	SD051	63-70	20								
1556-2	4-1556-2	[REDACTED]	OUT	905 Plainview Rd	LA CROSSE	54603	Yes	2/17/2021		2/17/2021											
1694-0	4-1694-0	[REDACTED]	OUT	3065 Edgewater Lane	LA CROSSE	54603	Yes	1/15/2021		1/18/2021	CQ334	126-129	5	2/1/2021	2/1/2021	2/1/2021					
1704-0	4-1704-0	[REDACTED]	OUT	3049 Edgewater Ln	LA CROSSE	54603	Yes	2/2/2021		2/3/2021	UO868	63-66	12	2/19/2021	2/20/2021	2/20/2021					
182-0	4-182-0	[REDACTED]	0	2544 2ND AVE E	LA CROSSE	54603	Yes	11/17/2020		1/13/2021		3-4' screen,		2/1/2021	na	2/1/2021	2/12/2021				
1913-16	4-1913-16	[REDACTED]	OUT	2623 Lakeshore Drive	LA CROSSE	54603	Yes	1/18/2021		1/18/2021	XN338	65-68	30	2/1/2021	2/3/2021	2/3/2021					
197-0	4-197-0	[REDACTED]	0	2544 1ST AVE E	LA CROSSE	54603	Yes	12/12/2020		12/17/2020	UV469	60-63	28	1/14/2021	na	1/15/2021	2/2/2021				
200-0	4-200-0	[REDACTED]	0	2532 1ST AVE E	LA CROSSE	54603	Yes	12/8/2020		12/8/2020				1/14/2021	1/15/2021	1/15/2021	2/1/2021				
2027-0	4-2027-0	[REDACTED]	OUT	3029 Youngdale Ave	LA CROSSE	54603	Yes	2/22/2021		2/24/2021											
203-0	4-203-0	[REDACTED]	0	2520 1ST AVE E	LA CROSSE	54603	Yes	12/14/2020		12/17/2020	CQ197	63-66	25	1/14/2021	1/15/2021	1/15/2021					
2084-0	4-2084-0	[REDACTED]	OUT	2603 THOMAS ST	LA CROSSE	54603	Yes	2/19/2021		2/22/2021											
2133-0	4-2133-0	[REDACTED]	OUT	2523 Baumgartner Dr	LA CROSSE	54603	Yes	2/21/2021		2/22/2021	FM316	62-66	32								
222-0	4-222-0	[REDACTED]	0	2541 2ND AVE E	LA CROSSE	54603		12/19/2020		1/5/2021	UU266	63-66	27	1/20/2021	1/21/2021	1/21/2020					
223-0	4-223-0	[REDACTED]	0	2545 2ND AVE E	LA CROSSE	54603	Yes	1/15/2021		1/18/2021				2/2/2021	2/3/2021	2/3/2021					
224-0	4-224-0	[REDACTED]	0	2549 2ND AVE E	LA CROSSE	54603	Yes	12/18/2020		12/22/2020				1/19/2021	1/19/2021	1/19/2021		1/21/2021	2/9/2021	2/9/2021	2/9/2021
232-0	4-232-0	[REDACTED]	0	2536 BAINBRIDGE ST	LA CROSSE	54603	Yes	1/4/2021		1/5/2021	ZE561	63-66	23	1/20/2021	1/21/2021	1/21/2021					
242-0	4-242-0	[REDACTED]	0	2500 BAINBRIDGE ST	LA CROSSE	54603	Yes	12/8/2020		12/17/2020				1/14/2021	na	1/15/2021					

Table 1 Private Well Sampling Points

Sampling Point Number	Tax Parcel Number	Owner Name	Expanded Sampling Area #	Property Address	Property City	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)	Static water level (ft bgs)	Lab Report Date	Results e-mail Date	Results Letter Date	Bottled Water Ack. Date	Resample Completed date	Lab Report 2 Date	Results 2 e-mail Date	Results 2 Letter Date
243-0	4-243-0	[REDACTED]	0	2501 1ST AVE E	LA CROSSE	54603	No	12/23/2020	Eli Hubert; Lucas Hubert	1/5/2021				1/20/2021	1/21/2021	1/21/2021					
282-0	4-282-0	[REDACTED]	OUT	207 Church Dr & 209 Church Dr (SHARED WELL)	LA CROSSE	54603	Yes	2/2/2021	Karlene Mellem - 209 Church Dr.	2/3/2021				2/19/2021	2/19/2021	2/19/2021					
332-0	4-332-0	[REDACTED]	0	2538 1ST AVE W	LA CROSSE	54603	Yes	12/22/2020		12/23/2020				1/19/2021	1/19/2021	1/19/2021					
335-0	4-335-0	[REDACTED]	0	2542 1ST AVE W	LA CROSSE	54603	Yes	1/11/2021		1/13/2021	KS250	63-66	22	2/1/2021	na	2/1/2021	2/7/2021				
336-0	4-336-0	[REDACTED]	0	2546 1ST AVE W	LA CROSSE	54603	No	12/29/2020	Jen Sampson	1/5/2021	WY280	60-63	24	1/20/2021	1/21/2021	1/21/2021					
348-0	4-348-0	[REDACTED]	0	2515 BAINBRIDGE ST	LA CROSSE	54603	Yes	2/19/2021		2/24/2021	NX482	63-65	27								
349-0	4-349-0	[REDACTED]	0	2521 BAINBRIDGE ST	LA CROSSE	54603	Yes	12/4/2020		12/8/2020				1/14/2021	1/15/2021	1/15/2021					
353-0	4-353-0	[REDACTED]	0	2525 BAINBRIDGE ST	LA CROSSE	54603	Yes	1/24/2021	Elizabeth Lubinski	2/22/2021											
354-0	4-354-0	[REDACTED]	1	310 CALLAWAY BLVD	LA CROSSE	54603	Yes	1/20/2021		1/25/2021	QT264	63-66	35	2/12/2021	2/13/2021	2/13/2021					
356-0	4-356-0	[REDACTED]	1	304 CALLAWAY BLVD	LA CROSSE	54603	Yes	1/26/2021	Mary Heisz	1/28/2021	UV453	60-63	32	2/18/2021	2/18/2021	2/18/2021					
357-0	4-357-0	[REDACTED]	1	302 CALLAWAY BLVD	LA CROSSE	54603	Yes	1/25/2021	Ryan Zielke	1/28/2021	TI284	62-65	25	2/18/2021	2/18/2021	2/18/2021					
358-0	4-358-0	[REDACTED]	1	300 CALLAWAY BLVD	LA CROSSE	54603	Yes	1/16/2021		1/25/2021	KS252	63-66	28	2/12/2021	2/13/2021	2/13/2021					
359-0	4-359-0	[REDACTED]	1	212 CALLAWAY BLVD	LA CROSSE	54603	Yes	1/18/2021		1/25/2021	SR900	63-66	32	2/12/2021	2/12/2021	2/12/2021	2/12/2021				
362-0	4-362-0	[REDACTED]	0	110 CALLAWAY BLVD	LA CROSSE	54603	Yes	1/13/2021		1/13/2021	CQ060	63-66	25	2/1/2021	2/1/2021	2/1/2021					
364-0	4-364-0	[REDACTED]	1	2502 2ND AVE W	LA CROSSE	54603	Yes	1/15/2021		1/18/2021				2/2/2021	2/3/2021	2/3/2021					
368-0	4-368-1	[REDACTED]	1	2510 2ND AVE W	LA CROSSE	54603	Yes	2/10/2021		2/15/2021											
372-0	4-372-0	[REDACTED]	1	2518 2ND AVE W	LA CROSSE	54603	Yes	1/13/2021		1/14/2021	UU267	63-66	27	2/2/2021	2/3/2021	2/3/2021					
374-0	4-374-0	[REDACTED]	0	2523 1ST AVE W	LA CROSSE	54603	Yes	1/25/2021		1/31/2021	CM373	62-65	35	2/18/2021	na	2/18/2021					
375-0	4-375-0	[REDACTED]	1	2522 2ND AVE W	LA CROSSE	54603	Yes	1/20/2021		1/25/2021	KU569	67-70	36	2/12/2021	2/13/2021	2/13/2021					
378-0	4-378-0	[REDACTED]	1	2511 2ND AVE W	LA CROSSE	54603	No	1/20/2021	Adam Degenhardt & Kelli Hanson	2/3/2021	SH686	59-63	31	2/22/2021	2/22/2021	2/22/2021					
379-0	4-379-0	[REDACTED]	1	2515 2ND AVE W	LA CROSSE	54603	Yes	1/28/2021		2/3/2021	AC679	63-66	40	2/22/2021	2/22/2021	2/22/2021					
381-0	4-381-0	[REDACTED]	1	2527 2ND AVE W	LA CROSSE	54603	Yes	1/19/2021		1/25/2021	RK335	63-66	35	2/12/2021	2/13/2021	2/13/2021					
384-0	4-384-0	[REDACTED]	0	2535 1ST AVE W	LA CROSSE	54603	Yes	12/18/2020		12/22/2020				1/19/2021	1/19/2021	1/19/2021					
387-0	4-387-0	[REDACTED]	0	2547 1ST AVE W	LA CROSSE	54603	Yes	12/18/2020		12/22/2020				1/19/2021	na	1/19/2021	1/19/2021				
406-2	4-406-2	[REDACTED]	3	510 PLAINVIEW RD	LA CROSSE	54603	Yes	1/19/2021		1/25/2021	UO907	63-66	23	2/12/2021	2/13/2021	2/13/2021					
408-0	4-408-0	[REDACTED]	3	2642 MUTH RD	LA CROSSE	54603	Yes	1/21/2021		1/26/2021	AD566	63-66		2/12/2021	na	2/12/2021	2/16/2021				
412-0	4-412-0	[REDACTED]	OUT	504 Dauphin Street	LA CROSSE	54603	Yes	1/22/2021		1/26/2021	ZF047	60-63	27	2/12/2021	2/13/2021	2/13/2021	2/14/2021				
439-1	4-439-1	[REDACTED])	OUT	2602 HIBBARD CT	LA CROSSE	54603		2/22/2021		2/23/2021											
468-0	4-468-0	[REDACTED]	1	2500 3RD AVE W	LA CROSSE	54603	Yes	2/2/2021		2/15/2021	UJ234	60-63	27								
469-0	4-469-0	[REDACTED]	1	2504 3RD AVE W	LA CROSSE	54603	Yes	1/17/2021		1/31/2021	RF178	62.5-66.5	32	2/18/2021	2/18/2021	2/18/2021					

Table 1 Private Well Sampling Points

Sampling Point Number	Tax Parcel Number	Owner Name	Expanded Sampling Area #	Property Address	Property City	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)	Static water level (ft bgs)	Lab Report Date	Results e-mail Date	Results Letter Date	Bottled Water Ack. Date	Resample Completed date	Lab Report 2 Date	Results 2 e-mail Date	Results 2 Letter Date
470-0	4-470-0	[REDACTED]	1	2508 3RD AVE W	LA CROSSE	54603	Yes	1/18/2021		1/21/2021	WU591	60-63	30	2/9/2021	2/9/2021	2/9/2021					
471-0	4-471-0	[REDACTED]	1	2512 3RD AVE W	LA CROSSE	54603	Yes	1/18/2021		1/25/2021	UT423	60-63	30	2/12/2021	2/13/2021	2/13/2021					
49-0	4-49-0	[REDACTED]	OUT	2725 Grand Ave	LA CROSSE	54603		2/21/2021		2/24/2021											
493-2	4-493-2	[REDACTED]	1	312 CALLAWAY BLVD	LA CROSSE	54603	Yes	2/1/2021		2/9/2021											
531-0	4-531-0	[REDACTED]	OUT	2539 Island Park Rd	LA CROSSE	54603	Yes	2/24/2021		2/24/2021	IF315	60-63	30								
552-0	4-552-0	[REDACTED]	OUT	2536 Lakeshore Dr	LA CROSSE	54603	YES	2/24/2021		2/24/2021	XX708	63-66	28								
600-32	4-600-32	[REDACTED]	2	101 SKY HARBOUR DR	LA CROSSE	54603	Yes	2/5/2021		2/11/2021	EV100	53-65	24								
712-1	4-712-1	[REDACTED]	OUT	1652 Lakeshore Drive	LA CROSSE	54603	Yes	2/18/2021		2/22/2021											
84-0	4-84-0	[REDACTED]	3	307 PLAINVIEW RD	LA CROSSE	54603	Yes	1/14/2021		1/18/2021				2/2/2021	2/2/2021	2/2/2021	2/9/2021				
85-0	4-85-0	[REDACTED]	3	2612 DEL RAY AVE	LA CROSSE	54603	Yes	1/20/2021		1/26/2021				2/12/2021	2/13/2021	2/13/2021					
86-0	4-86-0	[REDACTED]	3	2618 DEL RAY AVE	LA CROSSE	54603	Yes	1/23/2021		1/31/2021				2/18/2021	2/18/2021	2/18/2021					
87-0	4-87-0	[REDACTED]	3	2620 DEL RAY AVE	LA CROSSE	54603	Yes	1/24/2021		1/31/2021				2/18/2021	2/18/2021	2/18/2021					
88-0	4-88-0	[REDACTED]	3	2700 DEL RAY AVE	LA CROSSE	54603	Yes	1/21/2021		1/28/2021	AR895	84-88	30	2/18/2021	na	2/18/2021	2/18/2021				
89-0	4-89-0	[REDACTED]	3	2712 DEL RAY AVE	LA CROSSE	54603	Yes	2/18/2021		2/24/2021	AX664	60-65	25								
91-0	4-91-0	[REDACTED]	3	2726 DEL RAY AVE	LA CROSSE	54603	Yes	1/20/2021		1/21/2021	ZY450	63-66	30	2/9/2021	2/9/2021	2/9/2021	2/9/2021				
92-0	4-92-0	[REDACTED]	3	2736 DEL RAY AVE	LA CROSSE	54603	Yes	1/18/2021		1/21/2021	WY059	68-72	38	2/9/2021	2/9/2021	2/9/2021					
94-0	4-94-0	[REDACTED]	3	2744 DEL RAY AVE	LA CROSSE	54603	Yes	1/19/2021		1/26/2021	YW025	54-60	37	2/12/2021	2/12/2021	2/12/2021	2/12/2021				
95-0	4-95-0	[REDACTED]	3	2742 DEL RAY AVE	LA CROSSE	54603	Yes	1/21/2021		1/21/2021	XE170	60-63	35	2/9/2021	2/9/2021	2/9/2021	2/9/2021				
96-0	4-96-0	[REDACTED]	3	2750 DEL RAY AVE	LA CROSSE	54603	Yes	1/22/2021		2/3/2021	XE180	59-62	36	2/22/2021	2/22/2021	2/22/2021					



Table 2 Private Well Sampling Points - Resampled

Sampling Point Number	Tax Parcel Number	Owner Name	Expanded Sampling Area #	Property Address	Property City	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)	Static water level (ft bgs)	Lab Report Date	Results e-mail Date	Results Letter Date	Bottled Water Ack. Date	Resample Completed date	Lab Report 2 Date	Results 2 e-mail Date	Results 2 Letter Date
104-0	4-104-0	[REDACTED]	0	2608 FANTA REED RD	LA CROSSE	54603	Yes	10/26/2020		10/27/2020				11/16/2020	11/17/2020	11/17/2020		1/21/2021	2/9/2021	2/9/2021	2/9/2021
192-0	4-192-0	[REDACTED]	0	202 FANTA REED RD	LA CROSSE	54603	Yes	10/26/2020		10/27/2020	ZH086	X - 63		11/16/2020	11/17/2020	11/17/2020	2/10/2021	1/21/2021	2/9/2021	2/9/2021	2/9/2021
221-0	4-221-0	[REDACTED]	0	2537 2ND AVE E	LA CROSSE	54603	Yes	10/24/2020		10/27/2020				11/16/2020	11/18/2020	11/18/2020		1/21/2021	2/9/2021	2/9/2021	2/9/2021
224-0	4-224-0	[REDACTED]	0	2549 2ND AVE E	LA CROSSE	54603	Yes	12/18/2020		12/22/2020				1/19/2021	1/19/2021	1/19/2021		1/21/2021	2/9/2021	2/9/2021	2/9/2021
226-0	4-226-0	[REDACTED]	0	2557 2ND AVE E	LA CROSSE	54603	Yes	10/27/2020		10/29/2020				11/20/2020	11/24/2020	11/23/2020	2/10/2021	1/21/2021	2/9/2021	2/9/2021	2/9/2021
246-0	4-246-0	[REDACTED]	0	2513 1ST AVE E	LA CROSSE	54603	Yes	10/23/2020		10/29/2020				11/20/2020	na	11/23/2020		1/21/2021	2/9/2021	n/a	2/9/2021
250-0	4-250-0	[REDACTED]	0	2529 1ST AVE E	LA CROSSE	54603	No	10/26/2020	Janice Bolstad	10/29/2020		62-65		11/20/2020	11/23/2020	11/23/2020		1/21/2021	2/9/2021	2/9/2021	2/9/2021
340-0	4-340-0	[REDACTED]	0	2554 1ST AVE W	LA CROSSE	54603	Yes	10/24/2020		10/29/2020				11/20/2020	11/24/2020	11/24/2020		1/21/2021	2/9/2021	2/9/2021	2/9/2021
346-0	4-346-0	[REDACTED]	0	2504 1ST AVE W	LA CROSSE	54603	Yes	11/9/2020		11/9/2020	TY398	60-63	20	12/9/2020	12/9/2020	12/9/2020		1/21/2021	1/26/2021	2/9/2021	2/9/2021
389-0-B	4-389-0	[REDACTED]	0	2557 1ST AVE W	LA CROSSE	54603	No	10/31/2020	Gregory Wuensch	11/2/2020				11/30/2020	12/1/2020	12/1/2020	2/17/2021	1/21/2021	2/9/2021	2/9/2021	2/9/2021



444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

January 15, 2021

[REDACTED]  
2532 1st Avenue East  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2532 1st Avenue East, La Crosse, WI 54603  
Tax parcel # 4-200-0  
Sample ID # 200-0

Dear [REDACTED]:

We have received and reviewed the test results for the sample collected on December 8, 2020 at the above address. Some PFAS compounds were found at levels above 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.

**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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA) CAS # 335-67-1</b>	<b>51 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1</b>	<b>230 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	42 ppt	450,000 ppt <sup>a</sup>
<b>Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4</b>	<b>1200 ppt</b>	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	20 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	35 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

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

Perfluoro-1-heptanesulfonic acid (PFHpS) CAS # 375-92-8	38 ppt	None Established <sup>c</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	110 ppt	None Established <sup>c</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	6.1 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	6.6 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

2532 1st Avenue East, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically on line at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: VL15007-002
Description: 200-0	Matrix: Aqueous
Date Sampled: 12/08/2020 1645	Project Name: LACROSSE WELL 23 & 24
Date Received: 12/15/2020	Project Number: 40219739

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/03/2021 1748	MMM	12/29/2020 1225	77951
2	SOP SPE	PFAS by ID SOP	5	01/05/2021 1957	SES	12/29/2020 1225	77951

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	42		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	38		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	ND		3.6	0.89	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	110		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	1200		18	4.4	ng/L	2
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	20		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	6.1		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	35		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	51		3.6	0.89	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	6.6		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	230		3.6	0.89	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
13C2_4:2FTS		104	25-150		98	25-150
13C2_6:2FTS		95	25-150		97	25-150
13C2_8:2FTS		95	25-150		95	25-150
13C2_PFDa		91	25-150		95	25-150
13C2_PFHxDA		89	25-150		109	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: VL15007-002
Description: 200-0	Matrix: Aqueous
Date Sampled: 12/08/2020 1645	Project Name: LACROSSE WELL 23 & 24
Date Received: 12/15/2020	Project Number: 40219739

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
13C2_PFTeDA		91	25-150		100	25-150
13C3_PFBs		93	25-150		101	25-150
13C3_PFHxS		90	25-150		100	25-150
13C3-HFPO-DA		103	25-150		103	25-150
13C4_PFBa		100	25-150		99	25-150
13C4_PFHpA		94	25-150		100	25-150
13C5_PFHxA		94	25-150		100	25-150
13C5_PFPeA		94	25-150		100	25-150
13C6_PFDA		96	25-150		102	25-150
13C7_PFUdA		91	25-150		94	25-150
13C8_PFOA		91	25-150		99	25-150
13C8_PFOS		89	25-150		98	25-150
13C8_PFOsA		104	10-150		104	10-150
13C9_PFNA		90	25-150		98	25-150
d-EtFOSA		87	10-150		106	10-150
d5-EtFOSAA		93	25-150		101	25-150
d9-EtFOSE		92	10-150		101	10-150
d-MeFOSA		88	10-150		114	10-150
d3-MeFOSAA		102	25-150		112	25-150
d7-MeFOSE		94	10-150		104	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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



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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

January 15, 2021

[REDACTED]  
2544 1st Avenue East  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2544 1st Avenue East, La Crosse, WI 54603  
Tax parcel # 4-197-0  
Sample ID # 197-0

Dear [REDACTED]:

We have received and reviewed the test results for the sample collected on December 17, 2020 at the above address. Some PFAS compounds were found at levels above 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.

**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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>3.5 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>84 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	8.6ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	39 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	28 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	1.7 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

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

Perfluoro-1-heptanesulfonic acid (PFHpS) CAS # 375-92-8	1.0 ppt	None Established <sup>c</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	6.7 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	3.1 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

2544 1st Avenue East, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically on line at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: VL19023-001
Description: 197-0	Matrix: Aqueous
Date Sampled: 12/17/2020 1510	Project Name: LACROSSE WELL 23 & 24
Date Received: 12/19/2020	Project Number: 40220069

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/03/2021 2257	MMM	12/30/2020 1223	78096

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		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	8.6		3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	1.0	J	3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	6.7		3.6	0.91	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	39		3.6	0.91	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	28		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	1.7	J	3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	3.5	J	3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	3.1	J	3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	84		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		108	25-150
13C2_6:2FTS		115	25-150
13C2_8:2FTS		112	25-150
13C2_PFDaA		102	25-150
13C2_PFHxDA		100	25-150
13C2_PFTeDA		99	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: VL19023-001
Description: 197-0	Matrix: Aqueous
Date Sampled: 12/17/2020 1510	Project Name: LACROSSE WELL 23 & 24
Date Received: 12/19/2020	Project Number: 40220069

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		96	25-150
13C3_PFHxS		100	25-150
13C3-HFPO-DA		112	25-150
13C4_PFBa		104	25-150
13C4_PFHpA		113	25-150
13C5_PFHxA		105	25-150
13C5_PFPeA		104	25-150
13C6_PFDa		103	25-150
13C7_PFUdA		99	25-150
13C8_PFOA		102	25-150
13C8_PFOS		86	25-150
13C8_PFOSA		108	10-150
13C9_PFNA		99	25-150
d-EtFOSA		85	10-150
d5-EtFOSAA		102	25-150
d9-EtFOSE		114	10-150
d-MeFOSA		99	10-150
d3-MeFOSAA		107	25-150
d7-MeFOSE		96	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

January 15, 2021

[Redacted]

2520 1st Avenue East  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2520 1st Avenue East, La Crosse, WI 54603  
Tax parcel # 4-203-0  
Sample ID # 203-0

Dear [Redacted]:

We have received and reviewed the test results for the sample collected on December 17, 2020 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	6.5 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	12 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	7.6 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	2.5 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	4.4 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	1.1 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2520 1st Avenue East, La Crosse, WI 54603  
Tax parcel # 4-203-0  
Sample ID # 203-0  
January 15, 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](mailto: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.

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

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: VL19023-002
Description: 203-0	Matrix: Aqueous
Date Sampled: 12/17/2020 1515	Project Name: LACROSSE WELL 23 & 24
Date Received: 12/19/2020	Project Number: 40220069

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	SOP SPE	PFAS by ID SOP	1	01/11/2021 1549	SES	01/08/2021 1129	78830

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	2
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.7	ng/L	2
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	6.5		3.7	0.93	ng/L	2
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	4.4		3.7	0.93	ng/L	2
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	12		3.7	0.93	ng/L	2
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	7.6		3.7	0.93	ng/L	2
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	2.5	J	3.7	0.93	ng/L	2
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.4	1.9	ng/L	2
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.1	J	3.7	0.93	ng/L	2
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.93	ng/L	2
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.7	0.93	ng/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
13C2_4:2FTS		112	25-150
13C2_6:2FTS		119	25-150
13C2_8:2FTS		104	25-150
13C2_PFDaA		108	25-150
13C2_PFHxDA		102	25-150
13C2_PFTeDA		107	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: VL19023-002
Description: 203-0	Matrix: Aqueous
Date Sampled: 12/17/2020 1515	Project Name: LACROSSE WELL 23 & 24
Date Received: 12/19/2020	Project Number: 40220069

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
13C3_PFBs		109	25-150
13C3_PFHxS		113	25-150
13C3-HFPO-DA		121	25-150
13C4_PFBa		119	25-150
13C4_PFHpA		117	25-150
13C5_PFHxA		112	25-150
13C5_PFPeA		117	25-150
13C6_PFDa		109	25-150
13C7_PFUdA		111	25-150
13C8_PFOA		112	25-150
13C8_PFOS		100	25-150
13C8_PFOsA		122	10-150
13C9_PFNA		112	25-150
d-EtFOSA		122	10-150
d5-EtFOSAA		110	25-150
d9-EtFOSE		107	10-150
d-MeFOSA		102	10-150
d3-MeFOSAA		124	25-150
d7-MeFOSE		110	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

January 15, 2021

██████████  
 2500 Bainbridge Street  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2500 Bainbridge Street, La Crosse, WI 54603  
 Tax parcel # 4-242-0  
 Sample ID # 242-0

Dear ██████████:

We have received and reviewed the test results for the sample collected on December 17, 2020 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.9 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	2.3 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.0 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	5.7 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	1.2 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2500 Bainbridge Street, La Crosse, WI 54603  
Tax parcel # 4-242-0  
Sample ID # 242-0  
January 15, 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](mailto: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.

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

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: VL19023-003
Description: 242-0	Matrix: Aqueous
Date Sampled: 12/17/2020 1525	Project Name: LACROSSE WELL 23 & 24
Date Received: 12/19/2020	Project Number: 40220069

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	SOP SPE	PFAS by ID SOP	1	01/11/2021 1559	SES	01/08/2021 1129	78830

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	1.8	ng/L	2
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.7	ng/L	2
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.0	J	3.7	0.92	ng/L	2
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	5.7		3.7	0.92	ng/L	2
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	2
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.9	J	3.7	0.92	ng/L	2
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.2	J	3.7	0.92	ng/L	2
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	2
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	2.3	J	3.7	0.92	ng/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
13C2_4:2FTS		108	25-150
13C2_6:2FTS		105	25-150
13C2_8:2FTS		99	25-150
13C2_PFDaA		95	25-150
13C2_PFHxDA		106	25-150
13C2_PFTeDA		99	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: VL19023-003
Description: 242-0	Matrix: Aqueous
Date Sampled: 12/17/2020 1525	Project Name: LACROSSE WELL 23 & 24
Date Received: 12/19/2020	Project Number: 40220069

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
13C3_PFBs		107	25-150
13C3_PFHxS		105	25-150
13C3-HFPO-DA		114	25-150
13C4_PFBa		118	25-150
13C4_PFHpA		109	25-150
13C5_PFHxA		109	25-150
13C5_PFPeA		115	25-150
13C6_PFDa		103	25-150
13C7_PFUdA		109	25-150
13C8_PFOA		106	25-150
13C8_PFOS		99	25-150
13C8_PFOsA		115	10-150
13C9_PFNa		104	25-150
d-EtFOsA		111	10-150
d5-EtFOsAA		104	25-150
d9-EtFOSE		93	10-150
d-MeFOsA		94	10-150
d3-MeFOsAA		119	25-150
d7-MeFOSE		94	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

January 21, 2021

██████████  
 2541 2nd Avenue East  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2541 2nd Avenue East, La Crosse, WI 54603  
 Tax parcel # 4-222-0  
 Sample ID # 222-0

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 5, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	3.6 ppt	20 ppt <sup>a,b</sup>	



Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	5.1 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	12 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	29 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	4.6 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2541 2nd Avenue East, La Crosse, WI 54603  
Tax parcel # 4-222-0  
Sample ID # 222-0  
January 21, 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](mailto: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.

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

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: WA08113-004
Description: 222-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1555	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/14/2021 0201	SES	01/12/2021 1016	79085

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		8.2	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.2	2.0	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	2.0	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	4.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	5.1		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	4.6		4.1	1.0	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	12		4.1	1.0	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	29		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		8.2	2.0	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		8.2	2.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		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	3.6	J	4.1	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		85	25-150
13C2_6:2FTS		83	25-150
13C2_8:2FTS		82	25-150
13C2_PFDaA		79	25-150
13C2_PFHxDA		75	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA08113-004
Description: 222-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1555	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		81	25-150
13C3_PFHxS		93	25-150
13C3-HFPO-DA		90	25-150
13C4_PFBa		93	25-150
13C4_PFHpA		88	25-150
13C5_PFHxA		90	25-150
13C5_PFPeA		88	25-150
13C6_PFDa		85	25-150
13C7_PFUdA		83	25-150
13C8_PFOA		85	25-150
13C8_PFOS		79	25-150
13C8_PFOSA		83	10-150
13C9_PFNA		90	25-150
d-EtFOSA		66	10-150
d5-EtFOSAA		79	25-150
d9-EtFOSE		68	10-150
d-MeFOSA		71	10-150
d3-MeFOSAA		87	25-150
d7-MeFOSE		69	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

January 21, 2021

2536 Bainbridge Street  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2536 Bainbridge Street, La Crosse, WI 54603  
Tax Parcel # 4-232-0  
Sample ID # 232-0

Dear [REDACTED]:

We have received and reviewed the test results for the sample collected on January 5, 2021 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. **PLEASE NOTE: We collected two samples from your well and sent them to two separate labs as a quality control check. These are referred to as “split” samples. The results of the two tests were similar. The results of the higher of the two are shown in the table below.**

**Sample Results**

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	11 ppt	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	9.9 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	26 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	85 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>

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

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	9.8 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>bl</sup> 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](mailto: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.

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

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: WA08113-003
Description: 232-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1545	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/14/2021 0140	SES	01/12/2021 1016	79085

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		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	9.9		3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	9.8		3.6	0.91	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	26		3.6	0.91	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	85		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	9.2		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		98	25-150
13C2_6:2FTS		82	25-150
13C2_8:2FTS		97	25-150
13C2_PFDaA		84	25-150
13C2_PFHxDA		80	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA08113-003
Description: 232-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1545	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBS		89	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		97	25-150
13C4_PFHpA		96	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		93	25-150
13C6_PFDA		92	25-150
13C7_PFUdA		91	25-150
13C8_PFOA		89	25-150
13C8_PFOS		89	25-150
13C8_PFOSA		92	10-150
13C9_PFNA		96	25-150
d-EtFOSA		76	10-150
d5-EtFOSAA		85	25-150
d9-EtFOSE		77	10-150
d-MeFOSA		76	10-150
d3-MeFOSAA		88	25-150
d7-MeFOSE		81	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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### ANALYTICAL RESULTS

Project: 1901155 LACROSSE WELLS 23 & 24  
Pace Project No.: 40220667

**Sample: 232-0**      **Lab ID: 40220667003**      Collected: 01/05/21 15:45      Received: 01/07/21 11:00      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>537.1 PFAS Compounds, Water</b>									
Analytical Method: EPA 537.1    Preparation Method: EPA 537.1 Pace Analytical Services - Ormond Beach									
11CI-PF3OUdS	<0.0015	ug/L	0.0019	0.0015	1	01/16/21 14:08	01/19/21 02:31	763051-92-9	
9CI-PF3ONS	<0.0011	ug/L	0.0019	0.0011	1	01/16/21 14:08	01/19/21 02:31	756426-58-1	
ADONA	<0.00070	ug/L	0.0019	0.00070	1	01/16/21 14:08	01/19/21 02:31	919005-14-4	
HFPO-DA	<0.0016	ug/L	0.0019	0.0016	1	01/16/21 14:08	01/19/21 02:31	13252-13-6	
NEtFOSAA	<0.00089	ug/L	0.0019	0.00089	1	01/16/21 14:08	01/19/21 02:31	2991-50-6	
NMeFOSAA	<0.0015	ug/L	0.0019	0.0015	1	01/16/21 14:08	01/19/21 02:31	2355-31-9	
Perfluorobutanesulfonic acid	0.0092	ug/L	0.0019	0.00064	1	01/16/21 14:08	01/19/21 02:31	375-73-5	
Perfluorodecanoic acid	<0.0019	ug/L	0.0019	0.0019	1	01/16/21 14:08	01/19/21 02:31	335-76-2	
Perfluorohexanoic acid	<0.0012	ug/L	0.0019	0.0012	1	01/16/21 14:08	01/19/21 02:31	307-24-4	
Perfluorododecanoic acid	<0.0014	ug/L	0.0019	0.0014	1	01/16/21 14:08	01/19/21 02:31	307-55-1	
Perfluoroheptanoic acid	<0.00097	ug/L	0.0019	0.00097	1	01/16/21 14:08	01/19/21 02:31	375-85-9	
Perfluorohexanesulfonic acid	0.022	ug/L	0.0019	0.00070	1	01/16/21 14:08	01/19/21 02:31	355-46-4	
Perfluorononanoic acid	<0.0019	ug/L	0.0019	0.0019	1	01/16/21 14:08	01/19/21 02:31	375-95-1	
Perfluorooctanesulfonic acid	0.011	ug/L	0.0019	0.0012	1	01/16/21 14:08	01/19/21 02:31	1763-23-1	
Perfluorooctanoic acid	<0.00084	ug/L	0.0019	0.00084	1	01/16/21 14:08	01/19/21 02:31	335-67-1	
Perfluorotetradecanoic acid	<0.0018	ug/L	0.0019	0.0018	1	01/16/21 14:08	01/19/21 02:31	376-06-7	
Perfluorotridecanoic acid	<0.0017	ug/L	0.0019	0.0017	1	01/16/21 14:08	01/19/21 02:31	72629-94-8	
Perfluoroundecanoic acid	<0.0019	ug/L	0.0019	0.0019	1	01/16/21 14:08	01/19/21 02:31	2058-94-8	
<b>Surrogates</b>									
13C2-PFDA (S)	97	%	70-130		1	01/16/21 14:08	01/19/21 02:31		
13C2-PFHxA (S)	94	%	70-130		1	01/16/21 14:08	01/19/21 02:31		
NEtFOSAA-d5 (S)	83	%	70-130		1	01/16/21 14:08	01/19/21 02:31		
HFPO-DAS (S)	92	%	70-130		1	01/16/21 14:08	01/19/21 02:31		

### REPORT OF LABORATORY ANALYSIS

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



444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

January 21, 2021

████████████████████  
 417 LARKSPUR LN E  
 Onalaska, WI 54650

Subject: Private Well Sampling Results  
 2501 1st Ave East, La Crosse, WI 54603  
 Tax parcel # 4-243-0  
 Sample ID # 243-0

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 5, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	2.8 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.1 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	6.3 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	8.7 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	2.3 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2501 1st Ave East, La Crosse, WI 54603  
Tax parcel # 4-243-0  
Sample ID # 243-0  
January 21, 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](mailto: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.

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

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: WA08113-001
Description: 243-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1515	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/13/2021 2322	SES	01/12/2021 1016	79085

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	3.1	J	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	2.3	J	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	6.3		3.7	0.93	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	8.7		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	ND		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	ND		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	2.8	J	3.7	0.93	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		98	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		85	25-150
13C2_PFDaA		87	25-150
13C2_PFHxDA		89	25-150
13C2_PFTeDA		88	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA08113-001
Description: 243-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1515	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		93	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		99	25-150
13C4_PFBa		99	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		101	25-150
13C6_PFDa		92	25-150
13C7_PFUdA		92	25-150
13C8_PFOa		95	25-150
13C8_PFOs		90	25-150
13C8_PFOsA		102	10-150
13C9_PFNa		93	25-150
d-EtFOsA		82	10-150
d5-EtFOsAA		94	25-150
d9-EtFOsE		85	10-150
d-MeFOsA		72	10-150
d3-MeFOsAA		101	25-150
d7-MeFOsE		98	10-150

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

January 21, 2021

[Redacted]

2501 1st Ave East  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2501 1st Ave East, La Crosse, WI 54603  
Tax parcel # 4-243-0  
Sample ID # 243-0

Dear [Redacted]:

We have received and reviewed the test results for the sample collected on January 5, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	2.8 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.1 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	6.3 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	8.7 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	2.3 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.



Private Well Sampling Results for  
2501 1st Ave East, La Crosse, WI 54603  
Tax parcel # 4-243-0  
Sample ID # 243-0  
January 21, 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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: WA08113-001
Description: 243-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1515	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/13/2021 2322	SES	01/12/2021 1016	79085

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	3.1	J	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	2.3	J	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	6.3		3.7	0.93	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	8.7		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	ND		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	ND		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	2.8	J	3.7	0.93	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		98	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		85	25-150
13C2_PFDaA		87	25-150
13C2_PFHxDA		89	25-150
13C2_PFTeDA		88	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA08113-001
Description: 243-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1515	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		93	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		99	25-150
13C4_PFBa		99	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		101	25-150
13C6_PFDa		92	25-150
13C7_PFUdA		92	25-150
13C8_PFOA		95	25-150
13C8_PFOS		90	25-150
13C8_PFOsA		102	10-150
13C9_PFNa		93	25-150
d-EtFOSA		82	10-150
d5-EtFOSAA		94	25-150
d9-EtFOSE		85	10-150
d-MeFOSA		72	10-150
d3-MeFOSAA		101	25-150
d7-MeFOSE		98	10-150

---

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

January 21, 2021

██████████  
 2546 1st Avenue West  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2546 1st Avenue West, La Crosse, WI 54603  
 Tax parcel # 4-336-0  
 Sample ID # 336-0

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 5, 2021 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. **PLEASE NOTE: At your residence 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	3.4 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	4.1 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	6.1 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	10 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	54 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	3.6 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	5.1 ppt	None Established <sup>c</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	1.2 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	4.0 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>Bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2546 1st Avenue West, La Crosse, WI 54603  
Tax parcel # 4-336-0  
Sample ID # 336-0  
January 21, 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](mailto: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.

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

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: WA08113-002
Description: 336-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1530	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/14/2021 0119	SES	01/12/2021 1016	79085

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	5.8		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	ND		3.6	0.90	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	4.0		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	9.5		3.6	0.90	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	54		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	1.0	J	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	3.6		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	3.0	J	3.6	0.90	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	4.0		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	4.1		3.6	0.90	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		84	25-150
13C2_6:2FTS		79	25-150
13C2_8:2FTS		92	25-150
13C2_PFDaA		85	25-150
13C2_PFHxDA		81	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA08113-002
Description: 336-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1530	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		80	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		91	25-150
13C4_PFBa		92	25-150
13C4_PFHpA		91	25-150
13C5_PFHxA		90	25-150
13C5_PFPeA		87	25-150
13C6_PFDa		86	25-150
13C7_PFUdA		89	25-150
13C8_PFOA		88	25-150
13C8_PFOS		84	25-150
13C8_PFOSA		86	10-150
13C9_PFNA		85	25-150
d-EtFOSA		75	10-150
d5-EtFOSAA		90	25-150
d9-EtFOSE		77	10-150
d-MeFOSA		79	10-150
d3-MeFOSAA		88	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  
 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  
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# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA08113-005
Description: DUP #8	Matrix: Aqueous
Date Sampled: 01/05/2021 1535	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/14/2021 0212	SES	01/12/2021 1016	79085

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	3.5	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	6.1		3.5	0.87	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	5.1		3.5	0.87	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	10		3.5	0.87	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	52		3.5	0.87	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.2	J	3.5	0.87	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	3.6		3.5	0.87	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.87	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	3.4	J	3.5	0.87	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	3.8		3.5	0.87	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	4.0		3.5	0.87	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		91	25-150
13C2_6:2FTS		81	25-150
13C2_8:2FTS		92	25-150
13C2_PFDaA		88	25-150
13C2_PFHxDA		79	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  
 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  
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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA08113-005
Description: DUP #8	Matrix: Aqueous
Date Sampled: 01/05/2021 1535	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		83	25-150
13C3_PFHxS		89	25-150
13C3-HFPO-DA		100	25-150
13C4_PFBa		95	25-150
13C4_PFHpA		89	25-150
13C5_PFHxA		92	25-150
13C5_PFPeA		93	25-150
13C6_PFDa		87	25-150
13C7_PFUdA		89	25-150
13C8_PFOA		91	25-150
13C8_PFOS		84	25-150
13C8_PFOsA		88	10-150
13C9_PFNa		89	25-150
d-EtFOsA		73	10-150
d5-EtFOsAA		84	25-150
d9-EtFOSE		81	10-150
d-MeFOsA		90	10-150
d3-MeFOsAA		89	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  
 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  
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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

January 21, 2021

██████████  
 812 Callaway Ct.  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2546 1st Avenue West, La Crosse, WI 54603  
 Tax parcel # 4-336-0  
 Sample ID # 336-0

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 5, 2021 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. **PLEASE NOTE: 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	3.4 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	4.1 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	6.1 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	10 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	54 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	3.6 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	5.1 ppt	None Established <sup>c</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	1.2 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	4.0 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>Bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2546 1st Avenue West, La Crosse, WI 54603  
Tax parcel # 4-336-0  
Sample ID # 336-0  
January 21, 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](mailto: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.

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

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: WA08113-002
Description: 336-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1530	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/14/2021 0119	SES	01/12/2021 1016	79085

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	5.8		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	ND		3.6	0.90	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	4.0		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	9.5		3.6	0.90	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	54		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	1.0	J	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	3.6		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	3.0	J	3.6	0.90	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	4.0		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	4.1		3.6	0.90	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		84	25-150
13C2_6:2FTS		79	25-150
13C2_8:2FTS		92	25-150
13C2_PFDaA		85	25-150
13C2_PFHxDA		81	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA08113-002
Description: 336-0	Matrix: Aqueous
Date Sampled: 01/05/2021 1530	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		80	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		91	25-150
13C4_PFBa		92	25-150
13C4_PFHpA		91	25-150
13C5_PFHxA		90	25-150
13C5_PFPeA		87	25-150
13C6_PFDa		86	25-150
13C7_PFUdA		89	25-150
13C8_PFOA		88	25-150
13C8_PFOS		84	25-150
13C8_PFOsA		86	10-150
13C9_PFNa		85	25-150
d-EtFOSA		75	10-150
d5-EtFOSAA		90	25-150
d9-EtFOSE		77	10-150
d-MeFOSA		79	10-150
d3-MeFOSAA		88	25-150
d7-MeFOSE		83	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA08113-005
Description: DUP #8	Matrix: Aqueous
Date Sampled: 01/05/2021 1535	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/14/2021 0212	SES	01/12/2021 1016	79085

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	3.5	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	6.1		3.5	0.87	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	5.1		3.5	0.87	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	10		3.5	0.87	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	52		3.5	0.87	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.2	J	3.5	0.87	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	3.6		3.5	0.87	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.87	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	3.4	J	3.5	0.87	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	3.8		3.5	0.87	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	4.0		3.5	0.87	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		91	25-150
13C2_6:2FTS		81	25-150
13C2_8:2FTS		92	25-150
13C2_PFDa		88	25-150
13C2_PFHxDA		79	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA08113-005
Description: DUP #8	Matrix: Aqueous
Date Sampled: 01/05/2021 1535	Project Name: 1901155 LACROSSE WELLS 23
Date Received: 01/08/2021	Project Number: 40220667

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		83	25-150
13C3_PFHxS		89	25-150
13C3-HFPO-DA		100	25-150
13C4_PFBa		95	25-150
13C4_PFHpA		89	25-150
13C5_PFHxA		92	25-150
13C5_PFPeA		93	25-150
13C6_PFDa		87	25-150
13C7_PFUdA		89	25-150
13C8_PFOA		91	25-150
13C8_PFOS		84	25-150
13C8_PFOsA		88	10-150
13C9_PFNa		89	25-150
d-EtFOSA		73	10-150
d5-EtFOSAA		84	25-150
d9-EtFOSE		81	10-150
d-MeFOSA		90	10-150
d3-MeFOSAA		89	25-150
d7-MeFOSE		83	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 1, 2021

[REDACTED]  
2544 2nd Avenue East  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2544 2nd Avenue East, La Crosse, WI 54603  
Tax parcel # 4-182-0  
Sampling Point # 182-0  
Sampling Date: 01/13/21

Dear [REDACTED]:

We have received and reviewed the test results for the sample collected on January 13, 2021 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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>5.2 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>18 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	5.2 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.0 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	5.8 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	2.7 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

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	1.8 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	2.6 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

## BOTTLED WATER ACKNOWLEDGEMENT

2544 2nd Avenue East, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically on line at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA19030-003
Description: 182-0	Matrix: Aqueous
Date Sampled: 01/13/2021 1540	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/19/2021	Project Number: 40221047

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2038	JJG	01/24/2021 1615	80489

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	5.2		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	ND		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	3.0	J	3.8	0.96	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	5.8		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	1.8	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	2.7	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	5.2		3.8	0.96	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	2.6	J	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	18		3.8	0.96	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		97	25-150
13C2_6:2FTS		94	25-150
13C2_8:2FTS		88	25-150
13C2_PFDa		90	25-150
13C2_PFHxDA		88	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA19030-003
Description: 182-0	Matrix: Aqueous
Date Sampled: 01/13/2021 1540	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/19/2021	Project Number: 40221047

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		93	25-150
13C3_PFHxS		87	25-150
13C3-HFPO-DA		91	25-150
13C4_PFBa		94	25-150
13C4_PFHpA		90	25-150
13C5_PFHxA		86	25-150
13C5_PFPeA		95	25-150
13C6_PFDa		91	25-150
13C7_PFUdA		95	25-150
13C8_PFOa		92	25-150
13C8_PFOs		88	25-150
13C8_PFOsA		92	10-150
13C9_PFNa		89	25-150
d-EtFOSA		69	10-150
d5-EtFOSAA		94	25-150
d9-EtFOSE		90	10-150
d-MeFOSA		77	10-150
d3-MeFOSAA		95	25-150
d7-MeFOSE		93	10-150

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

February 1, 2021

██████████  
2542 1st Avenue West  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2542 1st Avenue West, La Crosse, WI 54603  
Tax parcel # 4-335-0  
Sampling Point # 335-0  
Sampling Date: 01/13/21

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 13, 2021 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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>9.3 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>14 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	7.6 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	12 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	50 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

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

Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	5.7 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> 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](mailto:PFAS@theOSgrp.com).

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<u>Questions about...</u>		<u>Contact</u>	<u>Phone</u>	<u>E-mail Address</u>
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Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

2542 1st Avenue West, La Crosse, WI 54603

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Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA19030-001
Description: 335-0	Matrix: Aqueous
Date Sampled: 01/13/2021 1515	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/19/2021	Project Number: 40221047

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2017	JJG	01/24/2021 1615	80489

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
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11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	7.6		3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	5.7		3.6	0.91	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	12		3.6	0.91	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	50		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	9.3		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	14		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		94	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		102	25-150
13C2_PFDaA		89	25-150
13C2_PFHxDA		89	25-150
13C2_PFTeDA		90	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA19030-001
Description: 335-0	Matrix: Aqueous
Date Sampled: 01/13/2021 1515	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/19/2021	Project Number: 40221047

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		93	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		94	25-150
13C4_PFBa		92	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		87	25-150
13C5_PFPeA		93	25-150
13C6_PFDa		91	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		93	25-150
13C8_PFOS		91	25-150
13C8_PFOsA		97	10-150
13C9_PFNa		89	25-150
d-EtFOsA		74	10-150
d5-EtFOsAA		95	25-150
d9-EtFOSE		84	10-150
d-MeFOsA		91	10-150
d3-MeFOsAA		97	25-150
d7-MeFOSE		100	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 1, 2021

██████████  
 110 Callaway Boulevard  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 110 Callaway Boulevard, La Crosse, WI 54603  
 Tax Parcel # 4-362-0  
 Sampling Point # 362-0  
 Sample Date: 01/13/21

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 13, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.9 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	1.6 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.7 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.6 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	2.1 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
110 Callaway Boulevard, La Crosse, WI 54603  
Tax Parcel # 4-362-0  
Sampling Point # 362-0  
February 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](mailto: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.

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

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: WA19030-002
Description: 362-0	Matrix: Aqueous
Date Sampled: 01/13/2021 1525	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/19/2021	Project Number: 40221047

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2027	JJG	01/24/2021 1615	80489

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		8.8	2.2	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		18	4.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.7	J	4.4	1.1	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.6	J	4.4	1.1	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	2.1	J	4.4	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.8	2.2	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.9	J	4.4	1.1	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.6	J	4.4	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		88	25-150
13C2_6:2FTS		95	25-150
13C2_8:2FTS		88	25-150
13C2_PFDaA		83	25-150
13C2_PFHxDA		87	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA19030-002
Description: 362-0	Matrix: Aqueous
Date Sampled: 01/13/2021 1525	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/19/2021	Project Number: 40221047

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		87	25-150
13C3_PFHxS		88	25-150
13C3-HFPO-DA		88	25-150
13C4_PFBa		91	25-150
13C4_PFHpA		90	25-150
13C5_PFHxA		83	25-150
13C5_PFPeA		93	25-150
13C6_PFDa		93	25-150
13C7_PFUdA		84	25-150
13C8_PFOA		89	25-150
13C8_PFOS		87	25-150
13C8_PFOSA		92	10-150
13C9_PFNA		87	25-150
d-EtFOSA		72	10-150
d5-EtFOSAA		92	25-150
d9-EtFOSE		85	10-150
d-MeFOSA		81	10-150
d3-MeFOSAA		83	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 3, 2021

██████████  
 2545 2nd Avenue East  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2545 2nd Avenue East, La Crosse, WI 54603  
 Tax Parcel # 4-223-0  
 Sampling Point # 223-0  
 Sample Date: January 18, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 18, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.3 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	12 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	7.0 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	15 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	37 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-heptanesulfonic acid (PFHpS) CAS # 375-92-8	1.3 ppt	None Established <sup>c</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	6.2 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2545 2nd Avenue East, La Crosse, WI 54603  
Tax Parcel # 4-223-0  
Sampling Point # 223-0  
February 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](mailto: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.

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

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: WA20028-008
Description: 223-0	Matrix: Aqueous
Date Sampled: 01/18/2021 1345	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/27/2021 1750	JJG	01/26/2021 1336	80695

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	7.0		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	1.3	J	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	ND		3.6	0.90	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	6.2		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	15		3.6	0.90	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	37		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	2.3	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	12		3.6	0.90	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		92	25-150
13C2_6:2FTS		92	25-150
13C2_8:2FTS		94	25-150
13C2_PFDa		91	25-150
13C2_PFHxDA		89	25-150
13C2_PFTeDA		91	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA20028-008
Description: 223-0	Matrix: Aqueous
Date Sampled: 01/18/2021 1345	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		91	25-150
13C3_PFHxS		93	25-150
13C3-HFPO-DA		91	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		99	25-150
13C5_PFHxA		100	25-150
13C5_PFPeA		95	25-150
13C6_PFDa		90	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		91	25-150
13C8_PFOS		86	25-150
13C8_PFOsA		98	10-150
13C9_PFNa		92	25-150
d-EtFOSA		76	10-150
d5-EtFOSAA		101	25-150
d9-EtFOSE		90	10-150
d-MeFOSA		87	10-150
d3-MeFOSAA		97	25-150
d7-MeFOSE		91	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 3, 2021

[Redacted]

2502 2nd Avenue West  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2502 2nd Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-364-0  
Sampling Point # 364-0  
Sample Date: January 18, 2021

Dear [Redacted]:

We have received and reviewed the test results for the sample collected on January 18, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>	



Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	Not Detected	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	7.9 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2502 2nd Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-364-0  
Sampling Point # 364-0  
February 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](mailto: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.

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

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: **WA20028-009**

Description: **364-0**

Matrix: **Aqueous**

Date Sampled: **01/18/2021 1414**

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

Date Received: **01/20/2021**

Project Number: **40221144**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/27/2021 1811	JJG	01/26/2021 1336	80695

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		7.5	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.5	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		7.5	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		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		7.5	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.7	0.93	ng/L	1
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>7.9</b>		<b>3.7</b>	<b>0.93</b>	<b>ng/L</b>	<b>1</b>
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		7.5	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		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		7.5	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	ND		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	ND		3.7	0.93	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		83	25-150
13C2_6:2FTS		92	25-150
13C2_8:2FTS		91	25-150
13C2_PFDa		89	25-150
13C2_PFHxDA		85	25-150
13C2_PFTeDA		84	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WA20028-009</b>
Description: <b>364-0</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>01/18/2021 1414</b>	Project Name: <b>LACROSSE WELLS 23 &amp; 24</b>
Date Received: <b>01/20/2021</b>	Project Number: <b>40221144</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		84	25-150
13C3_PFHxS		85	25-150
13C3-HFPO-DA		90	25-150
13C4_PFBa		96	25-150
13C4_PFHpA		93	25-150
13C5_PFHxA		94	25-150
13C5_PFPeA		90	25-150
13C6_PFDa		88	25-150
13C7_PFUdA		88	25-150
13C8_PFOA		89	25-150
13C8_PFOS		79	25-150
13C8_PFOsA		86	10-150
13C9_PFNa		88	25-150
d-EtFOsA		68	10-150
d5-EtFOsAA		88	25-150
d9-EtFOSE		82	10-150
d-MeFOsA		63	10-150
d3-MeFOsAA		91	25-150
d7-MeFOSE		95	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 3, 2021

██████████  
 2518 2nd Avenue West  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2518 2nd Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-372-0  
 Sampling Point # 372-0  
 Sample Date: January 14, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 14, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.7 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	2.5 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2518 2nd Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-372-0  
Sampling Point # 372-0  
February 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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: WA20028-001
Description: 372-0	Matrix: Aqueous
Date Sampled: 01/14/2021 1415	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2120	JJG	01/24/2021 1615	80489

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	ND		3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.6	0.91	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	1.7	J	3.6	0.91	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	2.5	J	3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.91	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	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	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	ND		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		90	25-150
13C2_6:2FTS		95	25-150
13C2_8:2FTS		87	25-150
13C2_PFDaA		85	25-150
13C2_PFHxDA		83	25-150
13C2_PFTeDA		84	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA20028-001
Description: 372-0	Matrix: Aqueous
Date Sampled: 01/14/2021 1415	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		87	25-150
13C3_PFHxS		87	25-150
13C3-HFPO-DA		88	25-150
13C4_PFBa		90	25-150
13C4_PFHpA		93	25-150
13C5_PFHxA		83	25-150
13C5_PFPeA		91	25-150
13C6_PFDa		93	25-150
13C7_PFUdA		84	25-150
13C8_PFOA		90	25-150
13C8_PFOS		89	25-150
13C8_PFOsA		90	10-150
13C9_PFNa		83	25-150
d-EtFOsA		76	10-150
d5-EtFOsAA		98	25-150
d9-EtFOSE		86	10-150
d-MeFOsA		79	10-150
d3-MeFOsAA		91	25-150
d7-MeFOSE		97	10-150

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

February 2, 2021

██████████  
307 Plainview Road  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
307 Plainview Road, La Crosse, WI 54603  
Tax parcel # 4-84-0  
Sampling Point # 84-0  
Sampling Date: January 18, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 18, 20201 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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctane sulfonamide (FOSA)</b> <b>CAS # 754-91-6</b>	<b>1.3 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>56 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>21 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.7 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	5.9 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	100 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	7.2 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	1.9 ppt	None Established <sup>c</sup>

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	1.3 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	11 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

307 Plainview Road, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically on line at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA20028-010
Description: 84-0	Matrix: Aqueous
Date Sampled: 01/18/2021 1510	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/27/2021 1822	JJG	01/26/2021 1336	80695

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	3.5	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	3.7		3.5	0.89	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	1.3	J	3.5	0.89	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.9	J	3.5	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	5.9		3.5	0.89	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	100		3.5	0.89	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.3	J	3.5	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	7.2		3.5	0.89	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	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	56		3.5	0.89	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	11		3.5	0.89	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	21		3.5	0.89	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		96	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		93	25-150
13C2_PFDaA		84	25-150
13C2_PFHxDA		86	25-150
13C2_PFTeDA		83	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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



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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

March 1, 2021

██████████  
905 Plainview Road  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
905 Plainview Road, La Crosse, WI 54603  
Tax Parcel # 4-1556-2  
Sampling Point # 1556-2  
Sampling Date: February 17, 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 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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>6.6 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>54 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	19 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	5.9 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	6.1 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	6.0 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS) CAS # 27619-97-2	110 ppt	None Established <sup>c</sup>

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



Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	1.1 ppt	None Established <sup>c</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	2.2 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	4.1 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well

March 01, 2021

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

RE: Project: LACROSSE WELLS 23 & 24  
Pace Project No.: 40222418

Dear Steve Osesek:

Enclosed are the analytical results for sample(s) received by the laboratory on February 23, 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

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## SAMPLE SUMMARY

Project: LACROSSE WELLS 23 & 24  
Pace Project No.: 40222418

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40222418001	1556-2	Water	02/17/21 09:52	02/23/21 11:15

## REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.



# Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: WI

Cert. Needed:  Yes  No

Owner Received Date: 2/23/2021 Results Requested By: 3/5/2021



Workorder: 40222418 Workorder Name: LACROSSE WELLS 23 & 24

Report To		Subcontract To					Requested Analysis																																																																																																																																	
Christopher Hyska Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436		Pace Analytical West Columbia 106 Vantage Point Drive West Columbia, SC 29172 Phone (803)791-9700					<div style="display: flex; justify-content: space-between;"> <span style="writing-mode: vertical-rl; transform: rotate(180deg);">WI 36 PFAS by ID</span> <table border="1" style="width: 100%; height: 100%;"> <tr> <th colspan="12">Preserved Containers</th> </tr> <tr> <th>Unpreserved</th> <th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th> <th colspan="6">LAB USE ONLY</th> </tr> <tr> <td>X</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table> </div>												Preserved Containers												Unpreserved												LAB USE ONLY						X																																																																																							
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\*\*\*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.

WO#: 40222418



Samples Receipt Checklist (SRC) (ME0018C-15)

Issuing Authority: Pace ENV - WCOL

Sample Receipt Checklist (SRC)

Client: THE OS GROUP LLC

Cooler Inspected by/date: JRG2 / 2/23/2021

Lot #: WB23023

Means of receipt:  Pace  Client  UPS  FedEx  Other: \_\_\_\_\_

Yes  No 1. Were custody seals present on the cooler?

Yes  No  NA 2. If custody seals were present, were they intact and unbroken?

pH Strip ID: NA Chlorine Strip ID: NA Tested by: NA

Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: NA  
 3.3 / 3.3 °C NA / NA °C NA / NA °C NA / NA °C

Method:  Temperature Blank  Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 0 °C

Method of coolant:  Wet Ice  Ice Packs  Dry Ice  None

Yes  No  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).

Yes  No  NA 4. Is the commercial courier's packing slip attached to this form?

Yes  No 5. Were proper custody procedures (relinquished/received) followed?

Yes  No 6. Were sample IDs listed on the COC?

Yes  No 7. Were sample IDs listed on all sample containers?

Yes  No 8. Was collection date & time listed on the COC?

Yes  No 9. Was collection date & time listed on all sample containers?

Yes  No 10. Did all container label information (ID, date, time) agree with the COC?

Yes  No 11. Were tests to be performed listed on the COC?

Yes  No 12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)? \_\_\_\_\_

Yes  No 13. Was adequate sample volume available?

Yes  No 14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?

Yes  No 15. Were any samples containers missing/excess (circle one) samples Not listed on COC?

Yes  No  NA 16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any of the VOA vials?

Yes  No  NA 17. Were all DRO/metals/nutrient samples received at a pH of < 2?

Yes  No  NA 18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?

Yes  No  NA 19. Were all applicable NH<sub>3</sub>/TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?

Yes  No  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?

Yes  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) NA were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA. Time of preservation NA. If more than one preservative is needed, please note in the comments below.

Sample(s) NA were received with bubbles >6 mm in diameter.

Samples(s) NA were received with TRC > 0.5 mg/L (If #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) with Shealy ID: NA.

SR barcode labels applied by: JRG2 Date: 2/23/2021

Comments:

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## Report of Analysis

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

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40222418

Lot Number: **WB23023**

Date Completed: 02/26/2021

*Karen Coonan*

02/28/2021 10:47 AM

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



The electronic signature above is the equivalent of a handwritten signature.  
This report shall not be reproduced, except in its entirety, without the written approval of Pace Analytical Services, LLC.

# 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: WB23023

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.

In the Matrix Spike (MS) associated with sample -001, two analytes recovered outside of the acceptance limits. The Laboratory Control Spike (LCS) recovered within the required acceptance limits; therefore, this demonstrates a matrix effect and data quality is not impacted.



# PACE ANALYTICAL SERVICES, LLC

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## Sample Summary

Pace Analytical Services, LLC

Lot Number: WB23023

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40222418

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Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	1556-2	Aqueous	02/17/2021 0952	02/23/2021

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(1 sample)

# PACE ANALYTICAL SERVICES, LLC

Detection Summary  
Pace Analytical Services, LLC  
Lot Number: WB23023  
Project Name: LACROSSE WELLS 23 & 24  
Project Number: 40222418

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	1556-2	Aqueous	6:2 FTS	PFAS by ID	110		ng/L	5
001	1556-2	Aqueous	PFBS	PFAS by ID	19		ng/L	5
001	1556-2	Aqueous	PFPeS	PFAS by ID	1.1	J	ng/L	5
001	1556-2	Aqueous	PFHxS	PFAS by ID	5.9		ng/L	5
001	1556-2	Aqueous	PFBA	PFAS by ID	6.1		ng/L	5
001	1556-2	Aqueous	PFHpA	PFAS by ID	2.2	J	ng/L	6
001	1556-2	Aqueous	PFHxA	PFAS by ID	6.0		ng/L	6
001	1556-2	Aqueous	PFOA	PFAS by ID	6.6		ng/L	6
001	1556-2	Aqueous	PFPeA	PFAS by ID	4.1		ng/L	6
001	1556-2	Aqueous	PFOS	PFAS by ID	54		ng/L	6

(10 detections)

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB23023-001
Description: 1556-2	Matrix: Aqueous
Date Sampled: 02/17/2021 0952	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/23/2021	Project Number: 40222418

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/25/2021 1837	JJG	02/24/2021 1132	83776

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		7.8	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	110		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	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	3.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	19		3.9	0.97	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.1	J	3.9	0.97	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	5.9		3.9	0.97	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	6.1		3.9	0.97	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	2.2	J	3.9	0.97	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	6.0		3.9	0.97	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	6.6		3.9	0.97	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	4.1		3.9	0.97	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	54		3.9	0.97	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		103	25-150
13C2_6:2FTS		107	25-150
13C2_8:2FTS		99	25-150
13C2_PFDa		98	25-150
13C2_PFHxDA		105	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB23023-001
Description: 1556-2	Matrix: Aqueous
Date Sampled: 02/17/2021 0952	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/23/2021	Project Number: 40222418

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		94	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		110	25-150
13C4_PFBa		95	25-150
13C4_PFHpA		99	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		92	25-150
13C6_PFDa		93	25-150
13C7_PFUdA		90	25-150
13C8_PFOa		96	25-150
13C8_PFOs		103	25-150
13C8_PFOsA		102	10-150
13C9_PFNa		97	25-150
d-EtFOsA		79	10-150
d5-EtFOsAA		99	25-150
d9-EtFOsE		90	10-150
d-MeFOsA		79	10-150
d3-MeFOsAA		97	25-150
d7-MeFOsE		103	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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 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: WQ83776-001

Matrix: Aqueous

Batch: 83776

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/24/2021 1132

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	02/25/2021 1816
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	02/25/2021 1816
8:2 FTS	ND		1	8.0	2.0	ng/L	02/25/2021 1816
6:2 FTS	ND		1	8.0	2.0	ng/L	02/25/2021 1816
10:2 FTS	ND		1	8.0	2.0	ng/L	02/25/2021 1816
4:2 FTS	ND		1	8.0	2.0	ng/L	02/25/2021 1816
GenX	ND		1	8.0	2.0	ng/L	02/25/2021 1816
ADONA	ND		1	8.0	2.0	ng/L	02/25/2021 1816
EtFOSA	ND		1	8.0	2.0	ng/L	02/25/2021 1816
EtFOSAA	ND		1	8.0	2.0	ng/L	02/25/2021 1816
EtFOSE	ND		1	8.0	2.0	ng/L	02/25/2021 1816
MeFOSA	ND		1	16	4.0	ng/L	02/25/2021 1816
MeFOSAA	ND		1	8.0	2.0	ng/L	02/25/2021 1816
MeFOSE	ND		1	8.0	2.0	ng/L	02/25/2021 1816
PFBS	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFDS	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFHpS	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFNS	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFOSA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFPeS	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFDOS	ND		1	8.0	2.0	ng/L	02/25/2021 1816
PFHxS	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFBA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFDA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFDoA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFHpA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFHxDA	ND		1	8.0	2.0	ng/L	02/25/2021 1816
PFHxA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFNA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFODA	ND		1	8.0	2.0	ng/L	02/25/2021 1816
PFOA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFPeA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFTeDA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFTTrDA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFUdA	ND		1	4.0	1.0	ng/L	02/25/2021 1816
PFOS	ND		1	4.0	1.0	ng/L	02/25/2021 1816

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		114	25-150
13C2_6:2FTS		109	25-150
13C2_8:2FTS		105	25-150
13C2_PFDoA		99	25-150
13C2_PFHxDA		108	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: WQ83776-001

Matrix: Aqueous

Batch: 83776

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/24/2021 1132

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		97	25-150
13C3_PFBs		101	25-150
13C3_PFHxS		99	25-150
13C3-HFPO-DA		114	25-150
13C4_PFBa		102	25-150
13C4_PFHpA		102	25-150
13C5_PFHxA		94	25-150
13C5_PFPeA		99	25-150
13C6_PFDa		94	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		105	25-150
13C8_PFOs		95	25-150
13C8_PFOsA		104	10-150
13C9_PFNa		103	25-150
d-EtFOsA		85	10-150
d5-EtFOsAA		99	25-150
d9-EtFOsE		100	10-150
d-MeFOsA		85	10-150
d3-MeFOsAA		101	25-150
d7-MeFOsE		104	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: WQ83776-002

Matrix: Aqueous

Batch: 83776

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/24/2021 1132

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	15	16		1	110	50-150	02/25/2021 1827
11CI-PF3OUdS	15	15		1	102	50-150	02/25/2021 1827
8:2 FTS	15	18		1	117	50-150	02/25/2021 1827
6:2 FTS	15	16		1	106	50-150	02/25/2021 1827
10:2 FTS	15	15		1	98	50-150	02/25/2021 1827
4:2 FTS	15	17		1	112	50-150	02/25/2021 1827
GenX	32	34		1	106	50-150	02/25/2021 1827
ADONA	15	17		1	111	50-150	02/25/2021 1827
EtFOSA	16	20		1	128	50-150	02/25/2021 1827
EtFOSAA	16	15		1	96	50-150	02/25/2021 1827
EtFOSE	16	17		1	107	50-150	02/25/2021 1827
MeFOSA	16	16		1	98	50-150	02/25/2021 1827
MeFOSAA	16	17		1	107	50-150	02/25/2021 1827
MeFOSE	16	17		1	104	50-150	02/25/2021 1827
PFBS	14	16		1	113	50-150	02/25/2021 1827
PFDS	15	15		1	95	50-150	02/25/2021 1827
PFHpS	15	16		1	106	50-150	02/25/2021 1827
PFNS	15	16		1	105	50-150	02/25/2021 1827
PFOSA	16	17		1	103	50-150	02/25/2021 1827
PFPeS	15	19		1	124	50-150	02/25/2021 1827
PFDOS	15	16		1	105	50-150	02/25/2021 1827
PFHxS	15	17		1	114	50-150	02/25/2021 1827
PFBA	16	18		1	112	50-150	02/25/2021 1827
PFDA	16	17		1	109	50-150	02/25/2021 1827
PFDoA	16	19		1	118	50-150	02/25/2021 1827
PFHpA	16	18		1	111	50-150	02/25/2021 1827
PFHxDA	16	17		1	107	50-150	02/25/2021 1827
PFHxA	16	17		1	108	50-150	02/25/2021 1827
PFNA	16	18		1	112	50-150	02/25/2021 1827
PFODA	16	17		1	106	50-150	02/25/2021 1827
PFOA	16	18		1	113	50-150	02/25/2021 1827
PFPeA	16	17		1	109	50-150	02/25/2021 1827
PFTeDA	16	19		1	116	50-150	02/25/2021 1827
PFTTrDA	16	17		1	103	50-150	02/25/2021 1827
PFUdA	16	17		1	105	50-150	02/25/2021 1827
PFOS	15	16		1	105	50-150	02/25/2021 1827

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		96	25-150
13C2_6:2FTS		99	25-150
13C2_8:2FTS		92	25-150
13C2_PFDoA		90	25-150
13C2_PFHxDA		101	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: WQ83776-002

Matrix: Aqueous

Batch: 83776

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/24/2021 1132

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		86	25-150
13C3_PFBs		87	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		103	25-150
13C4_PFBa		93	25-150
13C4_PFHpA		96	25-150
13C5_PFHxA		92	25-150
13C5_PFPeA		91	25-150
13C6_PFDa		90	25-150
13C7_PFUdA		90	25-150
13C8_PFOA		91	25-150
13C8_PFOs		92	25-150
13C8_PFOsA		95	10-150
13C9_PFNa		91	25-150
d-EtFOsA		74	10-150
d5-EtFOsAA		94	25-150
d9-EtFOsE		84	10-150
d-MeFOsA		77	10-150
d3-MeFOsAA		97	25-150
d7-MeFOsE		97	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 - MS

Sample ID: WB23023-001MS

Matrix: Aqueous

Batch: 83776

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/24/2021 1132

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	ND	14	14		1	100	50-150	02/25/2021 1848
11CI-PF3OUdS	ND	14	15		1	102	50-150	02/25/2021 1848
8:2 FTS	ND	14	15		1	106	50-150	02/25/2021 1848
6:2 FTS	110	14	20	N	1	-655	50-150	02/25/2021 1848
10:2 FTS	ND	15	14		1	97	50-150	02/25/2021 1848
4:2 FTS	ND	14	14		1	101	50-150	02/25/2021 1848
GenX	ND	30	29		1	97	50-150	02/25/2021 1848
ADONA	ND	14	14		1	101	50-150	02/25/2021 1848
EtFOSA	ND	15	17		1	112	50-150	02/25/2021 1848
EtFOSAA	ND	15	14		1	94	50-150	02/25/2021 1848
EtFOSE	ND	15	13		1	85	50-150	02/25/2021 1848
MeFOSA	ND	15	15		1	101	50-150	02/25/2021 1848
MeFOSAA	ND	15	15		1	100	50-150	02/25/2021 1848
MeFOSE	ND	15	15		1	99	50-150	02/25/2021 1848
PFBS	19	13	31		1	94	50-150	02/25/2021 1848
PFDS	ND	15	15		1	105	50-150	02/25/2021 1848
PFHpS	ND	14	16		1	111	50-150	02/25/2021 1848
PFNS	ND	14	15		1	103	50-150	02/25/2021 1848
PFOSA	ND	15	15		1	96	50-150	02/25/2021 1848
PFPeS	1.1	14	17		1	115	50-150	02/25/2021 1848
PFDOS	ND	15	15		1	103	50-150	02/25/2021 1848
PFHxS	5.9	14	19		1	93	50-150	02/25/2021 1848
PFBA	6.1	15	21		1	102	50-150	02/25/2021 1848
PFDA	ND	15	16		1	105	50-150	02/25/2021 1848
PFDoA	ND	15	17		1	112	50-150	02/25/2021 1848
PFHpA	2.2	15	18		1	107	50-150	02/25/2021 1848
PFHxDA	ND	15	15		1	97	50-150	02/25/2021 1848
PFHxA	6.0	15	18		1	82	50-150	02/25/2021 1848
PFNA	ND	15	17		1	110	50-150	02/25/2021 1848
PFODA	ND	15	15		1	98	50-150	02/25/2021 1848
PFOA	6.6	15	22		1	103	50-150	02/25/2021 1848
PFPeA	4.1	15	20		1	104	50-150	02/25/2021 1848
PFTeDA	ND	15	16		1	105	50-150	02/25/2021 1848
PFTrDA	ND	15	16		1	105	50-150	02/25/2021 1848
PFUdA	ND	15	15		1	99	50-150	02/25/2021 1848
PFOS	54	14	60	N	1	41	50-150	02/25/2021 1848
Surrogate	Q	% Rec	Acceptance Limit					
13C2_4:2FTS		107	25-150					
13C2_6:2FTS		100	25-150					
13C2_8:2FTS		102	25-150					
13C2_PFDoA		91	25-150					
13C2_PFHxDA		109	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 - MS

Sample ID: WB23023-001MS

Matrix: Aqueous

Batch: 83776

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/24/2021 1132

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		95	25-150
13C3_PFBs		94	25-150
13C3_PFHxS		94	25-150
13C3-HFPO-DA		104	25-150
13C4_PFBa		93	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		92	25-150
13C5_PFPeA		92	25-150
13C6_PFDa		95	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		100	25-150
13C8_PFOs		95	25-150
13C8_PFOsA		108	10-150
13C9_PFNa		94	25-150
d-EtFOsA		72	10-150
d5-EtFOsAA		96	25-150
d9-EtFOsE		98	10-150
d-MeFOsA		76	10-150
d3-MeFOsAA		101	25-150
d7-MeFOsE		102	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



COC No.

*(Please Print Clearly)*

Company Name:	The OS Group LLC
Branch/Location:	LaCrosse WI
Project Contact:	Steven Osesek
Phone:	608-433-9388
Project Number:	LaCrosse Wells 23+34
Project Name:	
Project State:	WI
Sampled By (Print):	Kristie R Tweedy
Sampled By (Sign):	<i>Kristie R Tweedy</i>
PO #:	

**Preservation Codes**

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

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

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

<b>Data Package Options</b> (billable) <input type="checkbox"/> EPA Level III <input type="checkbox"/> EPA Level IV	<b>MS/MSD</b> <input type="checkbox"/> On your sample (billable) <input checked="" type="checkbox"/> NOT needed on your sample	<b>Matrix Codes</b> A = Air      W = Water B = Bios      DW = Drinking Water C = Chemical      GW = Ground Water D = DI      SW = Surface Water S = Soil      WW = Waste Water SL = Sludge      WP = Wine
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PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Y/N	Pick Letter	Analyses Requested
		DATE	TIME				
	1551a-2	2/17	9:58	DW	X		

Quote #:		
Mail To Contact:	Steven Osesek	
Mail To Company:	The OS Group LLC	
Mail To Address:	444 21st St S LaCrosse, WI 54601	
Invoice To Contact:	Steven Osesek	
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 #
	 <b>WB23023</b> FLC2	

<b>Rush Turnaround Time Requested - Prelims</b> (Rush TAT subject to approval/surcharge) Date Needed: <b>8-10 DAY</b>	Released By: <i>Kristie R Tweedy</i> Date/Time: <i>2-17-21 3:42 PM</i>	Received By: Date/Time:	PACE Project No.
Transport/Prelim Rush Results by (complete what you want):	Released By: Date/Time:	Received By: Date/Time:	Receipt Temp = <b>3.3 °C</b>
Email #1: Email #2: Telephone: Fax:	Released By: Date/Time:	Received By: Date/Time:	Sample Receipt pH OK / Adjusted
Samples on HOLD are subject to special pricing and release of liability	Released By: <i>Felix</i> Date/Time: <i>2/23/21 11:15</i>	Received By: <i>[Signature]</i> Date/Time: <i>2/23/21 11:15</i>	<b>Cooler Custody Seal</b> Present / Not Present Intact / Not Intact

PACE ANALYTICAL SERVICES, LLC

# 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: THE OS GROUP LLC      Cooler Inspected by/date: IRG2 / 2/23/2021      Lot #: WB23023

Means of receipt: <input type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other: _____	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" 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>3.3 / 3.3</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>6</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 <sub>3</sub> /TKN/cyanide/phenol/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 # _____
<b>Sample Preservation</b> (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 tiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) with Shealy ID: <u>NA</u>	
SR barcode labels applied by: <u>IRG2</u> Date: <u>2/23/2021</u>	

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 2, 2021

[REDACTED]  
2548 Bainbridge Street  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2548 Bainbridge Street, La Crosse, WI 54603  
Tax parcel # 4-111-0  
Sampling Point # 111-0  
Sampling Date: January 14, 2021

Dear [REDACTED]:

We have received and reviewed the test results for the sample collected on January 14, 2021 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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>16 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>420 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	21 ppt	450,000 ppt <sup>a</sup>
<b>Perfluorohexanesulfonic acid (PFHxS)</b> <b>CAS # 355-46-4</b>	<b>550 ppt</b>	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	46 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	16 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

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



Perfluoro-1-heptanesulfonic acid (PFHpS) CAS # 375-92-8	24 ppt	None Established <sup>c</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	44 ppt	None Established <sup>c</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	2.8 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	4.4 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

2548 Bainbridge Street, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically on line at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA20028-002
Description: 111-0	Matrix: Aqueous
Date Sampled: 01/14/2021 1425	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2131	JJG	01/24/2021 1615	80489

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		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	21		3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	24		3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	44		3.6	0.91	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	550		3.6	0.91	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	46		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	2.8	J	3.6	0.91	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	16		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	16		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	4.4		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	420		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		90	25-150
13C2_6:2FTS		91	25-150
13C2_8:2FTS		82	25-150
13C2_PFDa		85	25-150
13C2_PFHxDA		84	25-150
13C2_PFTeDA		83	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA20028-002
Description: 111-0	Matrix: Aqueous
Date Sampled: 01/14/2021 1425	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		86	25-150
13C3_PFHxS		80	25-150
13C3-HFPO-DA		84	25-150
13C4_PFBa		85	25-150
13C4_PFHpA		82	25-150
13C5_PFHxA		78	25-150
13C5_PFPeA		89	25-150
13C6_PFDa		80	25-150
13C7_PFUdA		88	25-150
13C8_PFOa		80	25-150
13C8_PFOs		86	25-150
13C8_PFOsA		88	10-150
13C9_PFNa		80	25-150
d-EtFOsA		76	10-150
d5-EtFOsAA		89	25-150
d9-EtFOsE		85	10-150
d-MeFOsA		92	10-150
d3-MeFOsAA		89	25-150
d7-MeFOsE		86	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 3, 2021

████████████████████  
 812 Callaway Court  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 101 – 211 Callaway Court, La Crosse, WI 54603  
 Tax Parcel # 4-114-0  
 Sampling Point # 114-0-A  
 Sample Date: January 18, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 18, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.9 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.3 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	4.5 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	3.7 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	2.2 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	2.9 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	2.3 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
101 – 211 Callaway Court, La Crosse, WI 54603  
Tax Parcel # 4-114-0  
Sampling Point # 114-0-A  
February 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](mailto: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.

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

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: WA20028-003
Description: 114-0-A	Matrix: Aqueous
Date Sampled: 01/18/2021 1330	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2142	JJG	01/24/2021 1615	80489

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		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	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		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.3	J	3.7	0.92	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	4.5		3.7	0.92	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	3.7		3.7	0.92	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	2.9	J	3.7	0.92	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	2.2	J	3.7	0.92	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.9	J	3.7	0.92	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	2.3	J	3.7	0.92	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		96	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		87	25-150
13C2_PFDa		86	25-150
13C2_PFHxDA		83	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA20028-003
Description: 114-0-A	Matrix: Aqueous
Date Sampled: 01/18/2021 1330	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		90	25-150
13C3_PFHxS		88	25-150
13C3-HFPO-DA		89	25-150
13C4_PFBa		90	25-150
13C4_PFHpA		88	25-150
13C5_PFHxA		84	25-150
13C5_PFPeA		90	25-150
13C6_PFDa		90	25-150
13C7_PFUdA		85	25-150
13C8_PFOa		87	25-150
13C8_PFOs		86	25-150
13C8_PFOsA		88	10-150
13C9_PFNa		87	25-150
d-EtFOSA		76	10-150
d5-EtFOSAA		94	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		88	10-150
d3-MeFOSAA		87	25-150
d7-MeFOSE		93	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 3, 2021

██████████  
 812 Callaway Court  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 301 – 409 Callaway Court, La Crosse, WI 54603  
 Tax Parcel # 4-114-0  
 Sampling Point # 114-0-B  
 Sample Date: January 18, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 18, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.4 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.2 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	3.3 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
301 – 409 Callaway Court, La Crosse, WI 54603  
Tax Parcel # 4-114-0  
Sampling Point # 114-0-B  
February 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](mailto: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.

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

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: WA20028-004
Description: 114-01-B	Matrix: Aqueous
Date Sampled: 01/18/2021 1345	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2152	JJG	01/24/2021 1615	80489

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		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.4	J	3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.2	J	3.6	0.91	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	3.3	J	3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		93	25-150
13C2_6:2FTS		92	25-150
13C2_8:2FTS		81	25-150
13C2_PFDa		81	25-150
13C2_PFHxDA		88	25-150
13C2_PFTeDA		88	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA20028-004
Description: 114-01-B	Matrix: Aqueous
Date Sampled: 01/18/2021 1345	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221144

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		85	25-150
13C3_PFHxS		85	25-150
13C3-HFPO-DA		88	25-150
13C4_PFBa		90	25-150
13C4_PFHpA		89	25-150
13C5_PFHxA		80	25-150
13C5_PFPeA		90	25-150
13C6_PFDa		90	25-150
13C7_PFUdA		91	25-150
13C8_PFOA		87	25-150
13C8_PFOS		84	25-150
13C8_PFOSA		92	10-150
13C9_PFNA		89	25-150
d-EtFOSA		73	10-150
d5-EtFOSAA		89	25-150
d9-EtFOSE		84	10-150
d-MeFOSA		89	10-150
d3-MeFOSAA		89	25-150
d7-MeFOSE		86	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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



444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 3, 2021

██████████  
 812 Callaway Court  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 301 – 507 Campbell Court, La Crosse, WI 54603  
 Tax Parcel # 4-151-3  
 Sampling Point # 151-3-O  
 Sample Date: January 18, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 18, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.4 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	1.1 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.4 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	5.5 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	1.2 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	1.4 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.



Private Well Sampling Results for  
301 – 507 Campbell Court, La Crosse, WI 54603  
Tax Parcel # 4-151-3  
Sampling Point # 151-3-O  
February 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](mailto: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.

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

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	151-3-O 301-507 Campbell Ct. (odd addresses)	Laboratory ID: WA20028-007
Description: <del>115</del> -3-0		Matrix: Aqueous
Date Sampled: 01/18/2021 1410	Project Name: LACROSSE WELLS 23 & 24	
Date Received: 01/20/2021	Project Number: 40221144	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/27/2021 1729	JJG	01/26/2021 1336	80695

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		7.9	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.9	2.0	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	2.0	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	3.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.4	J	3.9	0.98	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	5.5		3.9	0.98	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	1.2	J	3.9	0.98	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.4	J	3.9	0.98	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.4	J	3.9	0.98	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.1	J	3.9	0.98	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		103	25-150
13C2_6:2FTS		99	25-150
13C2_8:2FTS		105	25-150
13C2_PFDaA		95	25-150
13C2_PFHxDA		100	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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	151-3-0 301-507 Campbell Ct. (odd addresses)	Laboratory ID: WA20028-007
Description: 15-3-0		Matrix: Aqueous
Date Sampled: 01/18/2021 1410	Project Name: LACROSSE WELLS 23 & 24	
Date Received: 01/20/2021	Project Number: 40221144	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		95	25-150
13C3_PFHxS		94	25-150
13C3-HFPO-DA		102	25-150
13C4_PFBa		103	25-150
13C4_PFHpA		103	25-150
13C5_PFHxA		105	25-150
13C5_PFPeA		98	25-150
13C6_PFDa		96	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		97	25-150
13C8_PFOS		96	25-150
13C8_PFOSA		94	10-150
13C9_PFNA		99	25-150
d-EtFOSA		89	10-150
d5-EtFOSAA		100	25-150
d9-EtFOSE		84	10-150
d-MeFOSA		87	10-150
d3-MeFOSAA		101	25-150
d7-MeFOSE		98	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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



444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 3, 2021

████████████████████  
 812 Callaway Court  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 101 – 209 Campbell Court, La Crosse, WI 54603  
 Tax Parcel # 4-151-3  
 Sampling Point # 151-3-A  
 Sample Date: January 18, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 18, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	0.97 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.4 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.3 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	2.0 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

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

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
101 – 209 Campbell Court, La Crosse, WI 54603  
Tax Parcel # 4-151-3  
Sampling Point # 151-3-A  
February 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](mailto: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.

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

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	151-3-A 109-209 Campbell Ct	Laboratory ID: WA20028-005
Description: 115-3-A		Matrix: Aqueous
Date Sampled: 01/18/2021 1430	Project Name: LACROSSE WELLS 23 & 24	
Date Received: 01/20/2021	Project Number: 40221144	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2203	JJG	01/24/2021 1615	80489

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		7.8	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.8	1.9	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	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	3.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.4	J	3.9	0.97	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.97	J	3.9	0.97	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.3	J	3.9	0.97	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	2.0	J	3.9	0.97	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		102	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		95	25-150
13C2_PFDaA		89	25-150
13C2_PFHxDA		91	25-150
13C2_PFTeDA		91	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	151-3-A	Laboratory ID: WA20028-005
Description: <del>115</del> -3-A	101-209 Campbell Ct	Matrix: Aqueous
Date Sampled: 01/18/2021 1430	Project Name: LACROSSE WELLS 23 & 24	
Date Received: 01/20/2021	Project Number: 40221144	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		90	25-150
13C3_PFHxS		90	25-150
13C3-HFPO-DA		92	25-150
13C4_PFBa		93	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		87	25-150
13C5_PFPeA		96	25-150
13C6_PFDa		92	25-150
13C7_PFUdA		90	25-150
13C8_PFOA		93	25-150
13C8_PFOS		96	25-150
13C8_PFOSA		90	10-150
13C9_PFNA		94	25-150
d-EtFOSA		66	10-150
d5-EtFOSAA		97	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		78	10-150
d3-MeFOSAA		92	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 3, 2021

████████████████████  
 812 Callaway Court  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 302 – 408 Campbell Court, La Crosse, WI 54603  
 Tax Parcel # 4-151-3  
 Sampling Point # 151-3-E  
 Sample Date: January 18, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 18, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	1.6 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	Not Detected	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	2.3 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
302 – 408 Campbell Court, La Crosse, WI 54603  
Tax Parcel # 4-151-3  
Sampling Point # 151-3-E  
February 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](mailto: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.

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

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	151-3-E 302-408 Campbell Ct (even)	Laboratory ID: WA20028-006
Description: <del>115</del> -3-E		Matrix: Aqueous
Date Sampled: 01/18/2021 1400	Project Name: LACROSSE WELLS 23 & 24	
Date Received: 01/20/2021	Project Number: 40221144	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2214	JJG	01/24/2021 1615	80489

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	ND		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	1.6	J	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	ND		4.1	1.0	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	2.3	J	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	ND		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	ND		4.1	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		96	25-150
13C2_6:2FTS		99	25-150
13C2_8:2FTS		92	25-150
13C2_PFDaA		89	25-150
13C2_PFHxDA		91	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	151-3-E 302-408 Campbell Ct (even)	Laboratory ID: WA20028-006
Description: <del>115</del> -3-E		Matrix: Aqueous
Date Sampled: 01/18/2021 1400	Project Name: LACROSSE WELLS 23 & 24	
Date Received: 01/20/2021	Project Number: 40221144	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		92	25-150
13C3_PFHxS		88	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBa		98	25-150
13C4_PFHpA		97	25-150
13C5_PFHxA		88	25-150
13C5_PFPeA		99	25-150
13C6_PFDa		96	25-150
13C7_PFUdA		92	25-150
13C8_PFOA		95	25-150
13C8_PFOs		87	25-150
13C8_PFOsA		96	10-150
13C9_PFNa		93	25-150
d-EtFOsA		66	10-150
d5-EtFOsAA		103	25-150
d9-EtFOsE		95	10-150
d-MeFOsA		87	10-150
d3-MeFOsAA		92	25-150
d7-MeFOsE		98	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 1, 2021

[Redacted]

3065 Edgewater Lane  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
3065 Edgewater Lane, La Crosse, WI 54603  
Tax Parcel # 4-1694-0  
Sampling Point # 1694-0  
Sample Date: 01/18/21

Dear [Redacted]:

We have received and reviewed the test results for the sample collected on January 18, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	1.1 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.5 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	11 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	7.5 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.1 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	17 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1Ama	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
3065 Edgewater Lane, La Crosse, WI 54603  
Tax Parcel # 4-1694-0  
Sampling Point # 1694-0  
February 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](mailto: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.

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

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

Attachment: Lab report for your well



February 01, 2021

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

RE: Project: LACROSSE WELL #23 & 24  
Pace Project No.: 40221146

Dear Steve Osesek:

Enclosed are the analytical results for sample(s) received by the laboratory on January 19, 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

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### SAMPLE SUMMARY

Project: LACROSSE WELL #23 & 24  
Pace Project No.: 40221146

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40221146001	1694-0	Water	01/18/21 14:15	01/19/21 09:00

### REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

UPPER MIDWEST REGION

Page of

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

COC No. 40221146

Page 3 of 21

Company Name:	The OS Group LLC
Branch/Location:	LaCrosse WI
Project Contact:	Steven Oseseck
Phone:	608-433-9388
Project Number:	
Project Name:	LaCrosse Well 23+24
Project State:	WI
Sampled By (Print):	Kristie Tweed
Sampled By (Sign):	<i>Kristie Tweed</i>
PO #:	
Regulatory Program:	



# 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)\*

Analyses Requested	Y/N	Pick Letter																		
	WI PFAS 31	N	A																	

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 #

<b>Data Package Options</b> (billable) <input type="checkbox"/> EPA Level III <input type="checkbox"/> EPA Level IV		<b>MS/MSD</b> <input type="checkbox"/> On your sample (billable) <input type="checkbox"/> NOT needed on your sample		<b>Matrix Codes</b> A = Air W = Water B = Biota DW = Drinking Water C = Charcoal GW = Ground Water O = Oil SW = Surface Water S = Soil WW = Waste Water Sl = Sludge WP = Wipe	
PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	
001	1694-0	DATE	TIME		
		01/18/21	2:15	DW	X

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed: Transmit Prelim Rush Results by (complete what you want): Email #1: Email #2: Telephone: Fax:	Relinquished By:	Date/Time:	Received By:	Date/Time:	PACE Project No. 40221146 Receipt Temp = 20°C Sample Receipt pH OK / Adjusted Cooler Custody Seal Present / Not Present Intact / Not Intact
	Relinquished By: <i>Ted Gf</i>	Date/Time: 1-19-21 0900	Received By: <i>Susana Mye</i>	Date/Time: 1-19-21 0900	
	Relinquished By:	Date/Time:	Received By:	Date/Time:	
	Relinquished By:	Date/Time:	Received By:	Date/Time:	
	Relinquished By:	Date/Time:	Received By:	Date/Time:	

Client Name: The OS Group Sample Preservation Receipt Form  
 Project # 4022146

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		
010																																			2.5 / 5 / 10		
011																																			2.5 / 5 / 10		
012																																			2.5 / 5 / 10		
013																																			2.5 / 5 / 10		
014																																			2.5 / 5 / 10		
015																																			2.5 / 5 / 10		
016																																			2.5 / 5 / 10		
017																																			2.5 / 5 / 10		
018																																			2.5 / 5 / 10		
019																																			2.5 / 5 / 10		
020																																			2.5 / 5 / 10		

1/19/21 [Signature]


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
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4


VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	

 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  Waltco  
 Client  Pace Other: \_\_\_\_\_

Project #: \_\_\_\_\_  
**WO#: 40221146**  
  
 40221146

Tracking #: 782749237296  
 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 - N/A    Type of Ice:  Wet  Blue  Dry  None  
 Cooler Temperature: Uncorr: ROT    ICorr: \_\_\_\_\_  
 Temp Blank Present:  yes  no    Biological Tissue is Frozen:  yes  no

Person examining contents:  
 Date: 1-19-21    /Initials: SKU  
 Labeled By Initials: MA

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>Proj #, Pg #, Invoice, Phone #</u>
Chain of Custody Relinquished: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3. <u>1-19-21 SKU</u>
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 - VOA Samples frozen upon receipt <input type="checkbox"/> Yes <input type="checkbox"/> No	5. 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: 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	8.
Correct Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No - 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	9.
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 - Includes date/time/ID/Analysis    Matrix: <u>W</u>	12.
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	

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





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## Report of Analysis

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

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221146

Lot Number: **WA20026**

Date Completed: 01/29/2021

*Karen Coonan*

01/29/2021 6:29 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: WA20026**

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

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## Sample Summary

Pace Analytical Services, LLC

Lot Number: WA20026

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221146

---

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	1694-0	Aqueous	01/18/2021 1415	01/20/2021

---

(1 sample)



# PACE ANALYTICAL SERVICES, LLC

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Detection Summary  
Pace Analytical Services, LLC  
Lot Number: WA20026  
Project Name: LACROSSE WELLS 23 & 24  
Project Number: 40221146

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	1694-0	Aqueous	PFBS	PFAS by ID	7.5		ng/L	5
001	1694-0	Aqueous	PFOSA	PFAS by ID	1.1	J	ng/L	5
001	1694-0	Aqueous	PFHxS	PFAS by ID	2.1	J	ng/L	5
001	1694-0	Aqueous	PFBA	PFAS by ID	17		ng/L	5
001	1694-0	Aqueous	PFOA	PFAS by ID	2.5	J	ng/L	6
001	1694-0	Aqueous	PFOS	PFAS by ID	11		ng/L	6

(6 detections)

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA20026-001
Description: 1694-0	Matrix: Aqueous
Date Sampled: 01/18/2021 1415	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221146

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2048	JJG	01/24/2021 1615	80489

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	7.5		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	1.1	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	2.1	J	3.6	0.90	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	17		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	2.5	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		89	25-150
13C2_6:2FTS		89	25-150
13C2_8:2FTS		81	25-150
13C2_PFDaA		80	25-150
13C2_PFHxDA		73	25-150
13C2_PFTeDA		73	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA20026-001
Description: 1694-0	Matrix: Aqueous
Date Sampled: 01/18/2021 1415	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221146

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		82	25-150
13C3_PFHxS		78	25-150
13C3-HFPO-DA		83	25-150
13C4_PFBa		85	25-150
13C4_PFHpA		84	25-150
13C5_PFHxA		80	25-150
13C5_PFPeA		89	25-150
13C6_PFDa		81	25-150
13C7_PFUdA		85	25-150
13C8_PFOA		83	25-150
13C8_PFOS		80	25-150
13C8_PFOSA		84	10-150
13C9_PFNA		82	25-150
d-EtFOSA		71	10-150
d5-EtFOSAA		85	25-150
d9-EtFOSE		78	10-150
d-MeFOSA		84	10-150
d3-MeFOSAA		84	25-150
d7-MeFOSE		70	10-150

---

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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: WQ80489-001

Matrix: Aqueous

Batch: 80489

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/24/2021 1615

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
8:2 FTS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
6:2 FTS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
10:2 FTS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
4:2 FTS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
GenX	ND		1	8.0	2.0	ng/L	01/26/2021 1623
ADONA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
EtFOSA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
EtFOSAA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
EtFOSE	ND		1	8.0	2.0	ng/L	01/26/2021 1623
MeFOSA	ND		1	16	4.0	ng/L	01/26/2021 1623
MeFOSAA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
MeFOSE	ND		1	8.0	2.0	ng/L	01/26/2021 1623
PFBS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFDS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFHpS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFNS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFOSA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFPeS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFDOS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
PFHxS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFBA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFDA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFDoA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFHpA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFHxDA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
PFHxA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFNA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFODA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
PFOA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFPeA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFTeDA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFTTrDA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFUdA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFOS	ND		1	4.0	1.0	ng/L	01/26/2021 1623

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		99	25-150
13C2_6:2FTS		110	25-150
13C2_8:2FTS		98	25-150
13C2_PFDoA		96	25-150
13C2_PFHxDA		102	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: WQ80489-001

Matrix: Aqueous

Batch: 80489

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/24/2021 1615

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		98	25-150
13C3_PFBs		95	25-150
13C3_PFHxS		95	25-150
13C3-HFPO-DA		102	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		103	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		104	25-150
13C6_PFDa		99	25-150
13C7_PFUdA		102	25-150
13C8_PFOA		101	25-150
13C8_PFOs		95	25-150
13C8_PFOsA		93	10-150
13C9_PFNa		97	25-150
d-EtFOsA		89	10-150
d5-EtFOsAA		106	25-150
d9-EtFOsE		104	10-150
d-MeFOsA		97	10-150
d3-MeFOsAA		101	25-150
d7-MeFOsE		103	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: WQ80489-002

Matrix: Aqueous

Batch: 80489

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/24/2021 1615

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	15	17		1	113	50-150	01/26/2021 1633
11CI-PF3OUdS	15	16		1	109	50-150	01/26/2021 1633
8:2 FTS	15	17		1	108	50-150	01/26/2021 1633
6:2 FTS	15	18		1	116	50-150	01/26/2021 1633
10:2 FTS	15	16		1	101	50-150	01/26/2021 1633
4:2 FTS	15	16		1	107	50-150	01/26/2021 1633
GenX	32	37		1	114	50-150	01/26/2021 1633
ADONA	15	18		1	117	50-150	01/26/2021 1633
EtFOSA	16	16		1	98	50-150	01/26/2021 1633
EtFOSAA	16	17		1	103	50-150	01/26/2021 1633
EtFOSE	16	16		1	101	50-150	01/26/2021 1633
MeFOSA	16	21		1	129	50-150	01/26/2021 1633
MeFOSAA	16	19		1	118	50-150	01/26/2021 1633
MeFOSE	16	16		1	100	50-150	01/26/2021 1633
PFBS	14	15		1	104	50-150	01/26/2021 1633
PFDS	15	18		1	117	50-150	01/26/2021 1633
PFHpS	15	16		1	105	50-150	01/26/2021 1633
PFNS	15	18		1	120	50-150	01/26/2021 1633
PFOSA	16	18		1	109	50-150	01/26/2021 1633
PFPeS	15	15		1	102	50-150	01/26/2021 1633
PFDOS	15	16		1	103	50-150	01/26/2021 1633
PFHxS	15	15		1	106	50-150	01/26/2021 1633
PFBA	16	17		1	108	50-150	01/26/2021 1633
PFDA	16	18		1	111	50-150	01/26/2021 1633
PFDoA	16	17		1	109	50-150	01/26/2021 1633
PFHpA	16	17		1	107	50-150	01/26/2021 1633
PFHxDA	16	17		1	109	50-150	01/26/2021 1633
PFHxA	16	17		1	107	50-150	01/26/2021 1633
PFNA	16	17		1	108	50-150	01/26/2021 1633
PFODA	16	18		1	114	50-150	01/26/2021 1633
PFOA	16	18		1	110	50-150	01/26/2021 1633
PFPeA	16	17		1	108	50-150	01/26/2021 1633
PFTeDA	16	18		1	113	50-150	01/26/2021 1633
PFTTrDA	16	18		1	112	50-150	01/26/2021 1633
PFUdA	16	17		1	108	50-150	01/26/2021 1633
PFOS	15	16		1	105	50-150	01/26/2021 1633
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		88	25-150				
13C2_6:2FTS		98	25-150				
13C2_8:2FTS		88	25-150				
13C2_PFDoA		94	25-150				
13C2_PFHxDA		97	25-150				

LOQ = Limit of Quantitation

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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: WQ80489-002

Matrix: Aqueous

Batch: 80489

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/24/2021 1615

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		92	25-150
13C3_PFBs		90	25-150
13C3_PFHxS		88	25-150
13C3-HFPO-DA		95	25-150
13C4_PFBa		94	25-150
13C4_PFHpA		95	25-150
13C5_PFHxA		90	25-150
13C5_PFPeA		97	25-150
13C6_PFDa		93	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		95	25-150
13C8_PFOs		89	25-150
13C8_PFOsA		90	10-150
13C9_PFNa		93	25-150
d-EtFOsA		66	10-150
d5-EtFOsAA		94	25-150
d9-EtFOsE		96	10-150
d-MeFOsA		74	10-150
d3-MeFOsAA		97	25-150
d7-MeFOsE		104	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

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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 aCOC.

State Of Origin: WI  
 Cert. Needed:  Yes  No

Owner Received Date: 1/19/2021 Results Requested By: 2/4/2021

Workorder: 40221146 Workorder Name: LACROSSE WELL #23 & 24

<b>Report To:</b> Christopher Hyska Pace Analytical Green Bay 1241 Bellevue Street Suite 3 Green Bay, WI 54302 Phone (920)469-2436	<b>Subcontract To:</b> Pace Analytical West Columbia 106 Vantage Point Drive West Columbia, SC 29172 Phone (803)791-9700	<b>Requested Analysis:</b>
--	--	----------------------------



KL02

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Temperature	Preserved Containers				LAB USE ONLY			
							1	2	3	4				
1	1694-0	PS	1/19/2021 14:15	40221146001	Water	2								
2														
3														
4														
6														

<b>Transfers</b>						<b>Comments</b>					
Released By	Date/Time	Received By	Date/Time	IR77 - MDL reporting - Quote 23492							
<i>[Signature]</i>	1/19/21	<i>[Signature]</i>	1/19/21								
<i>Fedex</i>	1/20/21 09:55	<i>[Signature]</i>	1/20/21 09:55								
Cooler Temperature on Receipt 1.3 °C		Custody Seal (Y) or N		Received on Ice (Y) or N		Samples Intact (Y) 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.

(Please Print Clearly)

Company Name: The OS Group LLC  
 Address/Location: LaCrosse WI  
 Project Contact: Steven Osesek  
 Phone: 608-433-9388  
 Project Number:  
 Project Name: LaCrosse Well 23+24  
 Project State: WI  
 Analyzed By (Print): Kristia Tweed  
 Analyzed By (Sign): *Kristia Tweed*  
 #:  
 Regulatory Program:



UPPER MIDWEST REGION  
 MN: 612-607-1700 WI: 920-469-2438

Page of

COC No.

40221146

### CHAIN OF CUSTODY

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

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

Y/N	Plat. Letter	Analysis Requested
N	A	WI PFAS 31

**Quote #:**

**Mail To Contact:** Steven Osesek  
**Mail To Company:** The OS Group LLC  
**Mail To Address:** 444 21st St S  
 LaCrosse, WI 54601  
**Invoice To Contact:** Steven Osesek  
**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 #

**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  
 L = Lead DW = Drinking Water  
 C = Charcoal GW = Ground Water  
 O = Oil SW = Surface Water  
 S = Soil WW = Waste Water  
 SI = Sludge WP = Wipe

PACELAB #	CLIENT FIELD ID	COLLECTOR		MATRIX
		DATE	TIME	
001	1694-0	01/18/21	2:15	DW

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

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

Requisitioned By:	Date/Time:	Received By:	Date/Time:
<i>Ted Gf</i>	1-19-21 0900	<i>Susan Miller</i>	1-19-21 0900
		<i>JPM</i>	

Receipt Temp = ROT °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 # 40221146

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): \_\_\_\_\_

Glass			Plastic				Vials				Jars				General			VOA Vials (>6mm) *	H2SO4 pH 52	NaOH/H2Zn Act pH 20	NaOH pH 212	HNO3 pH 52	pH after adjusted	Volume (mL)											
AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JG9U	JG9U	WG9U	WPFU	SP5T	ZPLC	GN										
																																			2.5 / 5 / 10
																																			2.5 / 5 / 10
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Options 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

1 liter amber glass	BP1U	1 liter plastic unpres	VG9A	40 mL clear ascorbic	JG9U	4 oz amber jar unpres
1 liter clear glass	BP3U	250 mL plastic unpres	DG9T	40 mL amber Na Thio	JG9U	9 oz amber jar unpres
1 liter amber glass HCL	BP3B	250 mL plastic NaOH	VG9U	40 mL clear vial unpres	WG9U	4 oz clear jar unpres
125 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9H	40 mL clear vial HCL	WPFU	4 oz plastic jar unpres
120 mL amber glass unpres	BP3S	250 mL plastic H2SO4	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
100 mL amber glass unpres			VG9D	40 mL clear vial DI	ZPLC	ziploc bag
500 mL amber glass H2SO4					GN	
250 mL clear glass unpres						





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

Revised: 9/29/2020  
Page 1 of 1

**Sample Receipt Checklist (SRC)**

Client: Pace Greenbay Cooler Inspected by/date: MEH/1/20/21 Lot #: WA20026

Means of receipt: <input type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" 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>N/A</u>	Chlorine Strip ID: <u>N/A</u>
Original temperature upon receipt / Derived (Corrected) temperature upon receipt: <u>13 / 13 °C</u> <u>NA / NA °C</u> <u>NA / NA °C</u> <u>NA / NA °C</u> Tested by: <u>N/A</u>	
%Solid Snap-Cup ID: <u>NA</u>	
Method: <input type="checkbox"/> Temperature Blank <input checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14. Were all samples received within 1/2 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" (1/4" 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 <sub>3</sub> /TKN/cyanide/phenol/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 #
<b>Sample Preservation</b> (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) <u>N/A</u> were received incorrectly preserved and were adjusted accordingly in sample receiving with <u>N/A</u> mL of circle one: H <sub>2</sub> SO <sub>4</sub> , HNO <sub>3</sub> , HCl, NaOH using SR # <u>N/A</u> .	
Time of preservation <u>N/A</u> . If more than one preservative is needed, please note in the comments below.	
Sample(s) <u>N/A</u> were received with bubbles >6 mm in diameter.	
Sample(s) <u>N/A</u> were received with TRC > 0.5 mg/L (If #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) with Shealy ID: <u>N/A</u> .	
SR barcode labels applied by: <u>MEH</u> Date: <u>1/20/21</u>	

Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 3, 2021

██████████  
 2623 Lakeshore Drive  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2623 Lakeshore Drive, La Crosse, WI 54603  
 Tax Parcel # 4-1913-16  
 Sampling Point # 1913-16  
 Sample Date: 01/18/21

Dear ██████████:

We have received and reviewed the test results for the sample collected on January 18, 2021 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	1.1 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	10 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	8.1 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	5.3 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.5 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	22 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	3.6 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	0.95 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	2.9 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2623 Lakeshore Drive, La Crosse, WI 54603  
Tax Parcel # 4-1913-16  
Sampling Point # 1913-16  
February 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](mailto: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.

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

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

Attachment: Lab report for your well



February 01, 2021

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

RE: Project: LACROSSE WELL #23 & 24  
Pace Project No.: 40221145

Dear Steve Osesek:

Enclosed are the analytical results for sample(s) received by the laboratory on January 19, 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

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without the written consent of Pace Analytical Services, LLC.

### SAMPLE SUMMARY

Project: LACROSSE WELL #23 & 24

Pace Project No.: 40221145

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40221145001	<del>1694-16</del> 1913-16	Water	01/18/21 14:30	01/19/21 09:00

### 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:  
 Project Name: LaCrosse Well 23724  
 Project State: WI  
 Sampled By (Print): Kristie Tweed  
 Sampled By (Sign): Kristie Tweed  
 PO #:  
 Regulatory Program:



UPPER MIDWEST REGION  
 MN: 612-607-1700 WI: 920-469-2436

Page of

COC No. 40221145

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	Pick Letter	Analyses Requested
N	A	WI PFAS31

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

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  
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX
		DATE	TIME	
001	<del>1694-016</del> 1913-16	11/8/21	2:30	DW

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #

Rush Turnaround Time Requested - Prelims  
 (Rush TAT subject to approval/surcharge)  
 Date Needed:  
 Transmit Prelim Rush Results by (complete what you want):  
 Email #1:  
 Email #2:  
 Telephone:  
 Fax:  
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: Kristie Tweed Date/Time: 11/8/21 3:30	Received By: Susan White Date/Time: 11/9/21 0900
Relinquished By: Ted G... Date/Time: 11/9/21 0900	Received By: Susan White Date/Time: 11/9/21 0900
Relinquished By:	Received By:
Relinquished By:	Received By:

PACE Project No. 40221145  
 Receipt Temp = ROI °C  
 Sample Receipt pH OK / Adjusted  
 Cooler Custody Seal Present / Not Present  
 Intact / Not Intact



Client Name: The OS Group Project # 4022145

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

Lab Lot# of pH paper:

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

Initial when completed:

Date/Time:

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	
010																																			2.5 / 5 / 10	
011																																			2.5 / 5 / 10	
012																																			2.5 / 5 / 10	
013																																			2.5 / 5 / 10	
014																																			2.5 / 5 / 10	
015																																			2.5 / 5 / 10	
016																																			2.5 / 5 / 10	
017																																			2.5 / 5 / 10	
018																																			2.5 / 5 / 10	
019																																			2.5 / 5 / 10	
020																																			2.5 / 5 / 10	

*11/19/21 bul*

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
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI


JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	

### Sample Condition Upon Receipt Form (SCUR)

**Client Name:** The OS Group  
**Courier:**  CS Logistics  Fed Ex  Speedee  UPS  Walto  
 Client  Pace Other: \_\_\_\_\_

Project #: \_\_\_\_\_

WO# : 40221145



40221145

**Tracking #:** 782749237296  
**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 - N/A    **Type of Ice:**  Blue  Dry  None

Samples on ice, cooling process has begun  
**Person examining contents:**  
 Date: 1-19-21 / Initials: SW  
**Labeled By Initials:** N/A

**Cooler Temperature:** Uncorr: ROI / Corr: \_\_\_\_\_  
**Temp Blank Present:**  yes  no    **Biological Tissue is Frozen:**  yes  no  
 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>Proj. #, Pg #, Invoice, Phone #</u>
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:		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. <u>SW</u>
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. <u>FD is 1913-16, collect into Match</u>
Sample Labels match COC: <u>1/19/21 N/A</u>	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>001 - COC time "230" / sample time</u> <u>sample id "1094" COC id "1094-19"</u>
-Includes date/time/ID/Analysis Matrix:		<u>1/19/21 N/A</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: Client crossed out in Sample ID field    1-19-21 SW



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## Report of Analysis

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

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221145

Lot Number: **WA20027**

Date Completed: 01/29/2021

*Karen Coonan*

01/29/2021 6:22 PM

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



The electronic signature above is the equivalent of a handwritten signature.  
This report shall not be reproduced, except in its entirety, without the written approval of Pace Analytical Services, LLC.

# 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: WA20027

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

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## Sample Summary

Pace Analytical Services, LLC

Lot Number: WA20027

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221145

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Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	<del>1694-16</del> <b>1913-16</b>	Aqueous	01/18/2021 1430	01/20/2021

---

(1 sample)



# PACE ANALYTICAL SERVICES, LLC

## Detection Summary Pace Analytical Services, LLC

Lot Number: WA20027

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221145

1913-16 Randi Pueschner

Sample	Sample ID		Matrix	Parameter	Method	Result	Q	Units	Page
001	1694-16	<b>1913-16</b>	Aqueous	PFBS	PFAS by ID	5.3		ng/L	5
001	1694-16		Aqueous	PFOSA	PFAS by ID	1.1	J	ng/L	5
001	1694-16		Aqueous	PFPeS	PFAS by ID	0.95	J	ng/L	5
001	1694-16		Aqueous	PFHxS	PFAS by ID	2.5	J	ng/L	5
001	1694-16		Aqueous	PFBA	PFAS by ID	22		ng/L	5
001	1694-16		Aqueous	PFHxA	PFAS by ID	3.6	J	ng/L	6
001	1694-16		Aqueous	PFOA	PFAS by ID	10		ng/L	6
001	1694-16		Aqueous	PFPeA	PFAS by ID	2.9	J	ng/L	6
001	1694-16		Aqueous	PFOS	PFAS by ID	8.1		ng/L	6

(9 detections)

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA20027-001
Description: <del>1694-16</del> <b>1913-16</b>	Matrix: Aqueous
Date Sampled: 01/18/2021 1430	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221145

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/26/2021 2110	JJG	01/24/2021 1615	80489

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		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	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		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	5.3		3.7	0.92	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	1.1	J	3.7	0.92	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.95	J	3.7	0.92	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.5	J	3.7	0.92	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	22		3.7	0.92	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	3.6	J	3.7	0.92	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	10		3.7	0.92	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	2.9	J	3.7	0.92	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	8.1		3.7	0.92	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		87	25-150
13C2_6:2FTS		88	25-150
13C2_8:2FTS		83	25-150
13C2_PFDaA		79	25-150
13C2_PFHxDA		83	25-150
13C2_PFTeDA		84	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA20027-001
Description: <del>1694-16</del> <b>1913-16</b>	Matrix: Aqueous
Date Sampled: 01/18/2021 1430	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/20/2021	Project Number: 40221145

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		83	25-150
13C3_PFHxS		81	25-150
13C3-HFPO-DA		83	25-150
13C4_PFBa		88	25-150
13C4_PFHpA		88	25-150
13C5_PFHxA		80	25-150
13C5_PFPeA		89	25-150
13C6_PFDa		85	25-150
13C7_PFUdA		95	25-150
13C8_PFOA		87	25-150
13C8_PFOS		84	25-150
13C8_PFOSA		86	10-150
13C9_PFNA		85	25-150
d-EtFOSA		79	10-150
d5-EtFOSAA		94	25-150
d9-EtFOSE		83	10-150
d-MeFOSA		78	10-150
d3-MeFOSAA		86	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WQ80489-001

Matrix: Aqueous

Batch: 80489

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/24/2021 1615

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
8:2 FTS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
6:2 FTS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
10:2 FTS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
4:2 FTS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
GenX	ND		1	8.0	2.0	ng/L	01/26/2021 1623
ADONA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
EtFOSA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
EtFOSAA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
EtFOSE	ND		1	8.0	2.0	ng/L	01/26/2021 1623
MeFOSA	ND		1	16	4.0	ng/L	01/26/2021 1623
MeFOSAA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
MeFOSE	ND		1	8.0	2.0	ng/L	01/26/2021 1623
PFBS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFDS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFHpS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFNS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFOSA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFPeS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFDOS	ND		1	8.0	2.0	ng/L	01/26/2021 1623
PFHxS	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFBA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFDA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFDoA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFHpA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFHxDA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
PFHxA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFNA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFODA	ND		1	8.0	2.0	ng/L	01/26/2021 1623
PFOA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFPeA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFTeDA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFTTrDA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFUdA	ND		1	4.0	1.0	ng/L	01/26/2021 1623
PFOS	ND		1	4.0	1.0	ng/L	01/26/2021 1623

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		99	25-150
13C2_6:2FTS		110	25-150
13C2_8:2FTS		98	25-150
13C2_PFDoA		96	25-150
13C2_PFHxDA		102	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: WQ80489-001

Matrix: Aqueous

Batch: 80489

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/24/2021 1615

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		98	25-150
13C3_PFBs		95	25-150
13C3_PFHxS		95	25-150
13C3-HFPO-DA		102	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		103	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		104	25-150
13C6_PFDa		99	25-150
13C7_PFUdA		102	25-150
13C8_PFOA		101	25-150
13C8_PFOs		95	25-150
13C8_PFOsA		93	10-150
13C9_PFNa		97	25-150
d-EtFOsA		89	10-150
d5-EtFOsAA		106	25-150
d9-EtFOsE		104	10-150
d-MeFOsA		97	10-150
d3-MeFOsAA		101	25-150
d7-MeFOsE		103	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: WQ80489-002

Matrix: Aqueous

Batch: 80489

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/24/2021 1615

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	15	17		1	113	50-150	01/26/2021 1633
11CI-PF3OUdS	15	16		1	109	50-150	01/26/2021 1633
8:2 FTS	15	17		1	108	50-150	01/26/2021 1633
6:2 FTS	15	18		1	116	50-150	01/26/2021 1633
10:2 FTS	15	16		1	101	50-150	01/26/2021 1633
4:2 FTS	15	16		1	107	50-150	01/26/2021 1633
GenX	32	37		1	114	50-150	01/26/2021 1633
ADONA	15	18		1	117	50-150	01/26/2021 1633
EtFOSA	16	16		1	98	50-150	01/26/2021 1633
EtFOSAA	16	17		1	103	50-150	01/26/2021 1633
EtFOSE	16	16		1	101	50-150	01/26/2021 1633
MeFOSA	16	21		1	129	50-150	01/26/2021 1633
MeFOSAA	16	19		1	118	50-150	01/26/2021 1633
MeFOSE	16	16		1	100	50-150	01/26/2021 1633
PFBS	14	15		1	104	50-150	01/26/2021 1633
PFDS	15	18		1	117	50-150	01/26/2021 1633
PFHpS	15	16		1	105	50-150	01/26/2021 1633
PFNS	15	18		1	120	50-150	01/26/2021 1633
PFOSA	16	18		1	109	50-150	01/26/2021 1633
PFPeS	15	15		1	102	50-150	01/26/2021 1633
PFDOS	15	16		1	103	50-150	01/26/2021 1633
PFHxS	15	15		1	106	50-150	01/26/2021 1633
PFBA	16	17		1	108	50-150	01/26/2021 1633
PFDA	16	18		1	111	50-150	01/26/2021 1633
PFDoA	16	17		1	109	50-150	01/26/2021 1633
PFHpA	16	17		1	107	50-150	01/26/2021 1633
PFHxDA	16	17		1	109	50-150	01/26/2021 1633
PFHxA	16	17		1	107	50-150	01/26/2021 1633
PFNA	16	17		1	108	50-150	01/26/2021 1633
PFODA	16	18		1	114	50-150	01/26/2021 1633
PFOA	16	18		1	110	50-150	01/26/2021 1633
PFPeA	16	17		1	108	50-150	01/26/2021 1633
PFTeDA	16	18		1	113	50-150	01/26/2021 1633
PFTTrDA	16	18		1	112	50-150	01/26/2021 1633
PFUdA	16	17		1	108	50-150	01/26/2021 1633
PFOS	15	16		1	105	50-150	01/26/2021 1633
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		88	25-150				
13C2_6:2FTS		98	25-150				
13C2_8:2FTS		88	25-150				
13C2_PFDoA		94	25-150				
13C2_PFHxDA		97	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

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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: WQ80489-002

Matrix: Aqueous

Batch: 80489

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/24/2021 1615

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		92	25-150
13C3_PFBs		90	25-150
13C3_PFHxS		88	25-150
13C3-HFPO-DA		95	25-150
13C4_PFBa		94	25-150
13C4_PFHpA		95	25-150
13C5_PFHxA		90	25-150
13C5_PFPeA		97	25-150
13C6_PFDa		93	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		95	25-150
13C8_PFOs		89	25-150
13C8_PFOsA		90	10-150
13C9_PFNa		93	25-150
d-EtFOsA		66	10-150
d5-EtFOsAA		94	25-150
d9-EtFOsE		96	10-150
d-MeFOsA		74	10-150
d3-MeFOsAA		97	25-150
d7-MeFOsE		104	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  
 Owner Received Date: 1/19/2021 Results Requested By: 2/4/2021

Workorder: 40221145 Workorder Name: LACROSSE WELL #23 & 24

Report To:	Subcontract To:	Requested Analysis:
Christopher Hyska Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436	Pace Analytical West Columbia 106 Vantage Point Drive West Columbia, SC 29172 Phone (803)791-9700	



Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Unpreserved	Preserved Containers	LAB USE ONLY
1	1694-16	PS	1/18/2021 14:30	40221145001	Water	2	X	
2								
3								
4								
5								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	[Signature]	1/19/21 16:55			R77 - MDL reporting - Quote 23492
2					
3	Fedex	1/20/21 09:35	[Signature]	1/20/21 09:35	

Cooler Temperature on Receipt 1-3 °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 (formerly Sheehy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.paceids.com

PACE ANALYTICAL SERVICES, LLC

(Please Print Clearly)

Company Name: The OS Group LLC  
 InCh/Location: LaCrosse WI  
 Project Contact: Steven Osesek  
 Phone: 608-433-9388  
 Project Number:  
 Project Name: LaCrosse Well 23 #24  
 Project State: WI  
 Sampled By (Print): Kristie Tweed  
 Sampled By (Sign): *Kristie Tweed*



UPPER MIDWEST REGION  
 MN: 612-807-1700 WI: 920-488-2490

Page of

COC No. 40221145

### CHAIN OF CUSTODY

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

FILTERED?  
 (YES/NO)  
 PRESERVATION  
 (CODE)

Y/N	Filter Label	Analysis Requested
N	A	MS/MS EWI PFAS3C

Quote #:   
 Mail To Contact: Steven Osesek  
 Mail To Company: The OS Group LLC  
 Mail To Address: 444 21st St S  
 LaCrosse, WI 54601  
 Invoice To Contact: Steven Osesek  
 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 #

Regulatory Program:  
 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 = EtOH DW = Drinking Water  
 C = Charcoal GW = Ground Water  
 D = Oil SW = Surface Water  
 S = Sol WW = Wastewater  
 Sl = Sludge WP = Waste

LAB #	CLIENT FIELD ID	DATE	TIME	MATRIX
001	16A4-016	11-8-21	2:30	DW

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge) Date Needed:	Relinquished By: <i>Kristie Tweed</i> Date/Time: 11-8-21 13:30	Received By: <i>Jane</i> Date/Time: 11-9-21 0900	PACE Project No. 40221145 Receipt Temp = ROI °C Sample Receipt pH OK / Adjusted Cooler Custody Seal Present / <del>Not Present</del> Intact / Not Intact
Transmit Prelim Results by (complete what you want):	Relinquished By: <i>Red Eye</i> Date/Time: 11-9-21 0900	Received By: <i>Jane</i> Date/Time: 11-9-21 0900	
Bill #1:	Relinquished By:	Received By:	
Bill #2:	Relinquished By:	Received By:	
Telephone:	Relinquished By:	Received By:	
#: Samples on HOLD are subject to special pricing and release of liability	Relinquished By:	Received By:	



Client Name: The OS Group Project # 4022145

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):

Glass			Plastic			Vials			Jars		General		VOA Vials (>6mm) *	H2SO4 pH 52	NaOH+Zn Act pH 59	NaOH pH 212	HNO3 pH 52	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									
																																		2.5 / 5 / 10
																																		2.5 / 5 / 10
																																		2.5 / 5 / 10
																																		2.5 / 5 / 10
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																																		2.5 / 5 / 10
																																		2.5 / 5 / 10

Options to preservation check: VOA, Coliform, TOC, TOX, TDH, O&G, W/DRO, Phenolics, Other: \_\_\_\_\_ Headspace in VOA Vials (>6mm) :  Yes  No  N/A \*If yes look in headspace column

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



# PACE ANALYTICAL SERVICES, LLC


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

## Sample Condition Upon Receipt Form (SCUR)

**Client Name:** The OS Group  
**Courier:**  CS Logistics  Fed Ex  Speedee  UPS  Walco  
 Client  Pace Other: \_\_\_\_\_  
**Tracking #:** 782749237296

Project #: \_\_\_\_\_

WO#: 40221145

  
 40221145

**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 - N/A    **Type of Ice:**  Ice Blue Dry None  Samples on ice, cooling process has begun  
**Cooler Temperature:** Uncorr: RDT / Corr: \_\_\_\_\_  
**Temp Blank Present:**  yes  no    **Biological Tissue is Frozen:**  yes  no

Person examining contents:  
 Date: 1-19-21 / Initials: SKU  
 Labeled By Initials: \_\_\_\_\_

Temp should be above freezing to 8°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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. Proj #, Pg #, Invoice, Phone #
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.
- VQA 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:		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	

**Client Notification/ Resolution:** If checked, see attached form for additional comments   
 Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/ Resolution: Client crossed out in Sample FO field    1-19-21 SKU

PM Review is documented electronically in LIMS. By releasing the project, the PM acknowledges they have reviewed the sample logit

: 2.2

# 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 Greenbay Cooler Inspected by/date: MEH/1/20/21 Lot #: WA20027

Means of receipt: <input type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" 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>N/A</u> Chlorine Strip ID: <u>N/A</u> Tested by: <u>N/A</u>	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: <u>NA</u>	
<u>3 / 1.3 °C</u> <u>NA / NA °C</u> <u>NA / NA °C</u> <u>NA / NA °C</u>	
Method: <input type="checkbox"/> Temperature Blank <input checked="" 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 checked="" 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 checked="" type="checkbox"/> Yes <input 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 <sub>3</sub> /TKN/cyanide/phenol/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 #
<b>Sample Preservation</b> (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) <u>N/A</u> were received incorrectly preserved and were adjusted accordingly in sample receiving with <u>N/A</u> mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # <u>N/A</u> .	
Time of preservation <u>N/A</u> . If more than one preservative is needed, please note in the comments below.	
Sample(s) <u>N/A</u> were received with bubbles >6 mm in diameter.	
Samples(s) <u>N/A</u> were received with TRC > 0.5 mg/L (If #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) with Shealy ID: <u>N/A</u> .	
SR barcode labels applied by: <u>MEH</u> Date: <u>1/20/21</u>	

3/8  
1/20

Comments: WA20027-01/19/2016 1694-16; ID on containers  
listed as 1913-16



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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 9, 2021

[REDACTED]  
2726 Del Ray Avenue  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2726 Del Ray Avenue, La Crosse, WI 54603  
Tax parcel # 4-91-0  
Sampling Point # 91-0  
Sampling Date: January 21, 2021

Dear [REDACTED]:

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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA) CAS # 335-67-1</b>	<b>41 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1</b>	<b>14 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.3 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.9 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	64 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	5.6 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	1.1 ppt	None Established <sup>c</sup>

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  
 2726 Del Ray Avenue, La Crosse, WI 54603  
 Tax Parcel # 4-91-0  
 Sampling Date: January 21, 2021  
 February 9, 2021

Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	1.1 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	9.7 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

2726 Del Ray Avenue, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA26025-010
Description: 91-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1435	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/01/2021 1808	JJG	01/31/2021 1422	81322

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	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.4	1.8	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	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.4	1.8	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	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.3	J	3.7	0.92	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.1	J	3.7	0.92	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	3.9		3.7	0.92	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	64		3.7	0.92	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.1	J	3.7	0.92	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	5.6		3.7	0.92	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	41		3.7	0.92	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	9.7		3.7	0.92	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	14		3.7	0.92	ng/L	1

Surrogate	Run 1 Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		96	25-150
13C2_6:2FTS		100	25-150
13C2_8:2FTS		87	25-150
13C2_PFDa		85	25-150
13C2_PFHxDA		84	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA26025-010
Description: 91-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1435	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		82	25-150
13C3_PFHxS		81	25-150
13C3-HFPO-DA		92	25-150
13C4_PFBa		94	25-150
13C4_PFHpA		95	25-150
13C5_PFHxA		88	25-150
13C5_PFPeA		92	25-150
13C6_PFDa		95	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		87	25-150
13C8_PFOS		75	25-150
13C8_PFOsA		93	10-150
13C9_PFNa		90	25-150
d-EtFOSA		86	10-150
d5-EtFOSAA		95	25-150
d9-EtFOSE		92	10-150
d-MeFOSA		95	10-150
d3-MeFOSAA		90	25-150
d7-MeFOSE		95	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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



444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 9, 2021

[Redacted]

2736 Del Ray Avenue  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2736 Del Ray Avenue, La Crosse, WI 54603  
Tax Parcel # 4-92-0  
Sampling Point # 92-0  
Sample Date: January 21, 2021

Dear [Redacted]:

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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	1.2 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	9.9 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	5.4 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	2.7 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.0 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	16 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	4.9 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	1.5 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	4.2 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> Detected in the method blank. Possible lab contaminant.		

Private Well Sampling Results for  
2736 Del Ray Avenue, La Crosse, WI 54603  
Tax Parcel # 4-92-0  
Sampling Point # 92-0  
February 9, 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](mailto: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.

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

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: WA26025-011
Description: 92-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1455	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/01/2021 1818	JJG	01/31/2021 1422	81322

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		7.8	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.8	1.9	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	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	3.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	2.7	J	3.9	0.97	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	1.2	J	3.9	0.97	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.0	J	3.9	0.97	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	16		3.9	0.97	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.5	J	3.9	0.97	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	4.9		3.9	0.97	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	9.9		3.9	0.97	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	4.2		3.9	0.97	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	5.4		3.9	0.97	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		100	25-150
13C2_6:2FTS		108	25-150
13C2_8:2FTS		87	25-150
13C2_PFDa		92	25-150
13C2_PFHxDA		93	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA26025-011
Description: 92-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1455	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		95	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		95	25-150
13C4_PFBa		95	25-150
13C4_PFHpA		96	25-150
13C5_PFHxA		94	25-150
13C5_PFPeA		93	25-150
13C6_PFDa		101	25-150
13C7_PFUdA		93	25-150
13C8_PFOA		91	25-150
13C8_PFOS		87	25-150
13C8_PFOSA		92	10-150
13C9_PFNA		88	25-150
d-EtFOSA		95	10-150
d5-EtFOSAA		92	25-150
d9-EtFOSE		94	10-150
d-MeFOSA		94	10-150
d3-MeFOSAA		93	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 9, 2021

[REDACTED]  
2742 Del Ray Avenue  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2742 Del Ray Avenue, La Crosse, WI 54603  
Tax parcel # 4-95-0  
Sampling Point # 95-0  
Sampling Date: January 21, 2021

Dear [REDACTED]:

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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>23 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>11 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	2.8 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.5 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	37 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	4.0 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

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  
 2742 Del Ray Avenue, La Crosse, WI 54603  
 Tax Parcel # 4-95-0  
 Sampling Date: January 21, 2021  
 February 9, 2021

Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	0.91 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	6.3 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

2742 Del Ray Avenue, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater). Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA26025-014
Description: 95-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1445	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/01/2021 1850	JJG	01/31/2021 1422	81322

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	2.8	J	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	ND		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	3.5	J	3.6	0.89	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	37		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	0.91	J	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	4.0		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	23		3.6	0.89	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	6.3		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	11		3.6	0.89	ng/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
13C2_4:2FTS	99		25-150
13C2_6:2FTS	112		25-150
13C2_8:2FTS	104		25-150
13C2_PFDaA	92		25-150
13C2_PFHxDA	96		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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA26025-014
Description: 95-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1445	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		95	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBa		99	25-150
13C4_PFHpA		95	25-150
13C5_PFHxA		92	25-150
13C5_PFPeA		97	25-150
13C6_PFDa		102	25-150
13C7_PFUdA		90	25-150
13C8_PFOA		92	25-150
13C8_PFOS		88	25-150
13C8_PFOSA		98	10-150
13C9_PFNA		89	25-150
d-EtFOSA		100	10-150
d5-EtFOSAA		99	25-150
d9-EtFOSE		87	10-150
d-MeFOSA		96	10-150
d3-MeFOSAA		101	25-150
d7-MeFOSE		88	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 9, 2021

██████████  
 2529 First Avenue East  
 La Crosse, WI 54603

Subject: Private Well Re-Sampling Results  
 2529 First Avenue East, La Crosse, WI 54603  
 Tax Parcel # 4-250-0  
 Sampling Point # 250-0  
 Sample Date: January 21, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. This was the second sample collected. The results were similar to the first 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.2 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	8.3 ppt	20 ppt <sup>a,b</sup>	



Private Well Re-Sampling Results for  
 2529 First Avenue East, La Crosse, WI 54603  
 Tax Parcel # 4-250-0  
 Sampling Point # 250-0  
 Sample Date: January 21, 2021  
 February 9, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	8.3 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	15 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	88 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	7.3 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

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

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Re-Sampling Results for  
2529 First Avenue East, La Crosse, WI 54603  
Tax Parcel # 4-250-0  
Sampling Point # 250-0  
Sample Date: January 21, 2021  
February 9, 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](mailto: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.

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

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: WA26025-013
Description: 250-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1530	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/01/2021 1840	JJG	01/31/2021 1422	81322

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	8.3		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	ND		3.6	0.90	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	7.3		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	15		3.6	0.90	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	88		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	2.2	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	8.3		3.6	0.90	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		99	25-150
13C2_6:2FTS		112	25-150
13C2_8:2FTS		104	25-150
13C2_PFDaA		92	25-150
13C2_PFHxDA		93	25-150
13C2_PFTeDA		93	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA26025-013
Description: 250-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1530	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		86	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		98	25-150
13C6_PFDa		100	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		96	25-150
13C8_PFOS		86	25-150
13C8_PFOSA		100	10-150
13C9_PFNA		93	25-150
d-EtFOSA		96	10-150
d5-EtFOSAA		100	25-150
d9-EtFOSE		91	10-150
d-MeFOSA		105	10-150
d3-MeFOSAA		96	25-150
d7-MeFOSE		93	10-150

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 9, 2021

1836 Aiken Road  
La Crosse, WI 54603

Subject: Private Well Re-Sampling Results  
2529 First Avenue East, La Crosse, WI 54603  
Tax Parcel # 4-250-0  
Sampling Point # 250-0  
Sample Date: January 21, 2021

Dear [REDACTED]:

We have received and reviewed the test results for the sample collected at the above address. This was the second sample collected. The results were similar to the first 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.2 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	8.3 ppt	20 ppt <sup>a,b</sup>	

Private Well Re-Sampling Results for  
 2529 First Avenue East, La Crosse, WI 54603  
 Tax Parcel # 4-250-0  
 Sampling Point # 250-0  
 Sample Date: January 21, 2021  
 February 9, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	8.3 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	15 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	88 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	7.3 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

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

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>Bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Re-Sampling Results for  
2529 First Avenue East, La Crosse, WI 54603  
Tax Parcel # 4-250-0  
Sampling Point # 250-0  
Sample Date: January 21, 2021  
February 9, 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](mailto: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.

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

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: WA26025-013
Description: 250-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1530	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/01/2021 1840	JJG	01/31/2021 1422	81322

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	8.3		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	ND		3.6	0.90	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	7.3		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	15		3.6	0.90	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	88		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	2.2	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	8.3		3.6	0.90	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		99	25-150
13C2_6:2FTS		112	25-150
13C2_8:2FTS		104	25-150
13C2_PFDaA		92	25-150
13C2_PFHxDA		93	25-150
13C2_PFTeDA		93	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA26025-013
Description: 250-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1530	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		86	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		98	25-150
13C6_PFDa		100	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		96	25-150
13C8_PFOS		86	25-150
13C8_PFOsA		100	10-150
13C9_PFNa		93	25-150
d-EtFOsA		96	10-150
d5-EtFOsAA		100	25-150
d9-EtFOsE		91	10-150
d-MeFOsA		105	10-150
d3-MeFOsAA		96	25-150
d7-MeFOsE		93	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 9, 2021

██████████  
 2554 First Avenue West  
 La Crosse, WI 54603

Subject: Private Well Re-Sampling Results  
 2554 First Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-340-0  
 Sampling Point # 340-0  
 Sample Date: January 21, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. This was the second sample collected. The results were similar to the first 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 <sup>e</sup> )	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	5.7 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	2.8 ppt	20 ppt <sup>a,b</sup>	

Private Well Re-Sampling Results for  
 2554 First Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-340-0  
 Sampling Point # 340-0  
 Sample Date: January 21, 2021  
 February 9, 2021

Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	5.0 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	22 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	39 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	2.2 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	4.1 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	2.1 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>BL</sup> Detected in the method blank. Possible lab contaminant.

Private Well Re-Sampling Results for  
2554 First Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-340-0  
Sampling Point # 340-0  
Sample Date: January 21, 2021  
February 9, 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](mailto: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.

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

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: WA26025-002
Description: 340-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1230	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/01/2021 1621	JJG	01/31/2021 1422	81322

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		8.7	2.2	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		17	4.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	5.0		4.3	1.1	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	4.1	J	4.3	1.1	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	22		4.3	1.1	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	39		4.3	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	2.2	J	4.3	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	5.7		4.3	1.1	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	2.1	J	4.3	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	2.8	J	4.3	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		107	25-150
13C2_6:2FTS		114	25-150
13C2_8:2FTS		109	25-150
13C2_PFDaA		102	25-150
13C2_PFHxDA		100	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA26025-002
Description: 340-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1230	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		95	25-150
13C3-HFPO-DA		104	25-150
13C4_PFBa		103	25-150
13C4_PFHpA		102	25-150
13C5_PFHxA		99	25-150
13C5_PFPeA		101	25-150
13C6_PFDa		107	25-150
13C7_PFUdA		102	25-150
13C8_PFOA		101	25-150
13C8_PFOS		98	25-150
13C8_PFOsA		103	10-150
13C9_PFNa		101	25-150
d-EtFOsA		93	10-150
d5-EtFOsAA		102	25-150
d9-EtFOsE		93	10-150
d-MeFOsA		107	10-150
d3-MeFOsAA		99	25-150
d7-MeFOsE		99	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 9, 2021

██████████  
 2504 First Avenue West  
 La Crosse, WI 54603

Subject: Private Well Re-Sampling Results  
 2504 First Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-346-0  
 Sampling Point # 346-0  
 Sample Date: January 21, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. This was the second sample collected. The results were similar to the first 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	3.1 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	1.7 ppt	20 ppt <sup>a,b</sup>	

Private Well Re-Sampling Results for  
 2504 First Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-346-0  
 Sampling Point # 346-0  
 Sample Date: January 21, 2021  
 February 9, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	2.5 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.8 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	7.3 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	1.1 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

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

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.



Private Well Re-Sampling Results for  
2504 First Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-346-0  
Sampling Point # 346-0  
Sample Date: January 21, 2021  
February 9, 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](mailto: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.

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

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: WA26025-004
Description: 346-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1300	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/01/2021 1643	JJG	01/31/2021 1422	81322

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	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.4	1.8	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	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.4	1.8	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	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	2.5	J	3.7	0.92	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.1	J	3.7	0.92	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.8	J	3.7	0.92	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	7.3		3.7	0.92	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	3.1	J	3.7	0.92	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.7	J	3.7	0.92	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		104	25-150
13C2_6:2FTS		106	25-150
13C2_8:2FTS		106	25-150
13C2_PFDoA		97	25-150
13C2_PFHxDA		93	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA26025-004
Description: 346-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1300	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		94	25-150
13C3-HFPO-DA		97	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		97	25-150
13C5_PFHxA		90	25-150
13C5_PFPeA		100	25-150
13C6_PFDa		105	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		93	25-150
13C8_PFOS		94	25-150
13C8_PFOsA		100	10-150
13C9_PFNa		95	25-150
d-EtFOsA		92	10-150
d5-EtFOsAA		102	25-150
d9-EtFOSE		89	10-150
d-MeFOsA		93	10-150
d3-MeFOsAA		97	25-150
d7-MeFOSE		95	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 9, 2021

██████████  
Olympic Properties, LLC.  
P.O Box 2896  
La Crosse, WI 54602

Subject: Private Well Re-Sampling Results  
2557 First Avenue West, La Crosse, WI 54602  
Tax parcel # 4-389-0  
Sampling Point # 389--B  
Sampling Date: January 21, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. This was a second sample from you well, and the levels were higher for some PFAS compounds. In this sample, 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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA) CAS # 335-67-1</b>	<b>13 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1</b>	<b>16 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	8.9 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	14 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	140 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

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

Private Well Re-Sampling Results for  
 2557 First Avenue West, La Crosse, WI 54602  
 Tax Parcel # 4-389-0  
 Sampling Date: January 21, 2021  
 February 9, 2021

Perfluoro-1-heptanesulfonic acid (PFHpS) CAS # 375-92-8	1.1 ppt	None Established <sup>c</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	7.8 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

## BOTTLED WATER ACKNOWLEDGEMENT

2557 First Avenue West, La Crosse, WI 54602

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater). Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	2557 1st Ave. West Sampling Point # 389-0-B	Laboratory ID: WA26025-003
Description: <del>389-0-A</del>		Matrix: Aqueous
Date Sampled: 01/21/2021 1245	Project Name: LACROSSE WELLS 23 & 24	
Date Received: 01/26/2021	Project Number: 40221376	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/01/2021 1632	JJG	01/31/2021 1422	81322

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		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	8.9		3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	1.1	J	3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	7.8		3.6	0.91	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	14		3.6	0.91	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	140		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	13		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	16		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		102	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		104	25-150
13C2_PFDaA		94	25-150
13C2_PFHxDA		94	25-150
13C2_PFTeDA		96	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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	2557 1st Ave. West Sampling Point # 389-0-B	Laboratory ID: WA26025-003
Description: <del>389-0-A</del>		Matrix: Aqueous
Date Sampled: 01/21/2021 1245	Project Name: LACROSSE WELLS 23 & 24	
Date Received: 01/26/2021	Project Number: 40221376	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBa		97	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		94	25-150
13C5_PFPeA		98	25-150
13C6_PFDA		103	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		94	25-150
13C8_PFOS		90	25-150
13C8_PFOSA		96	10-150
13C9_PFNA		89	25-150
d-EtFOSA		98	10-150
d5-EtFOSAA		102	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		95	10-150
d3-MeFOSAA		97	25-150
d7-MeFOSE		86	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 9, 2021

██████████  
2557 First Avenue West  
La Crosse, WI 54602

Subject: Private Well Re-Sampling Results  
2557 First Avenue West, La Crosse, WI 54602  
Tax parcel # 4-389-0  
Sampling Point # 389-0-B  
Sampling Date: January 21, 2021

Dear ██████████:

We have received and reviewed the test results for the sample collected at the above address. This was a second sample from your well, and the levels were higher for some PFAS compounds. In this sample, 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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>13 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>16 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	8.9 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	14 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	140 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

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

Private Well Re-Sampling Results for  
 2557 First Avenue West, La Crosse, WI 54602  
 Tax Parcel # 4-389-0  
 Sampling Date: January 21, 2021  
 February 9, 2021

Perfluoro-1-heptanesulfonic acid (PFHpS) CAS # 375-92-8	1.1 ppt	None Established <sup>c</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	7.8 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

2557 First Avenue West, La Crosse, WI 54602

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	2557 1st Ave. West Sampling Point # 389-0-B	Laboratory ID: WA26025-003
Description: <del>389-0-A</del>		Matrix: Aqueous
Date Sampled: 01/21/2021 1245	Project Name: LACROSSE WELLS 23 & 24	
Date Received: 01/26/2021	Project Number: 40221376	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/01/2021 1632	JJG	01/31/2021 1422	81322

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		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	8.9		3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	1.1	J	3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	7.8		3.6	0.91	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	14		3.6	0.91	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	140		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	13		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	16		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		102	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		104	25-150
13C2_PFDaA		94	25-150
13C2_PFHxDA		94	25-150
13C2_PFTeDA		96	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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	2557 1st Ave. West Sampling Point # 389-0-B	Laboratory ID: WA26025-003
Description: <del>389-0-A</del>		Matrix: Aqueous
Date Sampled: 01/21/2021 1245	Project Name: LACROSSE WELLS 23 & 24	
Date Received: 01/26/2021	Project Number: 40221376	

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBa		97	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		94	25-150
13C5_PFPeA		98	25-150
13C6_PFDA		103	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		94	25-150
13C8_PFOS		90	25-150
13C8_PFOSA		96	10-150
13C9_PFNA		89	25-150
d-EtFOSA		98	10-150
d5-EtFOSAA		102	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		95	10-150
d3-MeFOSAA		97	25-150
d7-MeFOSE		86	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 9, 2021

██████████  
 2508 Third Avenue West  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2508 Third Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-470-0  
 Sampling Point # 470-0  
 Sample Date: January 21, 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.4 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	4.7 ppt	20 ppt <sup>a,b</sup>	



Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	4.5 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	5.6 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	34 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	2.9 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2508 Third Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-470-0  
Sampling Point # 470-0  
February 9, 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](mailto: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.

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

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: WA26025-012
Description: 470-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1515	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/01/2021 1829	JJG	01/31/2021 1422	81322

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		7.5	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.5	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		7.5	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	4.5		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	2.9	J	3.7	0.93	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	5.6		3.7	0.93	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	34		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		7.5	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		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		7.5	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.4	J	3.7	0.93	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		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	4.7		3.7	0.93	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		97	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		99	25-150
13C2_PFDoA		91	25-150
13C2_PFHxDA		93	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA26025-012
Description: 470-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1515	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221376

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		94	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		97	25-150
13C4_PFBa		95	25-150
13C4_PFHpA		95	25-150
13C5_PFHxA		91	25-150
13C5_PFPeA		97	25-150
13C6_PFDa		94	25-150
13C7_PFUdA		92	25-150
13C8_PFOA		96	25-150
13C8_PFOS		91	25-150
13C8_PFOSA		95	10-150
13C9_PFNA		89	25-150
d-EtFOSA		86	10-150
d5-EtFOSAA		100	25-150
d9-EtFOSE		87	10-150
d-MeFOSA		104	10-150
d3-MeFOSAA		100	25-150
d7-MeFOSE		93	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 10, 2021

██████████  
 137 Usher Street  
 La Crosse, WI 54603

Subject: Private Well Sampling Results – PFAS, VOCs and PAHs  
 137 Usher Street, La Crosse, WI 54603  
 Tax Parcel # 4-1365-0  
 Sampling Point # 1365-0  
 Sample Date: January 21, 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	2.3 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	4.4 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.5 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.0 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	11 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	0.88 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>Bl</sup> Detected in the method blank. Possible lab contaminant.

**In addition to the PFAS analysis, samples were collected and analyzed for volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs). No VOCs were detected in the sample. Two minor detections of acenaphthene (0.013 parts per billion) and acenaphthylene (0.0053 parts per billion) were detected by the PAH analysis. There are no standards for either acenaphthene or acenaphthylene. These are very low levels.**

Private Well Sampling Results for  
137 Usher Street, La Crosse, WI 54603  
Tax Parcel # 4-1365-0  
Sampling Point # 1365-0  
February 10, 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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



John C. Storlie, PG  
Principal Hydrogeologist

Attachment: Lab report for your well

February 09, 2021

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

RE: Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221377

Dear Steve Osesek:

Enclosed are the analytical results for sample(s) received by the laboratory on January 22, 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:

- Pace Analytical Services - Green Bay

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

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## CERTIFICATIONS

Project: LACROSSE WELL 23 & 24

Pace Project No.: 40221377

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### **Pace Analytical Services Green Bay**

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: LACROSSE WELL 23 & 24

Pace Project No.: 40221377

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40221377001	1365-0	Water	01/21/21 14:15	01/22/21 09:30

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: LACROSSE WELL 23 & 24

Pace Project No.: 40221377

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40221377001	1365-0	EPA 8270E by SIM	JJB	20	PASI-G
		EPA 8260	LAP	65	PASI-G

PASI-G = Pace Analytical Services - Green Bay

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### SUMMARY OF DETECTION

Project: LACROSSE WELL 23 & 24

Pace Project No.: 40221377

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>40221377001</b>	<b>1365-0</b>					
EPA 8270E by SIM	Acenaphthene	0.013J	ug/L	0.027	01/28/21 09:28	
EPA 8270E by SIM	Acenaphthylene	0.0053J	ug/L	0.022	01/28/21 09:28	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221377

**Sample: 1365-0**      **Lab ID: 40221377001**      Collected: 01/21/21 14:15      Received: 01/22/21 09:30      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270E MSSV PAH</b>									
Analytical Method: EPA 8270E by SIM      Preparation Method: EPA 3510									
Pace Analytical Services - Green Bay									
Acenaphthene	<b>0.013J</b>	ug/L	0.027	0.0055	1	01/27/21 08:48	01/28/21 09:28	83-32-9	
Acenaphthylene	<b>0.0053J</b>	ug/L	0.022	0.0045	1	01/27/21 08:48	01/28/21 09:28	208-96-8	
Anthracene	<b>&lt;0.0094</b>	ug/L	0.047	0.0094	1	01/27/21 08:48	01/28/21 09:28	120-12-7	
Benzo(a)anthracene	<b>&lt;0.0068</b>	ug/L	0.034	0.0068	1	01/27/21 08:48	01/28/21 09:28	56-55-3	
Benzo(a)pyrene	<b>&lt;0.0095</b>	ug/L	0.047	0.0095	1	01/27/21 08:48	01/28/21 09:28	50-32-8	
Benzo(b)fluoranthene	<b>&lt;0.0052</b>	ug/L	0.026	0.0052	1	01/27/21 08:48	01/28/21 09:28	205-99-2	
Benzo(g,h,i)perylene	<b>&lt;0.0061</b>	ug/L	0.031	0.0061	1	01/27/21 08:48	01/28/21 09:28	191-24-2	
Benzo(k)fluoranthene	<b>&lt;0.0068</b>	ug/L	0.034	0.0068	1	01/27/21 08:48	01/28/21 09:28	207-08-9	
Chrysene	<b>&lt;0.012</b>	ug/L	0.059	0.012	1	01/27/21 08:48	01/28/21 09:28	218-01-9	
Dibenz(a,h)anthracene	<b>&lt;0.0090</b>	ug/L	0.045	0.0090	1	01/27/21 08:48	01/28/21 09:28	53-70-3	
Fluoranthene	<b>&lt;0.0096</b>	ug/L	0.048	0.0096	1	01/27/21 08:48	01/28/21 09:28	206-44-0	
Fluorene	<b>&lt;0.0072</b>	ug/L	0.036	0.0072	1	01/27/21 08:48	01/28/21 09:28	86-73-7	
Indeno(1,2,3-cd)pyrene	<b>&lt;0.016</b>	ug/L	0.079	0.016	1	01/27/21 08:48	01/28/21 09:28	193-39-5	
1-Methylnaphthalene	<b>&lt;0.0053</b>	ug/L	0.027	0.0053	1	01/27/21 08:48	01/28/21 09:28	90-12-0	
2-Methylnaphthalene	<b>&lt;0.0044</b>	ug/L	0.022	0.0044	1	01/27/21 08:48	01/28/21 09:28	91-57-6	
Naphthalene	<b>&lt;0.017</b>	ug/L	0.083	0.017	1	01/27/21 08:48	01/28/21 09:28	91-20-3	
Phenanthrene	<b>&lt;0.012</b>	ug/L	0.062	0.012	1	01/27/21 08:48	01/28/21 09:28	85-01-8	
Pyrene	<b>&lt;0.0069</b>	ug/L	0.034	0.0069	1	01/27/21 08:48	01/28/21 09:28	129-00-0	
<b>Surrogates</b>									
2-Fluorobiphenyl (S)	51	%	39-120		1	01/27/21 08:48	01/28/21 09:28	321-60-8	
Terphenyl-d14 (S)	82	%	10-159		1	01/27/21 08:48	01/28/21 09:28	1718-51-0	
<b>8260 MSV</b>									
Analytical Method: EPA 8260									
Pace Analytical Services - Green Bay									
1,1,1,2-Tetrachloroethane	<b>&lt;0.27</b>	ug/L	1.0	0.27	1		01/26/21 16:41	630-20-6	
1,1,1-Trichloroethane	<b>&lt;0.24</b>	ug/L	1.0	0.24	1		01/26/21 16:41	71-55-6	
1,1,2,2-Tetrachloroethane	<b>&lt;0.28</b>	ug/L	1.0	0.28	1		01/26/21 16:41	79-34-5	
1,1,2-Trichloroethane	<b>&lt;0.55</b>	ug/L	5.0	0.55	1		01/26/21 16:41	79-00-5	
1,1-Dichloroethane	<b>&lt;0.27</b>	ug/L	1.0	0.27	1		01/26/21 16:41	75-34-3	
1,1-Dichloroethene	<b>&lt;0.24</b>	ug/L	1.0	0.24	1		01/26/21 16:41	75-35-4	
1,1-Dichloropropene	<b>&lt;0.54</b>	ug/L	1.8	0.54	1		01/26/21 16:41	563-58-6	
1,2,3-Trichlorobenzene	<b>&lt;2.2</b>	ug/L	7.4	2.2	1		01/26/21 16:41	87-61-6	
1,2,3-Trichloropropane	<b>&lt;0.59</b>	ug/L	5.0	0.59	1		01/26/21 16:41	96-18-4	
1,2,4-Trichlorobenzene	<b>&lt;0.95</b>	ug/L	5.0	0.95	1		01/26/21 16:41	120-82-1	
1,2,4-Trimethylbenzene	<b>&lt;0.84</b>	ug/L	2.8	0.84	1		01/26/21 16:41	95-63-6	
1,2-Dibromo-3-chloropropane	<b>&lt;1.8</b>	ug/L	5.9	1.8	1		01/26/21 16:41	96-12-8	
1,2-Dibromoethane (EDB)	<b>&lt;0.83</b>	ug/L	2.8	0.83	1		01/26/21 16:41	106-93-4	
1,2-Dichlorobenzene	<b>&lt;0.71</b>	ug/L	2.4	0.71	1		01/26/21 16:41	95-50-1	
1,2-Dichloroethane	<b>&lt;0.28</b>	ug/L	1.0	0.28	1		01/26/21 16:41	107-06-2	
1,2-Dichloropropane	<b>&lt;0.28</b>	ug/L	1.0	0.28	1		01/26/21 16:41	78-87-5	
1,3,5-Trimethylbenzene	<b>&lt;0.87</b>	ug/L	2.9	0.87	1		01/26/21 16:41	108-67-8	
1,3-Dichlorobenzene	<b>&lt;0.63</b>	ug/L	2.1	0.63	1		01/26/21 16:41	541-73-1	
1,3-Dichloropropane	<b>&lt;0.83</b>	ug/L	2.8	0.83	1		01/26/21 16:41	142-28-9	
1,4-Dichlorobenzene	<b>&lt;0.94</b>	ug/L	3.1	0.94	1		01/26/21 16:41	106-46-7	
2,2-Dichloropropane	<b>&lt;2.3</b>	ug/L	7.6	2.3	1		01/26/21 16:41	594-20-7	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: LACROSSE WELL 23 & 24

Pace Project No.: 40221377

Sample: 1365-0      Lab ID: 40221377001      Collected: 01/21/21 14:15      Received: 01/22/21 09:30      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV</b>									
Analytical Method: EPA 8260									
Pace Analytical Services - Green Bay									
2-Chlorotoluene	<0.93	ug/L	5.0	0.93	1		01/26/21 16:41	95-49-8	
4-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		01/26/21 16:41	106-43-4	
Benzene	<0.25	ug/L	1.0	0.25	1		01/26/21 16:41	71-43-2	
Bromobenzene	<0.24	ug/L	1.0	0.24	1		01/26/21 16:41	108-86-1	
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		01/26/21 16:41	74-97-5	
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		01/26/21 16:41	75-27-4	
Bromoform	<4.0	ug/L	13.2	4.0	1		01/26/21 16:41	75-25-2	
Bromomethane	<0.97	ug/L	5.0	0.97	1		01/26/21 16:41	74-83-9	
Carbon tetrachloride	<1.1	ug/L	3.6	1.1	1		01/26/21 16:41	56-23-5	
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		01/26/21 16:41	108-90-7	
Chloroethane	<1.3	ug/L	5.0	1.3	1		01/26/21 16:41	75-00-3	
Chloroform	<1.3	ug/L	5.0	1.3	1		01/26/21 16:41	67-66-3	
Chloromethane	<2.2	ug/L	7.3	2.2	1		01/26/21 16:41	74-87-3	
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		01/26/21 16:41	124-48-1	
Dibromomethane	<0.94	ug/L	3.1	0.94	1		01/26/21 16:41	74-95-3	
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		01/26/21 16:41	75-71-8	
Diisopropyl ether	<1.9	ug/L	6.3	1.9	1		01/26/21 16:41	108-20-3	
Ethylbenzene	<0.32	ug/L	1.1	0.32	1		01/26/21 16:41	100-41-4	
Hexachloro-1,3-butadiene	<1.5	ug/L	4.9	1.5	1		01/26/21 16:41	87-68-3	
Isopropylbenzene (Cumene)	<1.7	ug/L	5.6	1.7	1		01/26/21 16:41	98-82-8	
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		01/26/21 16:41	1634-04-4	
Methylene Chloride	<0.58	ug/L	5.0	0.58	1		01/26/21 16:41	75-09-2	
Naphthalene	<1.2	ug/L	5.0	1.2	1		01/26/21 16:41	91-20-3	
Styrene	<3.0	ug/L	10.0	3.0	1		01/26/21 16:41	100-42-5	
Tetrachloroethene	<0.33	ug/L	1.1	0.33	1		01/26/21 16:41	127-18-4	
Toluene	<0.27	ug/L	1.0	0.27	1		01/26/21 16:41	108-88-3	
Trichloroethene	<0.26	ug/L	1.0	0.26	1		01/26/21 16:41	79-01-6	
Trichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		01/26/21 16:41	75-69-4	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		01/26/21 16:41	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		01/26/21 16:41	1330-20-7	
cis-1,2-Dichloroethene	<0.27	ug/L	1.0	0.27	1		01/26/21 16:41	156-59-2	
cis-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		01/26/21 16:41	10061-01-5	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		01/26/21 16:41	179601-23-1	
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		01/26/21 16:41	104-51-8	
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		01/26/21 16:41	103-65-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		01/26/21 16:41	95-47-6	
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		01/26/21 16:41	99-87-6	
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		01/26/21 16:41	135-98-8	
tert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		01/26/21 16:41	98-06-6	
trans-1,2-Dichloroethene	<0.46	ug/L	1.5	0.46	1		01/26/21 16:41	156-60-5	
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		01/26/21 16:41	10061-02-6	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	91	%	70-130		1		01/26/21 16:41	460-00-4	HS
Dibromofluoromethane (S)	104	%	70-130		1		01/26/21 16:41	1868-53-7	
Toluene-d8 (S)	109	%	70-130		1		01/26/21 16:41	2037-26-5	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221377

QC Batch: 376408	Analysis Method: EPA 8260
QC Batch Method: EPA 8260	Analysis Description: 8260 MSV
	Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40221377001

METHOD BLANK: 2174035 Matrix: Water  
Associated Lab Samples: 40221377001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	01/26/21 07:06	
1,1,1-Trichloroethane	ug/L	<0.24	1.0	01/26/21 07:06	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	01/26/21 07:06	
1,1,2-Trichloroethane	ug/L	<0.55	5.0	01/26/21 07:06	
1,1-Dichloroethane	ug/L	<0.27	1.0	01/26/21 07:06	
1,1-Dichloroethene	ug/L	<0.24	1.0	01/26/21 07:06	
1,1-Dichloropropene	ug/L	<0.54	1.8	01/26/21 07:06	
1,2,3-Trichlorobenzene	ug/L	<2.2	7.4	01/26/21 07:06	
1,2,3-Trichloropropane	ug/L	<0.59	5.0	01/26/21 07:06	
1,2,4-Trichlorobenzene	ug/L	<0.95	5.0	01/26/21 07:06	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	01/26/21 07:06	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	01/26/21 07:06	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	01/26/21 07:06	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	01/26/21 07:06	
1,2-Dichloroethane	ug/L	<0.28	1.0	01/26/21 07:06	
1,2-Dichloropropane	ug/L	<0.28	1.0	01/26/21 07:06	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	01/26/21 07:06	
1,3-Dichlorobenzene	ug/L	<0.63	2.1	01/26/21 07:06	
1,3-Dichloropropane	ug/L	<0.83	2.8	01/26/21 07:06	
1,4-Dichlorobenzene	ug/L	<0.94	3.1	01/26/21 07:06	
2,2-Dichloropropane	ug/L	<2.3	7.6	01/26/21 07:06	
2-Chlorotoluene	ug/L	<0.93	5.0	01/26/21 07:06	
4-Chlorotoluene	ug/L	<0.76	2.5	01/26/21 07:06	
Benzene	ug/L	<0.25	1.0	01/26/21 07:06	
Bromobenzene	ug/L	<0.24	1.0	01/26/21 07:06	
Bromochloromethane	ug/L	<0.36	5.0	01/26/21 07:06	
Bromodichloromethane	ug/L	<0.36	1.2	01/26/21 07:06	
Bromoform	ug/L	<4.0	13.2	01/26/21 07:06	
Bromomethane	ug/L	<0.97	5.0	01/26/21 07:06	
Carbon tetrachloride	ug/L	<1.1	3.6	01/26/21 07:06	
Chlorobenzene	ug/L	<0.71	2.4	01/26/21 07:06	
Chloroethane	ug/L	<1.3	5.0	01/26/21 07:06	
Chloroform	ug/L	<1.3	5.0	01/26/21 07:06	
Chloromethane	ug/L	<2.2	7.3	01/26/21 07:06	
cis-1,2-Dichloroethene	ug/L	<0.27	1.0	01/26/21 07:06	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	01/26/21 07:06	
Dibromochloromethane	ug/L	<2.6	8.7	01/26/21 07:06	
Dibromomethane	ug/L	<0.94	3.1	01/26/21 07:06	
Dichlorodifluoromethane	ug/L	<0.50	5.0	01/26/21 07:06	
Diisopropyl ether	ug/L	<1.9	6.3	01/26/21 07:06	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221377

METHOD BLANK: 2174035 Matrix: Water  
Associated Lab Samples: 40221377001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/L	<0.32	1.1	01/26/21 07:06	
Hexachloro-1,3-butadiene	ug/L	<1.5	4.9	01/26/21 07:06	
Isopropylbenzene (Cumene)	ug/L	<1.7	5.6	01/26/21 07:06	
m&p-Xylene	ug/L	<0.47	2.0	01/26/21 07:06	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	01/26/21 07:06	
Methylene Chloride	ug/L	<0.58	5.0	01/26/21 07:06	
n-Butylbenzene	ug/L	<0.71	2.4	01/26/21 07:06	
n-Propylbenzene	ug/L	<0.81	5.0	01/26/21 07:06	
Naphthalene	ug/L	<1.2	5.0	01/26/21 07:06	
o-Xylene	ug/L	<0.26	1.0	01/26/21 07:06	
p-Isopropyltoluene	ug/L	<0.80	2.7	01/26/21 07:06	
sec-Butylbenzene	ug/L	<0.85	5.0	01/26/21 07:06	
Styrene	ug/L	<3.0	10.0	01/26/21 07:06	
tert-Butylbenzene	ug/L	<0.30	1.0	01/26/21 07:06	
Tetrachloroethene	ug/L	<0.33	1.1	01/26/21 07:06	
Toluene	ug/L	<0.27	1.0	01/26/21 07:06	
trans-1,2-Dichloroethene	ug/L	<0.46	1.5	01/26/21 07:06	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	01/26/21 07:06	
Trichloroethene	ug/L	<0.26	1.0	01/26/21 07:06	
Trichlorofluoromethane	ug/L	<0.21	1.0	01/26/21 07:06	
Vinyl chloride	ug/L	<0.17	1.0	01/26/21 07:06	
Xylene (Total)	ug/L	<1.5	3.0	01/26/21 07:06	
4-Bromofluorobenzene (S)	%	92	70-130	01/26/21 07:06	
Dibromofluoromethane (S)	%	103	70-130	01/26/21 07:06	
Toluene-d8 (S)	%	107	70-130	01/26/21 07:06	

LABORATORY CONTROL SAMPLE: 2174036

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	46.4	93	70-130	
1,1,1-Trichloroethane	ug/L	50	51.1	102	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	55.1	110	64-131	
1,1,2-Trichloroethane	ug/L	50	58.8	118	70-130	
1,1-Dichloroethane	ug/L	50	52.5	105	69-163	
1,1-Dichloroethene	ug/L	50	50.9	102	77-123	
1,1-Dichloropropene	ug/L	50	59.8	120	70-130	
1,2,3-Trichlorobenzene	ug/L	50	49.7	99	70-130	
1,2,3-Trichloropropane	ug/L	50	55.6	111	63-125	
1,2,4-Trichlorobenzene	ug/L	50	49.4	99	68-130	
1,2,4-Trimethylbenzene	ug/L	50	47.9	96	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	51.1	102	63-130	
1,2-Dibromoethane (EDB)	ug/L	50	50.1	100	70-130	
1,2-Dichlorobenzene	ug/L	50	47.2	94	70-130	
1,2-Dichloroethane	ug/L	50	50.2	100	78-142	

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### QUALITY CONTROL DATA

Project: LACROSSE WELL 23 & 24

Pace Project No.: 40221377

LABORATORY CONTROL SAMPLE: 2174036

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloropropane	ug/L	50	55.6	111	86-134	
1,3,5-Trimethylbenzene	ug/L	50	48.8	98	70-130	
1,3-Dichlorobenzene	ug/L	50	47.7	95	70-130	
1,3-Dichloropropane	ug/L	50	59.2	118	70-130	
1,4-Dichlorobenzene	ug/L	50	47.4	95	70-130	
2,2-Dichloropropane	ug/L	50	50.2	100	58-144	
2-Chlorotoluene	ug/L	50	51.9	104	70-130	
4-Chlorotoluene	ug/L	50	46.5	93	70-130	
Benzene	ug/L	50	56.8	114	70-130	
Bromobenzene	ug/L	50	46.6	93	70-130	
Bromochloromethane	ug/L	50	44.1	88	70-130	
Bromodichloromethane	ug/L	50	52.8	106	70-130	
Bromoform	ug/L	50	47.6	95	70-130	
Bromomethane	ug/L	50	47.1	94	39-129	
Carbon tetrachloride	ug/L	50	48.5	97	70-132	
Chlorobenzene	ug/L	50	51.8	104	70-130	
Chloroethane	ug/L	50	52.6	105	66-140	
Chloroform	ug/L	50	55.2	110	75-132	
Chloromethane	ug/L	50	42.7	85	32-143	
cis-1,2-Dichloroethene	ug/L	50	51.5	103	70-130	
cis-1,3-Dichloropropene	ug/L	50	53.8	108	70-130	
Dibromochloromethane	ug/L	50	46.5	93	70-130	
Dibromomethane	ug/L	50	53.7	107	70-130	
Dichlorodifluoromethane	ug/L	50	60.3	121	10-141	
Diisopropyl ether	ug/L	50	40.6	81	53-134	
Ethylbenzene	ug/L	50	55.1	110	80-120	
Hexachloro-1,3-butadiene	ug/L	50	53.3	107	63-132	
Isopropylbenzene (Cumene)	ug/L	50	52.3	105	70-130	
m&p-Xylene	ug/L	100	106	106	70-130	
Methyl-tert-butyl ether	ug/L	50	49.5	99	61-129	
Methylene Chloride	ug/L	50	54.7	109	70-130	
n-Butylbenzene	ug/L	50	55.9	112	70-131	
n-Propylbenzene	ug/L	50	54.2	108	70-130	
Naphthalene	ug/L	50	41.2	82	69-130	
o-Xylene	ug/L	50	52.0	104	70-130	
p-Isopropyltoluene	ug/L	50	47.6	95	70-130	
sec-Butylbenzene	ug/L	50	52.9	106	70-130	
Styrene	ug/L	50	51.8	104	70-130	
tert-Butylbenzene	ug/L	50	47.6	95	70-130	
Tetrachloroethene	ug/L	50	55.6	111	70-130	
Toluene	ug/L	50	54.6	109	80-120	
trans-1,2-Dichloroethene	ug/L	50	53.0	106	70-130	
trans-1,3-Dichloropropene	ug/L	50	54.7	109	69-130	
Trichloroethene	ug/L	50	54.5	109	70-130	
Trichlorofluoromethane	ug/L	50	54.4	109	75-145	
Vinyl chloride	ug/L	50	51.4	103	51-140	
Xylene (Total)	ug/L	150	158	105	70-130	

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### QUALITY CONTROL DATA

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221377

LABORATORY CONTROL SAMPLE: 2174036

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Bromofluorobenzene (S)	%			104	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			109	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2174168 2174169

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40221426006 Result	Spike Conc.	Spike Conc.	Result								
1,1,1,2-Tetrachloroethane	ug/L	<0.27	50	50	45.3	46.9	91	94	70-130	3	20		
1,1,1-Trichloroethane	ug/L	<0.24	50	50	50.9	50.0	102	100	70-130	2	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	56.1	55.1	112	110	64-137	2	20		
1,1,2-Trichloroethane	ug/L	<0.55	50	50	55.8	56.8	112	114	70-137	2	20		
1,1-Dichloroethane	ug/L	<0.27	50	50	52.3	51.2	105	102	69-163	2	20		
1,1-Dichloroethene	ug/L	<0.24	50	50	52.1	50.3	104	101	77-129	4	20		
1,1-Dichloropropene	ug/L	<0.54	50	50	57.1	57.7	114	115	70-130	1	20		
1,2,3-Trichlorobenzene	ug/L	<2.2	50	50	52.5	51.7	105	103	70-130	2	20		
1,2,3-Trichloropropane	ug/L	<0.59	50	50	54.1	55.3	108	111	63-125	2	20		
1,2,4-Trichlorobenzene	ug/L	<0.95	50	50	49.6	50.3	99	101	68-130	1	20		
1,2,4-Trimethylbenzene	ug/L	<0.84	50	50	46.9	46.8	94	94	70-130	0	20		
1,2-Dibromo-3-chloropropane	ug/L	<1.8	50	50	49.1	49.2	98	98	60-130	0	20		
1,2-Dibromoethane (EDB)	ug/L	<0.83	50	50	48.3	49.9	97	100	70-130	3	20		
1,2-Dichlorobenzene	ug/L	<0.71	50	50	47.2	46.7	94	93	70-130	1	20		
1,2-Dichloroethane	ug/L	<0.28	50	50	50.5	48.8	101	98	78-145	3	20		
1,2-Dichloropropane	ug/L	<0.28	50	50	56.5	54.6	113	109	86-135	4	20		
1,3,5-Trimethylbenzene	ug/L	<0.87	50	50	48.1	48.2	96	96	70-130	0	20		
1,3-Dichlorobenzene	ug/L	<0.63	50	50	47.8	47.5	96	95	70-130	1	20		
1,3-Dichloropropane	ug/L	<0.83	50	50	57.3	58.1	115	116	70-130	1	20		
1,4-Dichlorobenzene	ug/L	<0.94	50	50	47.8	46.6	96	93	70-130	2	20		
2,2-Dichloropropane	ug/L	<2.3	50	50	51.2	49.9	102	100	58-144	3	20		
2-Chlorotoluene	ug/L	<0.93	50	50	53.2	52.5	106	105	70-130	1	20		
4-Chlorotoluene	ug/L	<0.76	50	50	46.4	47.0	93	94	70-130	1	20		
Benzene	ug/L	<0.25	50	50	56.2	55.4	112	111	70-136	1	20		
Bromobenzene	ug/L	<0.24	50	50	46.5	46.1	93	92	70-130	1	20		
Bromochloromethane	ug/L	<0.36	50	50	45.8	43.6	92	87	70-130	5	20		
Bromodichloromethane	ug/L	<0.36	50	50	54.5	52.1	109	104	70-130	4	20		
Bromoform	ug/L	<4.0	50	50	44.8	46.9	90	94	69-130	5	20		
Bromomethane	ug/L	<0.97	50	50	50.2	48.2	100	96	39-138	4	20		
Carbon tetrachloride	ug/L	<1.1	50	50	48.8	47.6	98	95	70-142	3	20		
Chlorobenzene	ug/L	<0.71	50	50	51.1	51.1	102	102	70-130	0	20		
Chloroethane	ug/L	<1.3	50	50	53.2	51.7	106	103	61-149	3	20		
Chloroform	ug/L	<1.3	50	50	55.9	54.1	112	108	75-133	3	20		
Chloromethane	ug/L	<2.2	50	50	42.3	40.8	85	82	32-143	4	20		
cis-1,2-Dichloroethene	ug/L	<0.27	50	50	52.8	51.3	106	103	70-130	3	20		
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	55.3	54.5	111	109	70-130	2	20		

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221377

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2174168		2174169		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40221426006 Result	MS Spike Conc.	MSD Spike Conc.									
Dibromochloromethane	ug/L	<2.6	50	50	44.8	46.0	90	92	70-130	3	20		
Dibromomethane	ug/L	<0.94	50	50	55.2	53.9	110	108	70-130	2	20		
Dichlorodifluoromethane	ug/L	<0.50	50	50	58.0	56.2	116	112	10-141	3	20		
Diisopropyl ether	ug/L	<1.9	50	50	39.7	40.6	79	81	53-134	2	20		
Ethylbenzene	ug/L	<0.32	50	50	55.0	54.4	110	109	80-120	1	20		
Hexachloro-1,3-butadiene	ug/L	<1.5	50	50	55.6	55.3	111	111	63-132	0	20		
Isopropylbenzene (Cumene)	ug/L	<1.7	50	50	52.6	52.1	105	104	70-130	1	20		
m&p-Xylene	ug/L	<0.47	100	100	104	104	104	104	70-130	0	20		
Methyl-tert-butyl ether	ug/L	<1.2	50	50	48.6	49.7	97	99	61-136	2	20		
Methylene Chloride	ug/L	<0.58	50	50	55.7	53.9	111	108	68-137	3	20		
n-Butylbenzene	ug/L	<0.71	50	50	54.4	54.4	109	109	70-131	0	20		
n-Propylbenzene	ug/L	<0.81	50	50	54.4	53.4	109	107	70-130	2	20		
Naphthalene	ug/L	<1.2	50	50	44.4	44.6	89	89	68-135	1	20		
o-Xylene	ug/L	<0.26	50	50	51.5	51.3	103	103	70-130	0	20		
p-Isopropyltoluene	ug/L	<0.80	50	50	47.2	46.5	94	93	70-130	1	20		
sec-Butylbenzene	ug/L	<0.85	50	50	52.4	52.0	105	104	70-130	1	20		
Styrene	ug/L	<3.0	50	50	51.8	52.4	104	105	70-130	1	20		
tert-Butylbenzene	ug/L	<0.30	50	50	48.1	47.4	96	95	70-130	1	20		
Tetrachloroethene	ug/L	0.50J	50	50	53.9	54.4	107	108	70-130	1	20		
Toluene	ug/L	<0.27	50	50	53.3	53.2	107	106	80-120	0	20		
trans-1,2-Dichloroethene	ug/L	<0.46	50	50	53.2	52.4	106	105	70-130	2	20		
trans-1,3-Dichloropropene	ug/L	<4.4	50	50	53.2	55.6	106	111	69-130	4	20		
Trichloroethene	ug/L	1.1	50	50	56.4	55.5	111	109	70-130	2	20		
Trichlorofluoromethane	ug/L	<0.21	50	50	52.4	51.9	105	104	74-157	1	20		
Vinyl chloride	ug/L	<0.17	50	50	51.9	50.9	104	102	51-140	2	20		
Xylene (Total)	ug/L	<1.5	150	150	156	156	104	104	70-130	0	20		
4-Bromofluorobenzene (S)	%						104	104	70-130				
Dibromofluoromethane (S)	%						100	99	70-130				
Toluene-d8 (S)	%						107	109	70-130				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221377

QC Batch: 376580 Analysis Method: EPA 8270E by SIM  
QC Batch Method: EPA 3510 Analysis Description: 8270E Water PAH  
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40221377001

METHOD BLANK: 2174542 Matrix: Water  
Associated Lab Samples: 40221377001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	01/28/21 06:59	
2-Methylnaphthalene	ug/L	<0.0049	0.024	01/28/21 06:59	
Acenaphthene	ug/L	<0.0061	0.030	01/28/21 06:59	
Acenaphthylene	ug/L	<0.0050	0.025	01/28/21 06:59	
Anthracene	ug/L	<0.010	0.052	01/28/21 06:59	
Benzo(a)anthracene	ug/L	<0.0076	0.038	01/28/21 06:59	
Benzo(a)pyrene	ug/L	<0.011	0.053	01/28/21 06:59	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	01/28/21 06:59	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	01/28/21 06:59	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	01/28/21 06:59	
Chrysene	ug/L	<0.013	0.065	01/28/21 06:59	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	01/28/21 06:59	
Fluoranthene	ug/L	<0.011	0.053	01/28/21 06:59	
Fluorene	ug/L	<0.0080	0.040	01/28/21 06:59	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	01/28/21 06:59	
Naphthalene	ug/L	<0.018	0.092	01/28/21 06:59	
Phenanthrene	ug/L	<0.014	0.069	01/28/21 06:59	
Pyrene	ug/L	<0.0076	0.038	01/28/21 06:59	
2-Fluorobiphenyl (S)	%	62	39-120	01/28/21 06:59	
Terphenyl-d14 (S)	%	100	10-159	01/28/21 06:59	

LABORATORY CONTROL SAMPLE: 2174543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	2	1.2	60	37-120	
2-Methylnaphthalene	ug/L	2	1.1	55	38-120	
Acenaphthene	ug/L	2	1.4	68	49-120	
Acenaphthylene	ug/L	2	1.4	68	43-85	
Anthracene	ug/L	2	1.5	76	57-110	
Benzo(a)anthracene	ug/L	2	1.8	92	47-118	
Benzo(a)pyrene	ug/L	2	1.6	82	70-120	
Benzo(b)fluoranthene	ug/L	2	1.7	87	54-97	
Benzo(g,h,i)perylene	ug/L	2	0.81	40	26-74	
Benzo(k)fluoranthene	ug/L	2	1.8	88	73-126	
Chrysene	ug/L	2	1.7	84	75-151	
Dibenz(a,h)anthracene	ug/L	2	0.71	35	13-72	
Fluoranthene	ug/L	2	1.7	83	63-120	
Fluorene	ug/L	2	1.4	70	53-120	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.5	74	51-101	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221377

LABORATORY CONTROL SAMPLE: 2174543

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	2	1.3	64	41-120	
Phenanthrene	ug/L	2	1.6	79	47-100	
Pyrene	ug/L	2	1.8	90	70-128	
2-Fluorobiphenyl (S)	%			66	39-120	
Terphenyl-d14 (S)	%			101	10-159	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2174544 2174545

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40221425001 Result	Spike Conc.	Spike Conc.	MS Result						
1-Methylnaphthalene	ug/L	0.0065J	1.8	1.8	0.90	0.86	50	48	16-120	4	28
2-Methylnaphthalene	ug/L	0.000014J mg/L	1.8	1.8	0.84	0.75	46	41	29-120	11	31
Acenaphthene	ug/L	<0.000005 5 mg/L	1.8	1.8	1.0	0.92	56	51	33-120	9	30
Acenaphthylene	ug/L	<0.000004 5 mg/L	1.8	1.8	1.0	0.89	56	50	21-85	12	26
Anthracene	ug/L	<0.000009 4 mg/L	1.8	1.8	1.1	1.0	64	56	16-114	13	36
Benzo(a)anthracene	ug/L	<0.000006 8 mg/L	1.8	1.8	1.0	0.95	58	53	10-118	9	35
Benzo(a)pyrene	ug/L	<0.000009 5 mg/L	1.8	1.8	0.52	0.46	29	26	10-120	13	37
Benzo(b)fluoranthene	ug/L	<0.000005 2 mg/L	1.8	1.8	0.68	0.60	38	34	10-97	12	36
Benzo(g,h,i)perylene	ug/L	<0.000006 1 mg/L	1.8	1.8	0.36	0.31	20	17	10-74	16	45
Benzo(k)fluoranthene	ug/L	<0.000006 8 mg/L	1.8	1.8	0.64	0.62	36	35	10-126	3	41
Chrysene	ug/L	<0.000012 mg/L	1.8	1.8	1.0	0.94	56	53	10-161	7	30
Dibenz(a,h)anthracene	ug/L	<0.000009 0 mg/L	1.8	1.8	0.36	0.31	20	18	10-72	14	50
Fluoranthene	ug/L	<0.000009 6 mg/L	1.8	1.8	1.1	1.0	63	59	35-120	8	33
Fluorene	ug/L	<0.000007 2 mg/L	1.8	1.8	1.0	0.94	58	53	17-120	10	33
Indeno(1,2,3-cd)pyrene	ug/L	<0.000016 mg/L	1.8	1.8	0.36	0.31	20	17	10-101	14	41
Naphthalene	ug/L	<0.000017 mg/L	1.8	1.8	0.97	0.89	53	49	24-120	9	30
Phenanthrene	ug/L	<0.000012 mg/L	1.8	1.8	1.2	1.1	66	62	15-100	7	30
Pyrene	ug/L	<0.000006 9 mg/L	1.8	1.8	1.3	1.2	70	66	14-137	7	31
2-Fluorobiphenyl (S)	%						57	51	39-120		
Terphenyl-d14 (S)	%						74	66	10-159		

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### REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: LACROSSE WELL 23 & 24

Pace Project No.: 40221377

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221377

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<b>Lab ID</b>	<b>Sample ID</b>	<b>QC Batch Method</b>	<b>QC Batch</b>	<b>Analytical Method</b>	<b>Analytical Batch</b>
40221377001	1365-0	EPA 3510	376580	EPA 8270E by SIM	376603
40221377001	1365-0	EPA 8260	376408		

### REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

UPPER MIDWEST REGION

Page of

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

COC No. 40221377

Page 17 of 38



**Company Name:** The OS Group LLC  
**Branch/Location:** LaCrosse WI  
**Project Contact:** Steven Oseseck  
**Phone:** 608-433-9388  
**Project Number:**  
**Project Name:** LaCrosse WI 2/2/21  
**Project State:** WI  
**Sampled By (Print):** STEVEN OSESECK  
**Sampled By (Sign):** Steven Oseseck  
**PO #:** **Regulatory Program:**

### 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

**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	Analyses Requested
		DATE	TIME		
001	1365-0	1/21/21	2:15	DW	WI PFAS PAHS VOCS
	TRIP Blank	1/21/21	2:20	DW	

**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 #**

**Rush Turnaround Time Requested - Prelims**  
(Rush TAT subject to approval/surcharge)  
**Date Needed:**  
Transmit Prelim Rush Results by (complete what you want):  
**Email #1:**  
**Email #2:**  
**Telephone:**  
**Fax:**  
**Samples on HOLD are subject to special pricing and release of liability**

Relinquished By: Steven Oseseck	Date/Time: 1/21/21 4:00	Received By: [Signature]	Date/Time:
Relinquished By: FedEx	Date/Time: 1/22/21 0930	Received By: [Signature]	Date/Time: 1/22/21 0930
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

**PACE Project No.** 40221377  
**Receipt Temp =** 65 °C  
**Sample Receipt pH**  
OK / Adjusted  
**Cooler Custody Seal**  
**Present / Not Present**  
Intact / Not Intact







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

Project #: \_\_\_\_\_

WO#: **40221377**

Courier:  CS Logistics  Fed Ex  Speedee  UPS  Walco  
 Client  Pace Other: \_\_\_\_\_



Tracking #: 7828 8265 0951

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 - NA Type of Ice:  Wet  Blue  Dry  None  Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20 / Corr: \_\_\_\_\_

Temp Blank Present:  yes  no Biological Tissue is Frozen:  yes  no

Temp should be above freezing to 6°C.

Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:  
Date: 1/22/21 / Initials: [Signature]  
Labeled By Initials: NA

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>pg#</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3. <u>1/22/21 [Signature]</u>
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:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		Sufficient volume received. 1/28/21 CDH <u>lab did not receive trip blanks. 1/22/21</u>
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input checked="" 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 checked="" type="checkbox"/> No <input 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: \_\_\_\_\_

PM Review is documented electronically in LIMS. By releasing the project, the PM acknowledges they have reviewed the sample logir



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## Report of Analysis

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

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221377

Lot Number: **WA26023**

Date Completed: 02/08/2021

*Karen Coonan*

02/08/2021 5:12 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: WA26023**

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

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## Sample Summary

Pace Analytical Services, LLC

Lot Number: WA26023

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221377

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Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	1365-0	Aqueous	01/21/2021 1415	01/26/2021

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(1 sample)

# PACE ANALYTICAL SERVICES, LLC

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Detection Summary  
Pace Analytical Services, LLC  
Lot Number: WA26023  
Project Name: LACROSSE WELLS 23 & 24  
Project Number: 40221377

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	1365-0	Aqueous	PFBS	PFAS by ID	3.5		ng/L	5
001	1365-0	Aqueous	PFOSA	PFAS by ID	2.3	J	ng/L	5
001	1365-0	Aqueous	PFPeS	PFAS by ID	0.88	J	ng/L	5
001	1365-0	Aqueous	PFHxS	PFAS by ID	2.0	J	ng/L	5
001	1365-0	Aqueous	PFBA	PFAS by ID	11		ng/L	5
001	1365-0	Aqueous	PFOS	PFAS by ID	4.4		ng/L	6

(6 detections)

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA26023-001
Description: 1365-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1415	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221377

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/02/2021 1459	MMM	01/29/2021 1406	81170

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		7.0	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.5	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.5		3.5	0.88	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	2.3	J	3.5	0.88	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.88	J	3.5	0.88	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.0	J	3.5	0.88	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	11		3.5	0.88	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.0	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	4.4		3.5	0.88	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		136	25-150
13C2_6:2FTS		122	25-150
13C2_8:2FTS		92	25-150
13C2_PFDaA		96	25-150
13C2_PFHxDA		97	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA26023-001
Description: 1365-0	Matrix: Aqueous
Date Sampled: 01/21/2021 1415	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/26/2021	Project Number: 40221377

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		101	25-150
13C3_PFHxS		100	25-150
13C3-HFPO-DA		112	25-150
13C4_PFBa		105	25-150
13C4_PFHpA		103	25-150
13C5_PFHxA		103	25-150
13C5_PFPeA		111	25-150
13C6_PFDa		101	25-150
13C7_PFUdA		93	25-150
13C8_PFOA		112	25-150
13C8_PFOS		91	25-150
13C8_PFOSA		89	10-150
13C9_PFNA		106	25-150
d-EtFOSA		78	10-150
d5-EtFOSAA		93	25-150
d9-EtFOSE		93	10-150
d-MeFOSA		93	10-150
d3-MeFOSAA		103	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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## QC Summary

PFAS by LC/MS/MS - MB

Sample ID: WQ81170-001

Matrix: Aqueous

Batch: 81170

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/29/2021 1406

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	02/01/2021 1658
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	02/01/2021 1658
8:2 FTS	ND		1	8.0	2.0	ng/L	02/01/2021 1658
6:2 FTS	ND		1	8.0	2.0	ng/L	02/01/2021 1658
10:2 FTS	ND		1	8.0	2.0	ng/L	02/01/2021 1658
4:2 FTS	ND		1	8.0	2.0	ng/L	02/01/2021 1658
GenX	ND		1	8.0	2.0	ng/L	02/01/2021 1658
ADONA	ND		1	8.0	2.0	ng/L	02/01/2021 1658
EtFOSA	ND		1	8.0	2.0	ng/L	02/01/2021 1658
EtFOSAA	ND		1	8.0	2.0	ng/L	02/01/2021 1658
EtFOSE	ND		1	8.0	2.0	ng/L	02/01/2021 1658
MeFOSA	ND		1	16	4.0	ng/L	02/01/2021 1658
MeFOSAA	ND		1	8.0	2.0	ng/L	02/01/2021 1658
MeFOSE	ND		1	8.0	2.0	ng/L	02/01/2021 1658
PFBS	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFDS	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFHpS	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFNS	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFOSA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFPeS	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFDOS	ND		1	8.0	2.0	ng/L	02/01/2021 1658
PFHxS	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFBA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFDA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFDoA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFHpA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFHxDA	ND		1	8.0	2.0	ng/L	02/01/2021 1658
PFHxA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFNA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFODA	ND		1	8.0	2.0	ng/L	02/01/2021 1658
PFOA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFPeA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFTeDA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFTTrDA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFUdA	ND		1	4.0	1.0	ng/L	02/01/2021 1658
PFOS	ND		1	4.0	1.0	ng/L	02/01/2021 1658

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		92	25-150
13C2_6:2FTS		98	25-150
13C2_8:2FTS		96	25-150
13C2_PFDoA		94	25-150
13C2_PFHxDA		95	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: WQ81170-001

Matrix: Aqueous

Batch: 81170

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/29/2021 1406

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		91	25-150
13C3_PFBs		97	25-150
13C3_PFHxS		88	25-150
13C3-HFPO-DA		104	25-150
13C4_PFBa		99	25-150
13C4_PFHpA		88	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		96	25-150
13C6_PFDa		103	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		99	25-150
13C8_PFOs		88	25-150
13C8_PFOsA		85	10-150
13C9_PFNA		81	25-150
d-EtFOsA		75	10-150
d5-EtFOsAA		95	25-150
d9-EtFOsE		90	10-150
d-MeFOsA		70	10-150
d3-MeFOsAA		93	25-150
d7-MeFOsE		89	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: WQ81170-002

Matrix: Aqueous

Batch: 81170

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/29/2021 1406

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	15	14		1	96	50-150	02/01/2021 1709
11CI-PF3OUdS	15	13		1	89	50-150	02/01/2021 1709
8:2 FTS	15	21		1	139	50-150	02/01/2021 1709
6:2 FTS	15	18		1	120	50-150	02/01/2021 1709
10:2 FTS	15	18		1	114	50-150	02/01/2021 1709
4:2 FTS	15	16		1	104	50-150	02/01/2021 1709
GenX	32	30		1	95	50-150	02/01/2021 1709
ADONA	15	15		1	102	50-150	02/01/2021 1709
EtFOSA	16	11		1	70	50-150	02/01/2021 1709
EtFOSAA	16	18		1	111	50-150	02/01/2021 1709
EtFOSE	16	15		1	95	50-150	02/01/2021 1709
MeFOSA	16	17		1	105	50-150	02/01/2021 1709
MeFOSAA	16	15		1	94	50-150	02/01/2021 1709
MeFOSE	16	16		1	102	50-150	02/01/2021 1709
PFBS	14	14		1	98	50-150	02/01/2021 1709
PFDS	15	14		1	93	50-150	02/01/2021 1709
PFHpS	15	16		1	105	50-150	02/01/2021 1709
PFNS	15	17		1	108	50-150	02/01/2021 1709
PFOSA	16	15		1	92	50-150	02/01/2021 1709
PFPeS	15	16		1	103	50-150	02/01/2021 1709
PFDOS	15	14		1	88	50-150	02/01/2021 1709
PFHxS	15	15		1	101	50-150	02/01/2021 1709
PFBA	16	16		1	97	50-150	02/01/2021 1709
PFDA	16	17		1	104	50-150	02/01/2021 1709
PFDoA	16	15		1	95	50-150	02/01/2021 1709
PFHpA	16	14		1	89	50-150	02/01/2021 1709
PFHxDA	16	15		1	95	50-150	02/01/2021 1709
PFHxA	16	16		1	99	50-150	02/01/2021 1709
PFNA	16	17		1	103	50-150	02/01/2021 1709
PFODA	16	16		1	102	50-150	02/01/2021 1709
PFOA	16	16		1	99	50-150	02/01/2021 1709
PFPeA	16	16		1	102	50-150	02/01/2021 1709
PFTeDA	16	17		1	107	50-150	02/01/2021 1709
PFTTrDA	16	17		1	106	50-150	02/01/2021 1709
PFUdA	16	15		1	95	50-150	02/01/2021 1709
PFOS	15	16		1	105	50-150	02/01/2021 1709

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		87	25-150
13C2_6:2FTS		91	25-150
13C2_8:2FTS		85	25-150
13C2_PFDoA		88	25-150
13C2_PFHxDA		96	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: WQ81170-002

Matrix: Aqueous

Batch: 81170

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/29/2021 1406

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		89	25-150
13C3_PFBs		83	25-150
13C3_PFHxS		86	25-150
13C3-HFPO-DA		106	25-150
13C4_PFBa		96	25-150
13C4_PFHpA		95	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		95	25-150
13C6_PFDa		87	25-150
13C7_PFUdA		95	25-150
13C8_PFOA		95	25-150
13C8_PFOs		87	25-150
13C8_PFOsA		88	10-150
13C9_PFNa		79	25-150
d-EtFOsA		88	10-150
d5-EtFOsAA		88	25-150
d9-EtFOsE		84	10-150
d-MeFOsA		81	10-150
d3-MeFOsAA		87	25-150
d7-MeFOsE		83	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 - MS

Sample ID: WA26023-001MS

Matrix: Aqueous

Batch: 81170

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/29/2021 1406

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	ND	13	12		1	89	50-150	02/01/2021 1741
11CI-PF3OUdS	ND	13	12		1	91	50-150	02/01/2021 1741
8:2 FTS	ND	13	15		1	108	50-150	02/01/2021 1741
6:2 FTS	ND	13	11		1	85	50-150	02/01/2021 1741
10:2 FTS	ND	13	15		1	113	50-150	02/01/2021 1741
4:2 FTS	ND	13	13		1	97	50-150	02/01/2021 1741
GenX	ND	28	26		1	91	50-150	02/01/2021 1741
ADONA	ND	13	15		1	114	50-150	02/01/2021 1741
EtFOSA	ND	14	16		1	118	50-150	02/01/2021 1741
EtFOSAA	ND	14	13		1	96	50-150	02/01/2021 1741
EtFOSE	ND	14	14		1	103	50-150	02/01/2021 1741
MeFOSA	ND	14	9.7		1	69	50-150	02/01/2021 1741
MeFOSAA	ND	14	13		1	95	50-150	02/01/2021 1741
MeFOSE	ND	14	7.8		1	56	50-150	02/01/2021 1741
PFBS	3.5	12	15		1	96	50-150	02/01/2021 1741
PFDS	ND	13	11		1	81	50-150	02/01/2021 1741
PFHpS	ND	13	13		1	98	50-150	02/01/2021 1741
PFNS	ND	13	11		1	78	50-150	02/01/2021 1741
PFOSA	2.3	14	18		1	109	50-150	02/01/2021 1741
PFPeS	0.88	13	14		1	110	50-150	02/01/2021 1741
PFDOS	ND	14	11		1	84	50-150	02/01/2021 1741
PFHxS	2.0	13	14		1	98	50-150	02/01/2021 1741
PFBA	11	14	25		1	95	50-150	02/01/2021 1741
PFDA	ND	14	13		1	89	50-150	02/01/2021 1741
PFDoA	ND	14	16		1	112	50-150	02/01/2021 1741
PFHpA	ND	14	14		1	98	50-150	02/01/2021 1741
PFHxDA	ND	14	13		1	95	50-150	02/01/2021 1741
PFHxA	ND	14	12		1	89	50-150	02/01/2021 1741
PFNA	ND	14	12		1	88	50-150	02/01/2021 1741
PFODA	ND	14	14		1	98	50-150	02/01/2021 1741
PFOA	ND	14	14		1	99	50-150	02/01/2021 1741
PFPeA	ND	14	14		1	100	50-150	02/01/2021 1741
PFTeDA	ND	14	14		1	100	50-150	02/01/2021 1741
PFTrDA	ND	14	16		1	112	50-150	02/01/2021 1741
PFUdA	ND	14	13		1	95	50-150	02/01/2021 1741
PFOS	4.4	13	17		1	96	50-150	02/01/2021 1741
Surrogate	Q	% Rec	Acceptance Limit					
13C2_4:2FTS		121	25-150					
13C2_6:2FTS		121	25-150					
13C2_8:2FTS		106	25-150					
13C2_PFDoA		98	25-150					
13C2_PFHxDA		106	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 - MS

Sample ID: WA26023-001MS

Matrix: Aqueous

Batch: 81170

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/29/2021 1406

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		103	25-150
13C3_PFBs		99	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		121	25-150
13C4_PFBa		108	25-150
13C4_PFHpA		109	25-150
13C5_PFHxA		115	25-150
13C5_PFPeA		114	25-150
13C6_PFDa		111	25-150
13C7_PFUdA		116	25-150
13C8_PFOA		114	25-150
13C8_PFOs		103	25-150
13C8_PFOsA		96	10-150
13C9_PFNa		101	25-150
d-EtFOsA		87	10-150
d5-EtFOsAA		106	25-150
d9-EtFOsE		94	10-150
d-MeFOsA		123	10-150
d3-MeFOsAA		93	25-150
d7-MeFOsE		111	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

Owner Received Date: 1/22/2021 Results Requested By: 2/11/2021

Workorder: 40221377 Workorder Name: LA CROSSE WELL 23 & 24

Report To:		Subcontract To:					Requested Analysis:										
Christopher Hyska Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (820)469-2436		Pace Analytical West Columbia 106 Vantage Point Drive West Columbia, SC 29172 Phone (803)791-9700															
Preserved Containers:												LAB USE ONLY					
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Monitored											
1	1365-0	PS	1/21/2021 14:15	40221377001	Water	2											
2																	
3																	
4																	

WA26023

KLC2

Transfers				Released By		Date/Time		Received By		Date/Time		Comments
1												IR77 - MDL reporting - Quote 23492
2												
3												

Cooler Temperature on Receipt 2.7 °C Custody Seal (Y) or N Received on Ice (Y) or N Samples Intact (Y) 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.

COC No. **40221377**



**CHAIN OF CUSTODY**

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

*Please Print Clearly*

Company Name: The OS Group LLC  
 Branch/Location: LaCrosse WI  
 Project Contact: Steven Osasek  
 Phone: 608-433-9368  
 Project Number:  
 Project Name: **La Crosse West 2/2/21**  
 Project State: WI  
 Sampled By (Print): **STEVEN OSASEK**  
 Sampled By (Sign): *Steven Osasek*  
 Regulatory Program:

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

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

Matrix Codes  
 A = All W = Water  
 B = Biotin DW = Drinking Water  
 C = Charcoal GW = Ground Water  
 D = Oil SW = Surface Water  
 E = Soil WW = Waste Water  
 S = Sludge WP = Waste

FILTERED? (YES/NO)  
 PRESERVATION CODE\*

Analysis Requested	Y/N	Y/N	Y/N				
	Y/N	Y/N	Y/N				
WI PFAS X	N	N	N				
PAHS	A	A	B				
VOCS							

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Analysis Requested	Y/N	Y/N	Y/N				
		DATE	TIME									
001	1365-0	1/21/21	2:15	DW	X	X	X					
	TRIP Blank	1/21/21	2:20	DW				X				

Quote #:  
 Mail To Contact: Steven Osasek  
 Mail To Company: The OS Group LLC  
 Mail To Address: 444 21st St S  
 LaCrosse, WI 54601  
 Invoice To Contact: Steven Osasek  
 Invoice To Company: The OS Group LLC  
 Invoice To Address: 444 21st St S  
 LaCrosse, WI 54601  
 Invoice To Phone: 608-433-9368

CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)  
 Data Needed:  
 Transmit Prelim Rush Results by (complete what you want):  
 Email #1:  
 Email #2:  
 Telephone:  
 Fax:

Retinquished By: *Steven Osasek* Date/Time: **1/21/21 4:00**  
 Received By: *Michelle D. Lee* Date/Time: **1/22/21 09:30**

Retinquished By: *Feelex* Date/Time: **1/22/21 09:30**  
 Received By: *Michelle D. Lee* Date/Time: **1/22/21 09:30**

Retinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Retinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_


Retinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

PACE Project No. **40221377**  
 Receipt Temp = **RT** °C  
 Sample Receipt pH **OK / Adjusted**  
 Cooler Custody Seal **Present / NOT Present**  
 intact / Not intact





# PACE ANALYTICAL SERVICES, LLC

 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      Project #: \_\_\_\_\_  
**Courier:**  CS Logistics  Fed Ex  Speedee  UPS  Walco  
 Client  Pace Other: \_\_\_\_\_  
**Tracking #:** 7828 8265 0951      **WO#:** 40221377  
**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 - NM      **Type of Ice:**  Blue  Dry  None       Samples on ice, cooling process has begun  
**Cooler Temperature:** Uncorr: 20 / Corr: \_\_\_\_\_  
**Temp Blank Present:**  yes  no      **Biological Tissue is Frozen:**  yes  no  
 Temp should be above freezing to 6°C.  
 Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

		Person examining contents:
		Date: <u>1/22/21</u> / Initials: <u>[Signature]</u>
		Labeled By Initials: _____
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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>pg#</u>
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:		8.
For Analysis: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>lab did not receive trip blanks. 1/22/21</u>
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
- Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input checked="" 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 checked="" type="checkbox"/> No <input 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: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logit

Page 2 of 2





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

Revised: 9/29/2020  
Page 1 of 1

Sample Receipt Checklist (SRC)

Client: Pace - Green Bay Cooler Inspected by/date: MEH: 1/26/21 Lot #: W/AZ6023

Means of receipt:		<input type="checkbox"/> Pace	<input type="checkbox"/> Client	<input type="checkbox"/> UPS	<input checked="" 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>N/A</u>		Chlorine Strip ID: <u>N/A</u>		Tested by: <u>N/A</u>		
Original temperature upon receipt / Derived (Corrected) temperature upon receipt:		<u>2.7 / 2.7 °C</u>		<u>N/A / N/A °C</u>		
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		14. Were all samples received within 1/2 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" (1/4" 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 <sub>3</sub> /TKN/cyanide/phenol/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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		21. Was the quote number listed on the container label? If yes, Quote # <u>24397</u>			
<b>Sample Preservation.</b> (Must be completed for any sample(s) incorrectly preserved or with headspace.)						
Sample(s) <u>N/A</u> were received incorrectly preserved and were adjusted accordingly in sample receiving with <u>N/A</u> mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # <u>N/A</u> .						
Time of preservation <u>N/A</u> . If more than one preservative is needed, please note in the comments below.						
Sample(s) <u>N/A</u> were received with bubbles >6 mm in diameter.						
Samples(s) <u>N/A</u> were received with TRC > 0.5 mg/L (if #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) with Shealy ID: <u>N/A</u> .						
SR barcode labels applied by: <u>MEH</u> Date: <u>1/26/21</u>						

Comments:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 13, 2021

[Redacted]

2612 Del Ray Avenue  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2612 Del Ray Avenue, La Crosse, WI 54603  
Tax Parcel # 4-85-0  
Sampling Point # 85-0  
Sample Date: January 26, 2021

Dear [Redacted]:

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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	6.8 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	4.2 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.2 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.9 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	12 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	1.6 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2612 Del Ray Avenue, La Crosse, WI 54603  
Tax Parcel # 4-85-0  
Sampling Point # 85-0  
February 13, 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](mailto: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.

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

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: WA28028-011
Description: 85-0	Matrix: Aqueous
Date Sampled: 01/26/2021 1258	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1902	JJG	02/07/2021 1657	82105

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	1.2	J	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	ND		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	1.9	J	3.6	0.90	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	12		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	6.8		3.6	0.90	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.6	J	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	4.2		3.6	0.90	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		99	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		98	25-150
13C2_PFDaA		90	25-150
13C2_PFHxDA		96	25-150
13C2_PFTeDA		91	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA28028-011
Description: 85-0	Matrix: Aqueous
Date Sampled: 01/26/2021 1258	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		100	25-150
13C3-HFPO-DA		97	25-150
13C4_PFBa		102	25-150
13C4_PFHpA		96	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		104	25-150
13C6_PFDA		93	25-150
13C7_PFUdA		98	25-150
13C8_PFOA		104	25-150
13C8_PFOS		99	25-150
13C8_PFOsA		91	10-150
13C9_PFNA		92	25-150
d-EtFOSA		87	10-150
d5-EtFOSAA		88	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		92	10-150
d3-MeFOSAA		96	25-150
d7-MeFOSE		94	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 12, 2021

[REDACTED]  
2744 Del Ray Avenue  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2744 Del Ray Avenue, La Crosse, WI 54603  
Tax parcel # 4-94-0  
Sampling Point # 94-0  
Sampling Date: January 26, 2021

Dear [REDACTED]:

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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>30 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>9.6 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.5 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	4.0 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	65 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	4.3 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

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

Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	1.1 ppt	None Established <sup>c</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	1.1 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	7.2 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

2744 Del Ray Avenue, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically on line at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA28028-012
Description: 94-0	Matrix: Aqueous
Date Sampled: 01/26/2021 1324	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1912	JJG	02/07/2021 1657	82105

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	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.4	1.8	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	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.4	1.8	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	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.5	J	3.7	0.92	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.1	J	3.7	0.92	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	4.0		3.7	0.92	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	65		3.7	0.92	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.1	J	3.7	0.92	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	4.3		3.7	0.92	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	30		3.7	0.92	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	7.2		3.7	0.92	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	9.6		3.7	0.92	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		96	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		93	25-150
13C2_PFDa		92	25-150
13C2_PFHxDA		100	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA28028-012
Description: 94-0	Matrix: Aqueous
Date Sampled: 01/26/2021 1324	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		96	25-150
13C3_PFHxS		100	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		97	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		99	25-150
13C6_PFDa		91	25-150
13C7_PFUdA		101	25-150
13C8_PFOA		99	25-150
13C8_PFOS		91	25-150
13C8_PFOSA		92	10-150
13C9_PFNA		93	25-150
d-EtFOSA		85	10-150
d5-EtFOSAA		92	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		92	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 13, 2021

██████████  
 2306 Bainbridge Street  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2306 Bainbridge Street, La Crosse, WI 54603  
 Tax Parcel # 4-144-0  
 Sampling Point # 144-0  
 Sample Date: January 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.8 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>	

Private Well Sampling Results for  
 2306 Bainbridge Street, La Crosse, WI 54603  
 Tax Parcel # 4-144-0  
 Sampling Point # 144-0  
 February 13, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.7 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.9 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	3.6 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>BL</sup> 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.*

Private Well Sampling Results for  
2306 Bainbridge Street, La Crosse, WI 54603  
Tax Parcel # 4-144-0  
Sampling Point # 144-0  
February 13, 2021

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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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: WA28028-010
Description: 144-0	Matrix: Aqueous
Date Sampled: 01/26/2021 1239	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1851	JJG	02/07/2021 1657	82105

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	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.4	1.8	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	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.4	1.8	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	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.7	J	3.7	0.92	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.9	J	3.7	0.92	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	3.6	J	3.7	0.92	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.8	J	3.7	0.92	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		90	25-150
13C2_6:2FTS		87	25-150
13C2_8:2FTS		87	25-150
13C2_PFDaA		87	25-150
13C2_PFHxDA		90	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA28028-010
Description: 144-0	Matrix: Aqueous
Date Sampled: 01/26/2021 1239	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		86	25-150
13C3_PFHxS		95	25-150
13C3-HFPO-DA		90	25-150
13C4_PFBa		91	25-150
13C4_PFHpA		89	25-150
13C5_PFHxA		85	25-150
13C5_PFPeA		91	25-150
13C6_PFDa		84	25-150
13C7_PFUdA		89	25-150
13C8_PFOa		91	25-150
13C8_PFOs		81	25-150
13C8_PFOsA		80	10-150
13C9_PFNa		87	25-150
d-EtFOsA		80	10-150
d5-EtFOsAA		86	25-150
d9-EtFOsE		80	10-150
d-MeFOsA		76	10-150
d3-MeFOsAA		87	25-150
d7-MeFOsE		86	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 13, 2021

██████████  
 2304 Bainbridge Street  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2304 Bainbridge Street, La Crosse, WI 54603  
 Tax Parcel # 4-144-1  
 Sampling Point # 144-1  
 Sample Date: January 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	3.6 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	8.5 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	9.9 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.9 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	7.2 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	2.7 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	1.1 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	3.8 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2304 Bainbridge Street, La Crosse, WI 54603  
Tax Parcel # 4-144-1  
Sampling Point # 144-1  
February 13, 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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: WA28028-015
Description: 144-1	Matrix: Aqueous
Date Sampled: 01/26/2021 1425	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1955	JJG	02/07/2021 1657	82105

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	9.9		3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.6	0.91	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	2.9	J	3.6	0.91	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	7.2		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.1	J	3.6	0.91	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	2.7	J	3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	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	3.6		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	3.8		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	8.5		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		99	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		102	25-150
13C2_PFDaA		95	25-150
13C2_PFHxDA		101	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA28028-015
Description: 144-1	Matrix: Aqueous
Date Sampled: 01/26/2021 1425	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		98	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		101	25-150
13C4_PFBa		103	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		103	25-150
13C6_PFDA		97	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		102	25-150
13C8_PFOS		95	25-150
13C8_PFOSA		95	10-150
13C9_PFNA		95	25-150
d-EtFOSA		88	10-150
d5-EtFOSAA		92	25-150
d9-EtFOSE		90	10-150
d-MeFOSA		86	10-150
d3-MeFOSAA		93	25-150
d7-MeFOSE		96	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 13, 2021

██████████  
 310 Callaway Blvd  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 310 Callaway Blvd, La Crosse, WI 54603  
 Tax Parcel # 4-354-0  
 Sampling Point # 354-0  
 Sample Date: January 25, 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. **PLEASE NOTE: We collected two samples from your well and sent them to two separate labs as a quality control check. These are referred to as “split” samples. The results of the two tests were similar. The results of the higher of the two are shown in the table below.**

**Sample Results**

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	1.1 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	1.7 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.2 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	1.8 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> 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.*

Private Well Sampling Results for  
310 Callaway Blvd, La Crosse, WI 54603  
Tax Parcel # 4-354-0  
Sampling Point # 354-0  
February 13, 2021

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](mailto: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.

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

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

Attachment: Lab report for your well

## ANALYTICAL RESULTS

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221495

**Sample: 354-0**      **Lab ID: 40221495001**      Collected: 01/25/21 12:17      Received: 01/27/21 09:35      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>537.1 PFAS Compounds, Water</b>									
Analytical Method: EPA 537.1    Preparation Method: EPA 537.1 Pace Analytical Services - Ormond Beach									
11CI-PF3OUdS	<0.0015	ug/L	0.0019	0.0015	1	01/29/21 11:29	01/31/21 09:25	763051-92-9	
9CI-PF3ONS	<0.0011	ug/L	0.0019	0.0011	1	01/29/21 11:29	01/31/21 09:25	756426-58-1	
ADONA	<0.00070	ug/L	0.0019	0.00070	1	01/29/21 11:29	01/31/21 09:25	919005-14-4	
HFPO-DA	<0.0016	ug/L	0.0019	0.0016	1	01/29/21 11:29	01/31/21 09:25	13252-13-6	
NEtFOSAA	<0.00090	ug/L	0.0019	0.00090	1	01/29/21 11:29	01/31/21 09:25	2991-50-6	
NMeFOSAA	<0.0015	ug/L	0.0019	0.0015	1	01/29/21 11:29	01/31/21 09:25	2355-31-9	
Perfluorobutanesulfonic acid	<0.00064	ug/L	0.0019	0.00064	1	01/29/21 11:29	01/31/21 09:25	375-73-5	
Perfluorodecanoic acid	<0.0019	ug/L	0.0019	0.0019	1	01/29/21 11:29	01/31/21 09:25	335-76-2	
Perfluorohexanoic acid	<0.0012	ug/L	0.0019	0.0012	1	01/29/21 11:29	01/31/21 09:25	307-24-4	
Perfluorododecanoic acid	<0.0014	ug/L	0.0019	0.0014	1	01/29/21 11:29	01/31/21 09:25	307-55-1	
Perfluoroheptanoic acid	<0.00097	ug/L	0.0019	0.00097	1	01/29/21 11:29	01/31/21 09:25	375-85-9	
Perfluorohexanesulfonic acid	0.0032	ug/L	0.0019	0.00071	1	01/29/21 11:29	01/31/21 09:25	355-46-4	
Perfluorononanoic acid	<0.0019	ug/L	0.0019	0.0019	1	01/29/21 11:29	01/31/21 09:25	375-95-1	
Perfluorooctanesulfonic acid	0.0017J	ug/L	0.0019	0.0012	1	01/29/21 11:29	01/31/21 09:25	1763-23-1	
Perfluorooctanoic acid	<0.00084	ug/L	0.0019	0.00084	1	01/29/21 11:29	01/31/21 09:25	335-67-1	
Perfluorotetradecanoic acid	<0.0018	ug/L	0.0019	0.0018	1	01/29/21 11:29	01/31/21 09:25	376-06-7	
Perfluorotridecanoic acid	<0.0017	ug/L	0.0019	0.0017	1	01/29/21 11:29	01/31/21 09:25	72629-94-8	
Perfluoroundecanoic acid	<0.0019	ug/L	0.0019	0.0019	1	01/29/21 11:29	01/31/21 09:25	2058-94-8	
<b>Surrogates</b>									
13C2-PFDA (S)	106	%	70-130		1	01/29/21 11:29	01/31/21 09:25		
13C2-PFHxA (S)	106	%	70-130		1	01/29/21 11:29	01/31/21 09:25		
NEtFOSAA-d5 (S)	102	%	70-130		1	01/29/21 11:29	01/31/21 09:25		
HFPO-DAS (S)	110	%	70-130		1	01/29/21 11:29	01/31/21 09:25		

## REPORT OF LABORATORY ANALYSIS

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

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA28028-001
Description: 354-0	Matrix: Aqueous
Date Sampled: 01/25/2021 1217	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1819	MMM	02/05/2021 1201	81968

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	4.2	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	ND		4.2	1.0	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	1.1	J	4.2	1.0	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		4.2	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	1.7	J	4.2	1.0	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	1.8	J	4.2	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.2	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		4.2	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.2	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	ND		4.2	1.0	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		4.2	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		117	25-150
13C2_6:2FTS		99	25-150
13C2_8:2FTS		107	25-150
13C2_PFDaA		97	25-150
13C2_PFHxDA		103	25-150
13C2_PFTeDA		96	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA28028-001
Description: 354-0	Matrix: Aqueous
Date Sampled: 01/25/2021 12:17	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		98	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		111	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		106	25-150
13C5_PFPeA		97	25-150
13C6_PFDA		93	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		105	25-150
13C8_PFOS		93	25-150
13C8_PFOSA		97	10-150
13C9_PFNA		99	25-150
d-EtFOSA		78	10-150
d5-EtFOSAA		80	25-150
d9-EtFOSE		84	10-150
d-MeFOSA		67	10-150
d3-MeFOSAA		113	25-150
d7-MeFOSE		98	10-150

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

February 13, 2021

██████████  
 300 Callaway Blvd  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 300 Callaway Blvd, La Crosse, WI 54603  
 Tax Parcel # 4-358-0  
 Sampling Point # 358-0  
 Sample Date: January 25, 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. PLEASE NOTE: As a quality check, we collected a “duplicate” sample from your well, and it was sent to the lab without the sampling point number, (identified as Dup #10). The results were similar. The higher of the two results re presented in the table below:

**Sample Results**

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.3 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	1.6 ppt	20 ppt <sup>a,b</sup>	

Private Well Sampling Results for  
 300 Callaway Blvd, La Crosse, WI 54603  
 Tax Parcel # 4-358-0  
 Sampling Point # 358-0  
 February 13, 2021

Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.1 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.3 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	1.8 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> Detected in the method blank. Possible lab contaminant.		

Private Well Sampling Results for  
300 Callaway Blvd, La Crosse, WI 54603  
Tax Parcel # 4-358-0  
Sampling Point # 358-0  
February 13, 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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: WA28028-002
Description: 358-0	Matrix: Aqueous
Date Sampled: 01/25/2021 1235	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1829	MMM	02/05/2021 1201	81968

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		8.6	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		17	4.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	3.3	J	4.3	1.1	ng/L	1
Perfluoro-n-butanefluoronic acid (PFBA)	375-22-4	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.6	2.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.6	J	4.3	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		113	25-150
13C2_6:2FTS		110	25-150
13C2_8:2FTS		108	25-150
13C2_PFDaA		89	25-150
13C2_PFHxDA		106	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA28028-002
Description: 358-0	Matrix: Aqueous
Date Sampled: 01/25/2021 1235	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBS		102	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		111	25-150
13C4_PFBA		105	25-150
13C4_PFHpA		108	25-150
13C5_PFHxA		115	25-150
13C5_PFPeA		106	25-150
13C6_PFDA		96	25-150
13C7_PFUdA		105	25-150
13C8_PFOA		111	25-150
13C8_PFOS		100	25-150
13C8_PFOSA		105	10-150
13C9_PFNA		103	25-150
d-EtFOSA		93	10-150
d5-EtFOSAA		105	25-150
d9-EtFOSE		85	10-150
d-MeFOSA		85	10-150
d3-MeFOSAA		113	25-150
d7-MeFOSE		96	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA28028-007
Description: DUP 10	Matrix: Aqueous
Date Sampled: 01/25/2021	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1819	JJG	02/07/2021 1657	82105

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		8.5	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		17	4.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.1	J	4.3	1.1	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.6	J	4.3	1.1	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	3.4	J	4.3	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.5	2.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.3	J	4.3	1.1	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		4.3	1.1	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		108	25-150
13C2_PFDaA		93	25-150
13C2_PFHxDA		102	25-150
13C2_PFTeDA		96	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA28028-007
Description: DUP 10	Matrix: Aqueous
Date Sampled: 01/25/2021	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		105	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		102	25-150
13C4_PFBa		106	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		101	25-150
13C5_PFPeA		106	25-150
13C6_PFDA		98	25-150
13C7_PFUdA		99	25-150
13C8_PFOA		108	25-150
13C8_PFOS		102	25-150
13C8_PFOSA		96	10-150
13C9_PFNA		99	25-150
d-EtFOSA		91	10-150
d5-EtFOSAA		94	25-150
d9-EtFOSE		88	10-150
d-MeFOSA		88	10-150
d3-MeFOSAA		99	25-150
d7-MeFOSE		94	10-150

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

February 12, 2021

██████████  
212 Callaway Blvd.  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
212 Callaway Blvd., La Crosse, WI 54603  
Tax parcel # 4-359-0  
Sampling Point # 359-0  
Sampling Date: January 25, 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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	3.2 ppt	20 ppt <sup>a,b</sup>
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	3.9 ppt	20 ppt <sup>a,b</sup>
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 <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.9 ppt	450,000 ppt <sup>a</sup>
<b>Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4</b>	<b>73 ppt</b>	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	8.5 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	1.2 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

Private Well Sampling Results for  
 212 Callaway Blvd., La Crosse, WI 54603  
 Tax Parcel # 4-359-0  
 Sampling Date: January 25, 2021  
 February 12, 2021

Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	6.4 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	1.6 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

212 Callaway Blvd., La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA28028-003
Description: 359-0	Matrix: Aqueous
Date Sampled: 01/25/2021 1251	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1840	MMM	02/05/2021 1201	81968

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		7.5	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.5	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		7.5	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.9		3.8	0.94	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	6.4		3.8	0.94	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	73		3.8	0.94	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	8.5		3.8	0.94	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	1.2	J	3.8	0.94	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	3.2	J	3.8	0.94	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.6	J	3.8	0.94	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	3.9		3.8	0.94	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		122	25-150
13C2_6:2FTS		112	25-150
13C2_8:2FTS		109	25-150
13C2_PFDaA		103	25-150
13C2_PFHxDA		109	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA28028-003
Description: 359-0	Matrix: Aqueous
Date Sampled: 01/25/2021 12:51	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBS		105	25-150
13C3_PFHxS		109	25-150
13C3-HFPO-DA		116	25-150
13C4_PFBA		113	25-150
13C4_PFHpA		113	25-150
13C5_PFHxA		119	25-150
13C5_PFPeA		109	25-150
13C6_PFDA		113	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		113	25-150
13C8_PFOS		109	25-150
13C8_PFOSA		118	10-150
13C9_PFNA		117	25-150
d-EtFOSA		94	10-150
d5-EtFOSAA		107	25-150
d9-EtFOSE		88	10-150
d-MeFOSA		92	10-150
d3-MeFOSAA		125	25-150
d7-MeFOSE		108	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 13, 2021

████████████████████  
 2522 2nd Second Avenue West  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2522 2nd Second Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-375-0  
 Sampling Point # 375-0  
 Sample Date: January 25, 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.2 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	3.5 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2522 2nd Second Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-375-0  
Sampling Point # 375-0  
February 13, 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](mailto: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.

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

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: WA28028-005
Description: 375-0	Matrix: Aqueous
Date Sampled: 01/25/2021 1332	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1611	JJG	02/07/2021 1657	82105

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	ND		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	3.2	J	3.6	0.89	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	3.5	J	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		99	25-150
13C2_6:2FTS		104	25-150
13C2_8:2FTS		98	25-150
13C2_PFDa		96	25-150
13C2_PFHxDA		99	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA28028-005
Description: 375-0	Matrix: Aqueous
Date Sampled: 01/25/2021 1332	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		100	25-150
13C3_PFHxS		103	25-150
13C3-HFPO-DA		104	25-150
13C4_PFBa		105	25-150
13C4_PFHpA		106	25-150
13C5_PFHxA		101	25-150
13C5_PFPeA		106	25-150
13C6_PFDA		95	25-150
13C7_PFUdA		103	25-150
13C8_PFOA		109	25-150
13C8_PFOS		99	25-150
13C8_PFOSA		94	10-150
13C9_PFNA		100	25-150
d-EtFOSA		86	10-150
d5-EtFOSAA		94	25-150
d9-EtFOSE		96	10-150
d-MeFOSA		98	10-150
d3-MeFOSAA		100	25-150
d7-MeFOSE		92	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 13, 2021

██████████  
 2527 2nd Second Avenue West  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2527 2nd Second Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-381-0  
 Sampling Point # 381-0  
 Sample Date: January 25, 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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	1.2 ppt	20 ppt <sup>a,b</sup>
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	1.4 ppt	20 ppt <sup>a,b</sup>

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

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.2 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	18 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>bl</sup> 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.*

Private Well Sampling Results for  
2527 2nd Second Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-381-0  
Sampling Point # 381-0  
February 13, 2021

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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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: WA28028-004
Description: 381-0	Matrix: Aqueous
Date Sampled: 01/25/2021 1317	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1851	MMM	02/05/2021 1201	81968

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		7.8	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.8	1.9	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	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	3.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	1.2	J	3.9	0.97	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.2	J	3.9	0.97	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	18		3.9	0.97	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.4	J	3.9	0.97	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		99	25-150
13C2_PFDaA		91	25-150
13C2_PFHxDA		93	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA28028-004
Description: 381-0	Matrix: Aqueous
Date Sampled: 01/25/2021 1317	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		89	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		105	25-150
13C4_PFBa		96	25-150
13C4_PFHpA		100	25-150
13C5_PFHxA		105	25-150
13C5_PFPeA		95	25-150
13C6_PFDa		98	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		100	25-150
13C8_PFOS		92	25-150
13C8_PFOsA		102	10-150
13C9_PFNa		97	25-150
d-EtFOsA		88	10-150
d5-EtFOsAA		87	25-150
d9-EtFOSE		72	10-150
d-MeFOsA		89	10-150
d3-MeFOsAA		107	25-150
d7-MeFOSE		79	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 13, 2021

██████████  
 510 Plainview Road  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 510 Plainview Road, La Crosse, WI 54603  
 Tax Parcel # 4-406-2  
 Sampling Point # 406-2  
 Sample Date: January 25, 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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.9 ppt	20 ppt <sup>a,b</sup>
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	1.9 ppt	20 ppt <sup>a,b</sup>

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



Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.6 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.9 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	13 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	1.1 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	1.4 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>Bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
510 Plainview Road, La Crosse, WI 54603  
Tax Parcel # 4-406-2  
Sampling Point # 406-2  
February 13, 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](mailto: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.

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

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: WA28028-009
Description: 406-2	Matrix: Aqueous
Date Sampled: 01/25/2021 1416	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1830	JJG	02/07/2021 1657	82105

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	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.4	1.8	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	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.4	1.8	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	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.6	J	3.7	0.92	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.9	J	3.7	0.92	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	13		3.7	0.92	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	1.1	J	3.7	0.92	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.4	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.9	J	3.7	0.92	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.4	J	3.7	0.92	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.7	0.92	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.9	J	3.7	0.92	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		96	25-150
13C2_6:2FTS		92	25-150
13C2_8:2FTS		99	25-150
13C2_PFDaA		98	25-150
13C2_PFHxDA		103	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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: WA28028-009
Description: 406-2	Matrix: Aqueous
Date Sampled: 01/25/2021 14:16	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		98	25-150
13C3_PFHxS		99	25-150
13C3-HFPO-DA		101	25-150
13C4_PFBa		104	25-150
13C4_PFHpA		99	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		104	25-150
13C6_PFDa		96	25-150
13C7_PFUdA		103	25-150
13C8_PFOA		105	25-150
13C8_PFOS		98	25-150
13C8_PFOsA		92	10-150
13C9_PFNA		95	25-150
d-EtFOSA		96	10-150
d5-EtFOSAA		93	25-150
d9-EtFOSE		92	10-150
d-MeFOSA		89	10-150
d3-MeFOSAA		94	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 12, 2021

[REDACTED]  
2642 Muth Road  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2642 Muth Road, La Crosse, WI 54603  
Tax parcel # 4-408-0  
Sampling Point # 408-0  
Sampling Date: January 26, 2021

Dear [REDACTED]:

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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>32 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>15 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.8 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	5.8 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	97 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	3.9 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

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  
 2642 Muth Road, La Crosse, WI 54603  
 Tax Parcel # 4-408-0  
 Sampling Date: January 26, 2021  
 February 12, 2021

Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	2.3 ppt	None Established <sup>c</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	0.97 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	7.0 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

2642 Muth Road, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically on line at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_



PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA28028-013
Description: 408-0	Matrix: Aqueous
Date Sampled: 01/26/2021 1350	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1923	JJG	02/07/2021 1657	82105

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		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.8		3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	2.3	J	3.6	0.91	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	5.8		3.6	0.91	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	97		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.97	J	3.6	0.91	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	3.9		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	32		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	7.0		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	15		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		96	25-150
13C2_6:2FTS		95	25-150
13C2_8:2FTS		91	25-150
13C2_PFDaA		93	25-150
13C2_PFHxDA		100	25-150
13C2_PFTeDA		93	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA28028-013
Description: 408-0	Matrix: Aqueous
Date Sampled: 01/26/2021 1350	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		95	25-150
13C3_PFHxS		102	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		96	25-150
13C5_PFHxA		93	25-150
13C5_PFPeA		101	25-150
13C6_PFDa		95	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		101	25-150
13C8_PFOS		93	25-150
13C8_PFOsA		91	10-150
13C9_PFNa		91	25-150
d-EtFOSA		95	10-150
d5-EtFOSAA		94	25-150
d9-EtFOSE		93	10-150
d-MeFOSA		87	10-150
d3-MeFOSAA		94	25-150
d7-MeFOSE		93	10-150

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

February 13, 2021

████████████████████  
504 Dauphin Street  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
504 Dauphin Street, La Crosse, WI 54603  
Tax Parcel # 4-412-0  
Sampling Point # 412-0  
Sampling Date: January 26, 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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>18 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>5.9 ppt</b>	20 ppt <sup>a,b</sup>
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 <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	2.9 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	4.7 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	50 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	4.9 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	0.97 ppt	None Established <sup>c</sup>

Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	1.4 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	6.7 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

504 Dauphin Street, La Crosse, WI 54603

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As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

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Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WA28028-014
Description: 412-0	Matrix: Aqueous
Date Sampled: 01/26/2021 1404	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1934	JJG	02/07/2021 1657	82105

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		7.0	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.5	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	2.9	J	3.5	0.87	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	0.97	J	3.5	0.87	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	4.7		3.5	0.87	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	50		3.5	0.87	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.4	J	3.5	0.87	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	4.9		3.5	0.87	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	18		3.5	0.87	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	6.7		3.5	0.87	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	5.9		3.5	0.87	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		101	25-150
13C2_6:2FTS		95	25-150
13C2_8:2FTS		103	25-150
13C2_PFDaA		94	25-150
13C2_PFHxDA		103	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA28028-014
Description: 412-0	Matrix: Aqueous
Date Sampled: 01/26/2021 1404	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		100	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		104	25-150
13C4_PFHpA		100	25-150
13C5_PFHxA		97	25-150
13C5_PFPeA		102	25-150
13C6_PFDa		97	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		101	25-150
13C8_PFOS		97	25-150
13C8_PFOsA		91	10-150
13C9_PFNa		94	25-150
d-EtFOsA		85	10-150
d5-EtFOsAA		93	25-150
d9-EtFOSE		96	10-150
d-MeFOsA		96	10-150
d3-MeFOsAA		102	25-150
d7-MeFOSE		99	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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





444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 13, 2021

[Redacted]

2512 3rd Avenue West  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2512 3rd Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-471-0  
Sampling Point # 471-0  
Sample Date: January 25, 2021

Dear [Redacted]:

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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (FOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	4.4 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	5.8 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	5.0 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	8.6 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	74 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	0.93 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS #2706-91-4	3.9 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>Bl</sup> 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.*

Private Well Sampling Results for  
2512 3rd Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-471-0  
Sampling Point # 471-0  
February 13, 2021

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](mailto: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.

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

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: WA28028-006
Description: 471-0	Matrix: Aqueous
Date Sampled: 01/25/2021 1348	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/08/2021 1622	JJG	02/07/2021 1657	82105

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	3.5	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	5.0		3.5	0.89	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	3.9		3.5	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	8.6		3.5	0.89	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	74		3.5	0.89	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.5	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	0.93	J	3.5	0.89	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	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	4.4		3.5	0.89	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	5.8		3.5	0.89	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		101	25-150
13C2_6:2FTS		102	25-150
13C2_8:2FTS		106	25-150
13C2_PFDa		89	25-150
13C2_PFHxDA		96	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WA28028-006
Description: 471-0	Matrix: Aqueous
Date Sampled: 01/25/2021 1348	Project Name: LACROSSE WELLS 23 & 24
Date Received: 01/28/2021	Project Number: 40221495

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		97	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		100	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		102	25-150
13C6_PFDa		92	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		106	25-150
13C8_PFOS		93	25-150
13C8_PFOSA		90	10-150
13C9_PFNA		97	25-150
d-EtFOSA		90	10-150
d5-EtFOSAA		91	25-150
d9-EtFOSE		87	10-150
d-MeFOSA		87	10-150
d3-MeFOSAA		99	25-150
d7-MeFOSE		94	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 18, 2021

██████████  
 2618 Del Ray Avenue  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2618 Del Ray Avenue, La Crosse, WI 54603  
 Tax Parcel # 4-86-0  
 Sampling Point # 86-0  
 Sample Date: January 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.4 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	2.6 ppt	20 ppt <sup>a,b</sup>	

Private Well Sampling Results for  
 2618 Del Ray Avenue, La Crosse, WI 54603  
 Tax Parcel # 4-86-0  
 Sampling Point # 86-0  
 February 18, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	2.6 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.6 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	10 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2618 Del Ray Avenue, La Crosse, WI 54603  
Tax Parcel # 4-86-0  
Sampling Point # 86-0  
February 18, 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](mailto: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.

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

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: WB04008-003
Description: 86-0	Matrix: Aqueous
Date Sampled: 01/31/2021 1328	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/11/2021 2100	JJG	02/10/2021 1100	82446

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	2.6	J	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	3.6	J	3.7	0.93	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	10		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	ND		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	1.4	J	3.7	0.93	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		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	2.6	J	3.7	0.93	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		103	25-150
13C2_6:2FTS		100	25-150
13C2_8:2FTS		97	25-150
13C2_PFDaA		92	25-150
13C2_PFHxDA		90	25-150
13C2_PFTeDA		91	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB04008-003
Description: 86-0	Matrix: Aqueous
Date Sampled: 01/31/2021 1328	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		96	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		92	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		99	25-150
13C5_PFHxA		94	25-150
13C5_PFPeA		96	25-150
13C6_PFDa		93	25-150
13C7_PFUdA		103	25-150
13C8_PFOA		90	25-150
13C8_PFOS		93	25-150
13C8_PFOsA		92	10-150
13C9_PFNa		98	25-150
d-EtFOSA		84	10-150
d5-EtFOSAA		95	25-150
d9-EtFOSE		97	10-150
d-MeFOSA		76	10-150
d3-MeFOSAA		100	25-150
d7-MeFOSE		89	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 18, 2021

██████████  
 2620 Del Ray Avenue  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2620 Del Ray Avenue, La Crosse, WI 54603  
 Tax Parcel # 4-87-0  
 Sampling Point # 87-0  
 Sample Date: January 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. **PLEASE NOTE: As a quality check, we collected a “duplicate” sample from your well, and it was sent to the lab without the sampling point number, (identified as Dup #11). The results were similar. The higher of the two results are presented in the table below:**

**Sample Results**

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	0.97 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.9 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	4.4 ppt	20 ppt <sup>a,b</sup>	

Private Well Sampling Results for  
 2620 Del Ray Avenue, La Crosse, WI 54603  
 Tax Parcel # 4-87-0  
 Sampling Point # 87-0  
 February 18, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	2.0 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.5 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	7.0 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	1.1 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2620 Del Ray Avenue, La Crosse, WI 54603  
Tax Parcel # 4-87-0  
Sampling Point # 87-0  
February 18, 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](mailto: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.

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

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: WB04008-002
Description: 87-0	Matrix: Aqueous
Date Sampled: 01/31/2021 1320	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/11/2021 2039	JJG	02/10/2021 1100	82446

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		7.8	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.8	2.0	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	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	3.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	2.0	J	3.9	0.98	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	3.2	J	3.9	0.98	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	6.9		3.9	0.98	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.5	J	3.9	0.98	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.1	J	3.9	0.98	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	4.4		3.9	0.98	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		104	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		95	25-150
13C2_PFDaA		92	25-150
13C2_PFHxDA		92	25-150
13C2_PFTeDA		97	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB04008-002
Description: 87-0	Matrix: Aqueous
Date Sampled: 01/31/2021 1320	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		96	25-150
13C3_PFHxS		105	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		96	25-150
13C5_PFHxA		98	25-150
13C5_PFPeA		98	25-150
13C6_PFDa		93	25-150
13C7_PFUdA		99	25-150
13C8_PFOA		96	25-150
13C8_PFOS		98	25-150
13C8_PFOSA		97	10-150
13C9_PFNA		105	25-150
d-EtFOSA		83	10-150
d5-EtFOSAA		99	25-150
d9-EtFOSE		95	10-150
d-MeFOSA		78	10-150
d3-MeFOSAA		100	25-150
d7-MeFOSE		94	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB04008-007
Description: DUP-11	Matrix: Aqueous
Date Sampled: 01/31/2021	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/11/2021 2154	JJG	02/10/2021 1100	82446

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		7.5	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.5	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		7.5	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.9	J	3.8	0.94	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	0.97	J	3.8	0.94	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	3.5	J	3.8	0.94	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	7.0		3.8	0.94	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.9	J	3.8	0.94	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.1	J	3.8	0.94	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	3.8		3.8	0.94	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		91	25-150
13C2_6:2FTS		92	25-150
13C2_8:2FTS		86	25-150
13C2_PFDaA		86	25-150
13C2_PFHxDA		84	25-150
13C2_PFTeDA		89	25-150

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 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  
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# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB04008-007
Description: DUP-11	Matrix: Aqueous
Date Sampled: 01/31/2021	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		93	25-150
13C3_PFHxS		86	25-150
13C3-HFPO-DA		87	25-150
13C4_PFBa		94	25-150
13C4_PFHpA		94	25-150
13C5_PFHxA		92	25-150
13C5_PFPeA		90	25-150
13C6_PFDa		90	25-150
13C7_PFUdA		88	25-150
13C8_PFOA		92	25-150
13C8_PFOS		92	25-150
13C8_PFOSA		91	10-150
13C9_PFNA		90	25-150
d-EtFOSA		76	10-150
d5-EtFOSAA		87	25-150
d9-EtFOSE		84	10-150
d-MeFOSA		75	10-150
d3-MeFOSAA		88	25-150
d7-MeFOSE		86	10-150

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

February 18, 2021

[REDACTED]  
2700 Del Ray Avenue  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2700 Del Ray Avenue, La Crosse, WI 54603  
Tax parcel # 4-88-0  
Sampling Point # 88-0  
Sampling Date: January 28, 2021

Dear [REDACTED]:

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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctane sulfonamide (PFOSA)</b> <b>CAS # 754-91-6</b>	<b>1.0 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>100 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>30 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	6.2 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	7.5ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	220 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	7.1 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	4.0 ppt	None Established <sup>c</sup>

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	1.2 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	13 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement

# BOTTLED WATER ACKNOWLEDGEMENT

2700 Del Ray Avenue, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically on line at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB02003-001
Description: 88-0	Matrix: Aqueous
Date Sampled: 01/28/2021 1259	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/02/2021	Project Number: 40221619

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/10/2021 2123	JJG	02/09/2021 1110	82279

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		7.5	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.5	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		7.5	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	6.2		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	1.0	J	3.7	0.93	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	4.0		3.7	0.93	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	7.5		3.7	0.93	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	220		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	1.2	J	3.7	0.93	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	7.1		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		7.5	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	100		3.7	0.93	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	13		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	30		3.7	0.93	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		105	25-150
13C2_6:2FTS		92	25-150
13C2_8:2FTS		107	25-150
13C2_PFDaA		96	25-150
13C2_PFHxDA		91	25-150
13C2_PFTeDA		90	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB02003-001
Description: 88-0	Matrix: Aqueous
Date Sampled: 01/28/2021 12:59	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/02/2021	Project Number: 40221619

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		97	25-150
13C3_PFHxS		100	25-150
13C3-HFPO-DA		92	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		101	25-150
13C5_PFPeA		94	25-150
13C6_PFDA		91	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		99	25-150
13C8_PFOS		86	25-150
13C8_PFOSA		93	10-150
13C9_PFNA		94	25-150
d-EtFOSA		67	10-150
d5-EtFOSAA		94	25-150
d9-EtFOSE		90	10-150
d-MeFOSA		111	10-150
d3-MeFOSAA		96	25-150
d7-MeFOSE		96	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 18, 2021

[Redacted]

PO Box 773  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
304 Callaway Blvd., La Crosse, WI 54603  
Tax Parcel # 4-356-0  
Sampling Point # 356-0  
Sample Date: January 28, 2021

Dear [Redacted] .:

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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>	



Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.1 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.7 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	3.4 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
304 Callaway Blvd., La Crosse, WI 54603  
Tax Parcel # 4-356-0  
Sampling Point # 356-0  
February 18, 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](mailto: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.

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

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: WB02003-003
Description: 356-0	Matrix: Aqueous
Date Sampled: 01/28/2021 1326	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/02/2021	Project Number: 40221619

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/10/2021 2155	JJG	02/09/2021 1110	82279

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		6.8	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.8	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		6.8	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.1	J	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	ND		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		6.8	1.7	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.7	J	3.4	0.86	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	3.4		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		6.8	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		6.8	1.7	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		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	ND		3.4	0.86	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		101	25-150
13C2_6:2FTS		100	25-150
13C2_8:2FTS		110	25-150
13C2_PFDaA		100	25-150
13C2_PFHxDA		91	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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: WB02003-003
Description: 356-0	Matrix: Aqueous
Date Sampled: 01/28/2021 1326	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/02/2021	Project Number: 40221619

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		97	25-150
13C3_PFHxS		102	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		104	25-150
13C5_PFPeA		95	25-150
13C6_PFDA		98	25-150
13C7_PFUdA		98	25-150
13C8_PFOA		102	25-150
13C8_PFOS		95	25-150
13C8_PFOSA		97	10-150
13C9_PFNA		94	25-150
d-EtFOSA		82	10-150
d5-EtFOSAA		96	25-150
d9-EtFOSE		91	10-150
d-MeFOSA		103	10-150
d3-MeFOSAA		99	25-150
d7-MeFOSE		97	10-150

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

February 18, 2021

██████████  
 304 Callaway Blvd  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 304 Callaway Blvd., La Crosse, WI 54603  
 Tax Parcel # 4-356-0  
 Sampling Point # 356-0  
 Sample Date: January 28, 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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	Not Detected	20 ppt <sup>a,b</sup>

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

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.1 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.7 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	3.4 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
304 Callaway Blvd., La Crosse, WI 54603  
Tax Parcel # 4-356-0  
Sampling Point # 356-0  
February 18, 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](mailto: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.

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

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: WB02003-003
Description: 356-0	Matrix: Aqueous
Date Sampled: 01/28/2021 1326	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/02/2021	Project Number: 40221619

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/10/2021 2155	JJG	02/09/2021 1110	82279

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		6.8	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.8	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		6.8	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.1	J	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	ND		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		6.8	1.7	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.7	J	3.4	0.86	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	3.4		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		6.8	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		6.8	1.7	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		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	ND		3.4	0.86	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		101	25-150
13C2_6:2FTS		100	25-150
13C2_8:2FTS		110	25-150
13C2_PFDaA		100	25-150
13C2_PFHxDA		91	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB02003-003
Description: 356-0	Matrix: Aqueous
Date Sampled: 01/28/2021 1326	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/02/2021	Project Number: 40221619

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		97	25-150
13C3_PFHxS		102	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		101	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		104	25-150
13C5_PFPeA		95	25-150
13C6_PFDA		98	25-150
13C7_PFUdA		98	25-150
13C8_PFOA		102	25-150
13C8_PFOS		95	25-150
13C8_PFOsA		97	10-150
13C9_PFNA		94	25-150
d-EtFOSA		82	10-150
d5-EtFOSAA		96	25-150
d9-EtFOSE		91	10-150
d-MeFOSA		103	10-150
d3-MeFOSAA		99	25-150
d7-MeFOSE		97	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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



444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 18, 2021

██████████  
 302 Callaway Blvd.  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 302 Callaway Blvd., La Crosse, WI 54603  
 Tax Parcel # 4-357-0  
 Sampling Point # 357-0  
 Sample Date: January 28, 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	3.1 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.7 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.8 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	6.2 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
302 Callaway Blvd., La Crosse, WI 54603  
Tax Parcel # 4-357-0  
Sampling Point # 357-0  
February 18, 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](mailto: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.

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

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: WB02003-002
Description: 357-0	Matrix: Aqueous
Date Sampled: 01/28/2021 1314	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/02/2021	Project Number: 40221619

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/10/2021 2144	JJG	02/09/2021 1110	82279

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	3.5	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	1.7	J	3.5	0.89	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.5	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	1.8	J	3.5	0.89	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	6.2		3.5	0.89	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.5	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		3.5	0.89	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	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		3.5	0.89	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.89	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	3.1	J	3.5	0.89	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		101	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		93	25-150
13C2_PFDaA		96	25-150
13C2_PFHxDA		96	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB02003-002
Description: 357-0	Matrix: Aqueous
Date Sampled: 01/28/2021 1314	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/02/2021	Project Number: 40221619

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		97	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		99	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		97	25-150
13C5_PFHxA		99	25-150
13C5_PFPeA		97	25-150
13C6_PFDA		93	25-150
13C7_PFUdA		98	25-150
13C8_PFOA		103	25-150
13C8_PFOS		89	25-150
13C8_PFOSA		96	10-150
13C9_PFNA		96	25-150
d-EtFOSA		73	10-150
d5-EtFOSAA		95	25-150
d9-EtFOSE		85	10-150
d-MeFOSA		94	10-150
d3-MeFOSAA		95	25-150
d7-MeFOSE		97	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 18, 2021

██████████  
 2523 1st Avenue West  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2523 1st Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-374-0  
 Sampling Point # 374-0  
 Sample Date: January 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.4 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	4.2 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	2.2 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	4.0 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	8.9 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	1.6 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>Bl</sup> Detected in the method blank. Possible lab contaminant.



Private Well Sampling Results for  
2523 1st Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-374-0  
Sampling Point # 374-0  
February 18, 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](mailto: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.

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

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: WB04008-004
Description: 374-0	Matrix: Aqueous
Date Sampled: 01/31/2021 1350	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/11/2021 2111	JJG	02/10/2021 1100	82446

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		8.6	2.2	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		17	4.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	2.2	J	4.3	1.1	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.6	J	4.3	1.1	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	4.0	J	4.3	1.1	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	8.9		4.3	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.4	J	4.3	1.1	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	4.2	J	4.3	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		108	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		100	25-150
13C2_PFDaA		93	25-150
13C2_PFHxDA		96	25-150
13C2_PFTeDA		99	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB04008-004
Description: 374-0	Matrix: Aqueous
Date Sampled: 01/31/2021 1350	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		102	25-150
13C3_PFHxS		100	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBa		106	25-150
13C4_PFHpA		103	25-150
13C5_PFHxA		102	25-150
13C5_PFPeA		98	25-150
13C6_PFDA		99	25-150
13C7_PFUdA		101	25-150
13C8_PFOA		95	25-150
13C8_PFOS		100	25-150
13C8_PFOSA		96	10-150
13C9_PFNA		104	25-150
d-EtFOSA		100	10-150
d5-EtFOSAA		99	25-150
d9-EtFOSE		102	10-150
d-MeFOSA		75	10-150
d3-MeFOSAA		104	25-150
d7-MeFOSE		95	10-150

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

February 18, 2021

██████████  
 2504 3rd Avenue West  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2504 3rd Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-469-0  
 Sampling Point # 469-0  
 Sample Date: January 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	1.5 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.1 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	2.7 ppt	20 ppt <sup>a,b</sup>	

Private Well Sampling Results for  
 2504 3rd Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-469-0  
 Sampling Point # 469-0  
 February 18, 2021

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.9 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	2.9 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	11 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

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

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2504 3rd Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-469-0  
Sampling Point # 469-0  
February 18, 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](mailto:PFAS@theOSgrp.com).

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<b><u>Questions about...</u></b>		<b><u>Contact</u></b>	<b><u>Phone</u></b>	<b><u>E-mail Address</u></b>
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Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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: WB04008-001
Description: 469-0	Matrix: Aqueous
Date Sampled: 01/31/2021 1309	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/11/2021 2018	JJG	02/10/2021 1100	82446

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		7.6	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.6	1.9	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	1.9	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.6	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		7.6	1.9	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.9	J	3.8	0.95	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	1.5	J	3.8	0.95	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.9	J	3.8	0.95	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	11		3.8	0.95	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.6	1.9	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.1	J	3.8	0.95	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.8	0.95	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	2.7	J	3.8	0.95	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		101	25-150
13C2_6:2FTS		104	25-150
13C2_8:2FTS		88	25-150
13C2_PFDaA		91	25-150
13C2_PFHxDA		92	25-150
13C2_PFTeDA		97	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB04008-001
Description: 469-0	Matrix: Aqueous
Date Sampled: 01/31/2021 1309	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		103	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		93	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		97	25-150
13C5_PFPeA		96	25-150
13C6_PFDa		95	25-150
13C7_PFUdA		99	25-150
13C8_PFOA		97	25-150
13C8_PFOS		93	25-150
13C8_PFOSA		93	10-150
13C9_PFNA		101	25-150
d-EtFOSA		83	10-150
d5-EtFOSAA		95	25-150
d9-EtFOSE		91	10-150
d-MeFOSA		75	10-150
d3-MeFOSAA		102	25-150
d7-MeFOSE		86	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 18, 2021

[REDACTED]  
3507 Lakeshore Avenue  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
3507 Lakeshore Avenue, La Crosse, WI 54603  
Tax parcel # 4-1438-0  
Sampling Point # 1438-0  
Sampling Date: January 31, 2021

Dear [REDACTED]:

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 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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>25 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>15 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	4.3 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	5.0ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	91 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	3.2 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUdA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	2.3 ppt	None Established <sup>c</sup>

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

Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	3.7 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>f</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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: WB04008-005
Description: 1438-0	Matrix: Aqueous
Date Sampled: 01/31/2021 1415	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/11/2021 2122	JJG	02/10/2021 1100	82446

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		8.0	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	4.0	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	4.3		4.0	1.0	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	2.3	J	4.0	1.0	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	5.0		4.0	1.0	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	91		4.0	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	3.2	J	4.0	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	25		4.0	1.0	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	3.7	J	4.0	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	15		4.0	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		111	25-150
13C2_6:2FTS		99	25-150
13C2_8:2FTS		100	25-150
13C2_PFDaA		90	25-150
13C2_PFHxDA		90	25-150
13C2_PFTeDA		97	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB04008-005
Description: 1438-0	Matrix: Aqueous
Date Sampled: 01/31/2021 1415	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/04/2021	Project Number: 40221794

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		99	25-150
13C3-HFPO-DA		98	25-150
13C4_PFBa		106	25-150
13C4_PFHpA		98	25-150
13C5_PFHxA		100	25-150
13C5_PFPeA		95	25-150
13C6_PFDa		98	25-150
13C7_PFUdA		101	25-150
13C8_PFOA		96	25-150
13C8_PFOS		92	25-150
13C8_PFOsA		91	10-150
13C9_PFNa		103	25-150
d-EtFOSA		82	10-150
d5-EtFOSAA		95	25-150
d9-EtFOSE		101	10-150
d-MeFOSA		78	10-150
d3-MeFOSAA		101	25-150
d7-MeFOSE		94	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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



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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 22, 2021

██████████  
2750 Del Ray Avenue  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2750 Del Ray Avenue, La Crosse, WI 54603  
Tax parcel # 4-96-0  
Sampling Point # 96-0  
Sampling Date: February 3, 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 City is offering to provide bottled water delivered to your home for drinking, cooking, and brushing your teeth. The bottled water being provided by Culligan is bottled in Rothschild, WI from a municipal water system. Culligan’s source water is filtered and treated by carbon filter, reverse osmosis, distillation and other methods before it is bottled. It has been sampled for PFAS, and no PFAS was detected in the sample. There will be no cost to you for the bottled water. Please complete the attached form and mail it to The OS Group to make arrangements for having a water dispenser and bottles delivered to your home. Call 608-668-2718 or email [PFAS@theOSgrp.com](mailto:PFAS@theOSgrp.com) . You may also complete this form online at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater)**

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 <sup>e</sup> )
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>
<b>Perfluorooctanoic acid (PFOA)</b> <b>CAS # 335-67-1</b>	<b>41 ppt</b>	20 ppt <sup>a,b</sup>
<b>Perfluorooctanesulfonic acid (PFOS)</b> <b>CAS # 1763-23-1</b>	<b>14 ppt</b>	20 ppt <sup>a,b</sup>
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	3.5 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	4.6 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	70 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	4.6 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeDA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUDA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	1.4 ppt	None Established <sup>c</sup>

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	0.95 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS #2706-90-3	7.5 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> 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. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>bl</sup> 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](mailto: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	<a href="mailto:David.Rozeboom@wisconsin.gov">David.Rozeboom@wisconsin.gov</a>
Drinking Water or Private wells	DNR	Kyle Burton	920-360-2112	<a href="mailto:kyle.burton@wisconsin.gov">kyle.burton@wisconsin.gov</a>
Health Concerns	DHS	Curtis Hedman	608-266-6677	<a href="mailto:Curtis.Hedman@dhs.wisconsin.gov">Curtis.Hedman@dhs.wisconsin.gov</a>

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

Attachment: Lab report for your well  
 Bottled Water Acknowledgement



# BOTTLED WATER ACKNOWLEDGEMENT

2750 Del Ray Avenue, La Crosse, WI 54603

*If you desire to accept the bottled water delivery, please complete and sign this form and return it to The OS Group at [PFAS@TheOSgrp.com](mailto:PFAS@TheOSgrp.com) or mail to 444 21<sup>st</sup> St. S, La Crosse, WI 54601. You may also complete this form electronically on line at [www.cityoflacrosse.org/bottledwater](http://www.cityoflacrosse.org/bottledwater) . Call 608-668-2718 with any question you may have.*

As pre-caution for the protection of human health, the City of La Crosse (The City) will provide, on a temporary basis, bottled water for drinking, cooking and toothbrushing purposes at the above referenced address. The water will be delivered to your home or business by a commercial water delivery service. At the City's cost, a dispenser / cooler and regular deliveries of 5-gallon containers of water will be provided. The City reserves the right to dictate the conditions of delivery, such as minimum and maximum number of containers per delivery, frequency and timing of deliveries. The City reserves the right to periodically review whether The City should continue to provide bottled water, considering factors such as State and Federal standards and guidance, evolving knowledge and understanding of the sources, cause and responsibility for the contamination, new or reinterpreted test results, and the availability of more permanent or cost-effective sources of water for the above purposes. The City of La Crosse makes no warranty or representation regarding the suitability of the bottled water beyond those made by the commercial water delivery service.

***All reusable or returnable equipment and supplies, such as the containers and cooler/dispenser, are the property of the commercial water delivery service or the City of La Crosse. By signing below, the Occupant of the above referenced property acknowledges that all reusable or returnable equipment and supplies shall be returned to the commercial water delivery service or the City of La Crosse upon request. The Occupant agrees to provide reasonable access for delivery of bottled water and pick up of reusable or returnable equipment and supplies. Occupant(s) acknowledges that they may be required to sign an agreement with the commercial water delivery service as a condition of receiving bottled water.***

Check ownership:

\_\_\_\_\_ Owner-Occupant

\_\_\_\_\_ Occupant Only

Number of Occupants: \_\_\_\_\_

Signed: \_\_\_\_\_ Dated: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Phone Number: (\_\_\_\_\_) \_\_\_\_\_

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB06015-004
Description: 96-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1437	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221856

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/12/2021 2141	JJG	02/11/2021 1217	82588

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		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		15	3.6	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.5	J	3.6	0.91	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.4	J	3.6	0.91	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	4.6		3.6	0.91	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	70		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	0.95	J	3.6	0.91	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	4.6		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	41		3.6	0.91	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	7.5		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	14		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		93	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		106	25-150
13C2_PFDaA		95	25-150
13C2_PFHxDA		93	25-150
13C2_PFTeDA		93	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB06015-004
Description: 96-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1437	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221856

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		99	25-150
13C3_PFHxS		98	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBa		105	25-150
13C4_PFHpA		96	25-150
13C5_PFHxA		101	25-150
13C5_PFPeA		103	25-150
13C6_PFDA		95	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		104	25-150
13C8_PFOS		91	25-150
13C8_PFOSA		92	10-150
13C9_PFNA		94	25-150
d-EtFOSA		73	10-150
d5-EtFOSAA		90	25-150
d9-EtFOSE		79	10-150
d-MeFOSA		83	10-150
d3-MeFOSAA		95	25-150
d7-MeFOSE		91	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 19, 2021

██████████  
 209 Church Drive  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 207 & 209 Church Drive, La Crosse, WI 54603  
 Tax Parcel # 4-282-0  
 Sampling Point # 282-0  
 Sample Date: February 3, 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 <sup>e</sup> )	The recommended limit is 20 ppt for any one of these 6 compounds or the combined total of all 6
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA) CAS # 2991-50-6	Not Detected	20 ppt <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	2.1 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	4.0 <sup>BL</sup> ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.7 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	1.3 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
209 Church Drive, La Crosse, WI 54603  
Tax Parcel # 4-282-0  
Sampling Point # 282-0  
February 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](mailto: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.

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

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

Attachment: Lab report for your well

February 19, 2021

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

RE: Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221875

Dear Steve Osesek:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 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

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## SAMPLE SUMMARY

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221875

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40221856006	282-0	Water	02/03/21 14:57	02/04/21 14:12

## REPORT OF LABORATORY ANALYSIS

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# Sample Preservation Receipt Form

Client Name: OS Group

Project # 40221856

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

40221875

Initial when completed:

Date/Time:

Lab Lot# of pH paper:

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


Page 4 of 4

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
001									1*																						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									1*																						2.5 / 5 / 10
008																															2.5 / 5 / 10
009																															2.5 / 5 / 10
010																															2.5 / 5 / 10
011																															2.5 / 5 / 10
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016																															2.5 / 5 / 10
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						

1\* Update per John S - OS Group. 2/4/21 CDH

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

### Sample Condition Upon Receipt Form (SCUR)

Client Name: OS Group Project #: WO#: 40221875

Courier:  CS Logistics  Fed Ex  Speedee  UPS  Walco  
 Client  Pace Other: \_\_\_\_\_

Tracking #: 7833 5693 8325

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 - N/A Type of Ice:  Wet  Blue  Dry  None  Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROT / Corr: \_\_\_\_\_

Temp Blank Present:  yes  no Biological Tissue is Frozen:  yes  no

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

Person examining contents: <u>2/4/21</u> Date: _____ / Initials: <u>MM</u>
Labeled By Initials: <u>MM</u>

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>proj# + state / pg# / phone / no analyses 2/4/21</u>
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: 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	8.
Correct Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used: <input checked="" type="checkbox"/> Yes <input checked="" 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: \_\_\_\_\_

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir



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## Report of Analysis

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

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221875

Lot Number: **WB06013**

Date Completed: 02/19/2021

*Karen Coonan*

02/19/2021 9:41 AM

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



The electronic signature above is the equivalent of a handwritten signature.  
This report shall not be reproduced, except in its entirety, without the written approval of Pace Analytical Services, LLC.

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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: WB06013

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.

The method blank for prep batch 82290 contained analytes: 6:2FTS, PFBS, PFHxA greater than the acceptance criteria. The associated sample WB06013-001 did not contain detections for these target analytes; therefore, re-extraction and/or re-analysis of sample was not performed for these analytes. The data has been reported from Run 1.

Sample WB06013-001 was re-extracted and re-analyzed due to QC failures in the Method Blank and Laboratory Control Sample (LCS) for the analytes PFOS and PFHxS. PFOS and PFHxS will be reported from Run 2.

The method blank associated with prep batch 82993 contained PFOS greater than method criteria. The following sample was affected: WB06013-001. The data has been reported from Run 2.

# PACE ANALYTICAL SERVICES, LLC

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## Sample Summary

Pace Analytical Services, LLC

Lot Number: WB06013

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221875

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Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	282-0	Aqueous	02/03/2021 1457	02/06/2021

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(1 sample)

# PACE ANALYTICAL SERVICES, LLC

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Detection Summary  
Pace Analytical Services, LLC  
Lot Number: WB06013  
Project Name: LACROSSE WELLS 23 & 24  
Project Number: 40221875

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	282-0	Aqueous	PFOSA	PFAS by ID	2.1	J	ng/L	5
001	282-0	Aqueous	PFHxS	PFAS by ID	1.7	J	ng/L	6
001	282-0	Aqueous	PFBA	PFAS by ID	1.3	J	ng/L	6
001	282-0	Aqueous	PFOS	PFAS by ID	4.0	BJ	ng/L	6

(4 detections)

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB06013-001
Description: 282-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1457	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221875

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/11/2021 0357	JJG	02/09/2021 1126	82290
2	SOP SPE	PFAS by ID SOP	1	02/17/2021 1855	MMM	02/16/2021 1049	82993

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		8.6	2.2	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		17	4.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	2.1	J	4.3	1.1	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.7	J	4.3	1.1	ng/L	2
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	1.3	J	4.3	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	4.0	BJ	4.3	1.1	ng/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
13C2_4:2FTS		101	25-150		98	25-150
13C2_6:2FTS		90	25-150		110	25-150
13C2_8:2FTS		85	25-150		104	25-150
13C2_PFDa		90	25-150		99	25-150
13C2_PFHxDA		82	25-150		102	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB06013-001
Description: 282-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1457	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221875

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
13C2_PFTeDA		84	25-150		100	25-150
13C3_PFBs		100	25-150		106	25-150
13C3_PFHxS		88	25-150		105	25-150
13C3-HFPO-DA		93	25-150		106	25-150
13C4_PFBa		100	25-150		108	25-150
13C4_PFHpA		95	25-150		111	25-150
13C5_PFHxA		93	25-150		106	25-150
13C5_PFPeA		101	25-150		106	25-150
13C6_PFDA		88	25-150		105	25-150
13C7_PFUdA		85	25-150		108	25-150
13C8_PFOA		93	25-150		112	25-150
13C8_PFOS		83	25-150		100	25-150
13C8_PFOSA		83	10-150		101	10-150
13C9_PFNA		88	25-150		104	25-150
d-EtFOSA		68	10-150		75	10-150
d5-EtFOSAA		86	25-150		101	25-150
d9-EtFOSE		72	10-150		97	10-150
d-MeFOSA		72	10-150		80	10-150
d3-MeFOSAA		90	25-150		104	25-150
d7-MeFOSE		79	10-150		91	10-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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 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: WQ82290-001

Matrix: Aqueous

Batch: 82290

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/09/2021 1126

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
8:2 FTS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
6:2 FTS	120		1	8.0	2.0	ng/L	02/10/2021 1439
10:2 FTS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
4:2 FTS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
GenX	ND		1	8.0	2.0	ng/L	02/10/2021 1439
ADONA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
EtFOSA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
EtFOSAA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
EtFOSE	ND		1	8.0	2.0	ng/L	02/10/2021 1439
MeFOSA	ND		1	16	4.0	ng/L	02/10/2021 1439
MeFOSAA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
MeFOSE	ND		1	8.0	2.0	ng/L	02/10/2021 1439
PFBS	2.9	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFDS	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFHpS	2.0	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFNS	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFOSA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFPeS	1.8	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFDOS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
PFBA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFDA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFDaA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFHpA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFHxDA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
PFHxA	2.2	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFNA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFODA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
PFOA	2.2	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFPeA	1.0	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFTeDA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFTrDA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFUdA	ND		1	4.0	1.0	ng/L	02/10/2021 1439

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		87	25-150
13C2_6:2FTS		82	25-150
13C2_8:2FTS		84	25-150
13C2_PFDaA		83	25-150
13C2_PFHxDA		70	25-150
13C2_PFTeDA		78	25-150
13C3_PFBS		75	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: WQ82290-001

Matrix: Aqueous

Batch: 82290

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/09/2021 1126

Surrogate	Q	% Rec	Acceptance Limit
13C3_PFHxS		78	25-150
13C3-HFPO-DA		84	25-150
13C4_PFBA		85	25-150
13C4_PFHpA		86	25-150
13C5_PFHxA		90	25-150
13C5_PFPeA		81	25-150
13C6_PFDA		83	25-150
13C7_PFUdA		77	25-150
13C8_PFOA		86	25-150
13C8_PFOS		66	25-150
13C8_PFOSA		80	10-150
13C9_PFNA		79	25-150
d-EtFOSA		60	10-150
d5-EtFOSAA		80	25-150
d9-EtFOSE		78	10-150
d-MeFOSA		71	10-150
d3-MeFOSAA		78	25-150
d7-MeFOSE		88	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  $\geq$  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: WQ82290-002

Matrix: Aqueous

Batch: 82290

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/09/2021 1126

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	16	14		1	89	50-150	02/10/2021 1449
11CI-PF3OUdS	16	16		1	95	50-150	02/10/2021 1449
8:2 FTS	17	18		1	109	50-150	02/10/2021 1449
6:2 FTS	16	19		1	113	50-150	02/10/2021 1449
10:2 FTS	17	14		1	83	50-150	02/10/2021 1449
4:2 FTS	16	16		1	96	50-150	02/10/2021 1449
GenX	35	35		1	101	50-150	02/10/2021 1449
ADONA	16	17		1	106	50-150	02/10/2021 1449
EtFOSA	17	19		1	112	50-150	02/10/2021 1449
EtFOSAA	17	16		1	90	50-150	02/10/2021 1449
EtFOSE	17	18		1	106	50-150	02/10/2021 1449
MeFOSA	17	19		1	111	50-150	02/10/2021 1449
MeFOSAA	17	19		1	107	50-150	02/10/2021 1449
MeFOSE	17	19		1	109	50-150	02/10/2021 1449
PFBS	15	15		1	99	50-150	02/10/2021 1449
PFDS	17	14		1	83	50-150	02/10/2021 1449
PFHpS	17	19		1	114	50-150	02/10/2021 1449
PFNS	17	17		1	102	50-150	02/10/2021 1449
PFOSA	17	19		1	110	50-150	02/10/2021 1449
PFPeS	16	17		1	103	50-150	02/10/2021 1449
PFDOS	17	13		1	76	50-150	02/10/2021 1449
PFBA	17	17		1	99	50-150	02/10/2021 1449
PFDA	17	17		1	96	50-150	02/10/2021 1449
PFDoA	17	17		1	97	50-150	02/10/2021 1449
PFHpA	17	17		1	100	50-150	02/10/2021 1449
PFHxDA	17	16		1	94	50-150	02/10/2021 1449
PFHxA	17	18		1	104	50-150	02/10/2021 1449
PFNA	17	17		1	97	50-150	02/10/2021 1449
PFODA	17	15		1	84	50-150	02/10/2021 1449
PFOA	17	17		1	97	50-150	02/10/2021 1449
PFPeA	17	17		1	99	50-150	02/10/2021 1449
PFTeDA	17	17		1	96	50-150	02/10/2021 1449
PFTTrDA	17	19		1	106	50-150	02/10/2021 1449
PFUdA	17	17		1	97	50-150	02/10/2021 1449
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		84	25-150				
13C2_6:2FTS		78	25-150				
13C2_8:2FTS		90	25-150				
13C2_PFDoA		79	25-150				
13C2_PFHxDA		74	25-150				
13C2_PFTeDA		78	25-150				
13C3_PFBS		77	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: WQ82290-002

Matrix: Aqueous

Batch: 82290

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/09/2021 1126

Surrogate	Q	% Rec	Acceptance Limit
13C3_PFHxS		75	25-150
13C3-HFPO-DA		81	25-150
13C4_PFBA		83	25-150
13C4_PFHpA		85	25-150
13C5_PFHxA		84	25-150
13C5_PFPeA		80	25-150
13C6_PFDA		79	25-150
13C7_PFUdA		83	25-150
13C8_PFOA		85	25-150
13C8_PFOS		70	25-150
13C8_PFOSA		72	10-150
13C9_PFNA		78	25-150
d-EtFOSA		64	10-150
d5-EtFOSAA		78	25-150
d9-EtFOSE		76	10-150
d-MeFOSA		74	10-150
d3-MeFOSAA		81	25-150
d7-MeFOSE		79	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 - MB

Sample ID: WQ82993-001

Matrix: Aqueous

Batch: 82993

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/16/2021 1049

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
PFHxS	ND		1	4.0	1.0	ng/L	02/17/2021 1659
PFOS	21		1	4.0	1.0	ng/L	02/17/2021 1659
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		87	25-150				
13C2_6:2FTS		102	25-150				
13C2_8:2FTS		99	25-150				
13C2_PFDaA		94	25-150				
13C2_PFHxDA		100	25-150				
13C2_PFTeDA		96	25-150				
13C3_PFBs		99	25-150				
13C3_PFHxS		106	25-150				
13C3-HFPO-DA		103	25-150				
13C4_PFBA		101	25-150				
13C4_PFHpA		108	25-150				
13C5_PFHxA		102	25-150				
13C5_PFPeA		101	25-150				
13C6_PFDA		100	25-150				
13C7_PFUdA		99	25-150				
13C8_PFOA		105	25-150				
13C8_PFOS		95	25-150				
13C8_PFOSA		98	10-150				
13C9_PFNA		95	25-150				
d-EtFOSA		83	10-150				
d5-EtFOSAA		94	25-150				
d9-EtFOSE		95	10-150				
d-MeFOSA		78	10-150				
d3-MeFOSAA		95	25-150				
d7-MeFOSE		93	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: WQ82993-002

Matrix: Aqueous

Batch: 82993

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/16/2021 1049

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
PFHxS	15	15		1	106	50-150	02/17/2021 1709
PFOS	15	21		1	141	50-150	02/17/2021 1709
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		92	25-150				
13C2_6:2FTS		85	25-150				
13C2_8:2FTS		94	25-150				
13C2_PFDaA		92	25-150				
13C2_PFHxDA		97	25-150				
13C2_PFTeDA		92	25-150				
13C3_PFBS		93	25-150				
13C3_PFHxS		93	25-150				
13C3-HFPO-DA		98	25-150				
13C4_PFBA		96	25-150				
13C4_PFHpA		100	25-150				
13C5_PFHxA		94	25-150				
13C5_PFPeA		96	25-150				
13C6_PFDA		90	25-150				
13C7_PFUdA		98	25-150				
13C8_PFOA		98	25-150				
13C8_PFOS		94	25-150				
13C8_PFOSA		87	10-150				
13C9_PFNA		94	25-150				
d-EtFOSA		76	10-150				
d5-EtFOSAA		89	25-150				
d9-EtFOSE		87	10-150				
d-MeFOSA		68	10-150				
d3-MeFOSAA		94	25-150				
d7-MeFOSE		85	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  
 Owner Received Date: 2/4/2021

Results Requested By: 2/17/2021

Workorder: 40221875 Workorder Name: LACROSSE WELL 23&24

Report To:		Subcontract To:				Requested Analysis:									
Christopher Hyska Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436		Pace Analytical West Columbia 106 Vantage Point Drive West Columbia, SC 29172 Phone (803)791-9700				<div style="text-align: center;">   <b>WB06013</b>            KLC2         </div>									
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Unpreserved	Preserved Containers				LAB USE ONLY				
1	282-0	PS	2/3/2021 14:57	40221858006	Water	2						X			
2															
3															
4															
5															
Transfers		Released By	Date/Time	Received By	Date/Time	Comments									
1		<i>[Signature]</i>	2/5/21 1605			IR77 - MDL reporting - Quote 23482									
2						Rush TAT!									
3		FedEx	2/6/21 1238	<i>[Signature]</i>	2/6/21 1238										
Cooler Temperature on Receipt		3.7°C	Custody Seal Y or (N)		Received on Ice (Y) or N	Samples Intact (Y) 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.



UPPER MIDWEST REGION  
 MN: 612-807-1700 WI: 920-460-2435

Page 1 of 40221875

40221856

(Please Print Clearly)

Company Name: The OS Group  
 Branch/Location:  
 Project Contact: Steve Oseseck  
 Phone:  
 Project Number:  
 Project Name: LaCrosse Well 23+24  
 Project State:  
 Sampled By (Print): Kristie Tweed  
 Sampled By (Sign): Kristie Tweed  
 PO #:  
 Regulatory Program:

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\*

CHAIN OF CUSTODY

DATE	TIME	MATRIX	ANALYZED	PICK UP	N	A	PFAS WI 36	X	1*
2/23/21	1:45	DW						X	1*
	2:04							X	1*
	2:18							X	1*
								X	1*
	2:37							X	1*
	2:57							X	1*
								X	1*

Quote #:  
 Mail To Contact: Steve Oseseck  
 Mail To Company: The OS Group  
 Mail To Address: 444 Wisconsin LaCrosse, WI 54601  
 Invoice To Contact: Steve Oseseck  
 Invoice To Company: The OS Group  
 Invoice To Address: 444 Wisconsin LaCrosse, WI 54601  
 Invoice To Phone: 608-433-9388

CLIENT COMMENTS  
 LAB COMMENTS (Lab Use Only)  
 Profile #

① Update per Steve O. 2/4/2021

1\* Samples moved to separate CoC for split reporting per John S. 2/4/21 CDH

40221875

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)  
 Date Needed:  
 Transmit Prelim Rush Results by (complete what you want):  
 Email #1:  
 Email #2:  
 Telephone:  
 Fax:

Relinquished By: Kristie Tweed Date/Time: 02-03-21 4:00  
 Relinquished By: FEDEX Date/Time: 2/4/21 09:15  
 Relinquished By:  
 Relinquished By:  
 Relinquished By:

Received By:  
 Date/Time:  
 Received By:  
 Date/Time:  
 Received By:  
 Date/Time:  
 Received By:  
 Date/Time:

PACE Project No. 40221856  
 Receipt Temp: NOT °C  
 Sample Receipt pH: OK / Adjusted  
 Cooler Custody Seal Present / Not Present: Intact / Not Intact

PACE ANALYTICAL SERVICES, LLC



**Sample Preservation Receipt Form**

Client Name: OS Group

Project # 40221856

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

40221875

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 52	NaOH+Zn Act pH 50	NaOH pH 212	HNO3 pH 52	pH after adjusted	Volume (mL)					
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	HG9H	VG9M	VG9D	JG9U	JG9U	WG9U	WP9U								SP5T	ZPLC	GN		
001																																			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
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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	JG9U 4 oz amber jar unpres
BG1U 1 liter clear glass	BP3U 250 mL plastic unpres	DG9T 40 mL amber Na Thio	JG9U 8 oz amber jar unpres
AG1H 1 liter amber glass HCL	BP3B 250 mL plastic NaOH	VG9U 40 mL clear vial unpres	WG9U 4 oz clear jar unpres
AG4S 125 mL amber glass H2SO4	BP3N 250 mL plastic HNO3	VG9H 40 mL clear vial HCL	WP9U 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			

\* Update per John S - OS Group, 2/4/21 CDH

# PACE ANALYTICAL SERVICES, LLC

 1241 Fellowship 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: OS Group Project #: **WO#: 40221875**  
 Courier:  CS Logistics  Fed Ex  Speedee  UPS  Waltoe  
 Client  Pace Other: \_\_\_\_\_  
 Tracking #: 7833 5693 8925

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 - N/A Type of Ice:  Wet  Blue  Dry  None  Samples on ice, cooling process has begun  
 Cooler Temperature: Uncorr: 2.0°C  
 Temp Blank Present:  yes  no Biological Tissue is Frozen:  yes  no  
 Temp should be above freezing to 8°C  
 Biota Samples may be received at < 0°C if shipped on Dry Ice.

Person examining contents:	
Date: <u>2/1/21</u>	Initials: <u>MD</u>
Labeled By Initials: <u>MD</u>	

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>proj # + state / pg# / phone / no analyses 2/1/21</u>
Chain of Custody Relinquished:	<input 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:		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: <u>MD</u>	<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: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PM Review is documented electronically in LIMS. By releasing the project, the PM acknowledges they have reviewed the sample log:

Page 2 of 2



# PACE ANALYTICAL SERVICES, LLC



**Samples Receipt Checklist (SRC) (ME0018C-15)**

Issuing Authority: Pace ENV - WCOL

WB06013

7/2020  
1 of 1

## Sample Receipt Checklist (SRC)

Client: Pace

Cooler Inspected by/date: KBS, 2/6/21 Lot #: KL02

Means of receipt: <input type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: <u>nc</u> Chlorine Strip ID: <u>nc</u> Tested by: <u>nc</u>	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: <u>nc</u>	
<u>3.7/3.7 °C</u> <u>nc</u> °C <u>nc</u> °C <u>nc</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 type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input checked="" type="checkbox"/> Yes <input 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 >"pca-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 <sub>3</sub> /TKN/cyanide/phenol/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 #
<b>Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)</b>	
Sample(s) <u>nc</u> were received incorrectly preserved and were adjusted accordingly	
in sample receiving with <u>nc</u> mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # <u>nc</u>	
Time of preservation <u>nc</u> . If more than one preservative is needed, please note in the comments below.	
Sample(s) <u>nc</u> were received with bubbles >6 mm in diameter.	
Samples(s) <u>nc</u> were received with TRC > 0.5 mg/L (if #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) with Shealy ID: <u>nc</u>	
SR barcode labels applied by: <u>KBS</u> Date: <u>2/6/21</u>	

Comments:

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 19, 2021

██████████  
 207 Church Drive  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 207 & 209 Church Drive, La Crosse, WI 54603  
 Tax Parcel # 4-282-0  
 Sampling Point # 282-0  
 Sample Date: February 3, 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	2.1 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	4.0 <sup>BL</sup> ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	Not Detected	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	1.7 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	1.3 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>bl</sup> Detected in the method blank. Possible lab contaminant.



Private Well Sampling Results for  
209 Church Drive, La Crosse, WI 54603  
Tax Parcel # 4-282-0  
Sampling Point # 282-0  
February 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](mailto: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.

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

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

Attachment: Lab report for your well

February 19, 2021

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

RE: Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221875

Dear Steve Osesek:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 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: LACROSSE WELL 23 & 24  
Pace Project No.: 40221875

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40221856006	282-0	Water	02/03/21 14:57	02/04/21 14:12

## REPORT OF LABORATORY ANALYSIS

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



# Sample Preservation Receipt Form

Client Name: OS Group

Project # 40221856

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

40221875

Initial when completed:

Date/Time:

Lab Lot# of pH paper:

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

Page 4 of 4


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										1*																							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										1*																							2.5 / 5 / 10
008																																	2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
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018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

2/4/21  
[Signature]

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

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

1\* Update per John S - OS Group. 2/4/21 CDH

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

**Sample Condition Upon Receipt Form (SCUR)**

Client Name: OS Group Project #: WO#: 40221875

Courier:  CS Logistics  Fed Ex  Speedee  UPS  Walco  
 Client  Pace Other: \_\_\_\_\_

Tracking #: 7833 5693 8325



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 - N/A Type of Ice:  Wet  Blue  Dry  None  Samples on ice, cooling process has begun  
 Cooler Temperature Uncorr: ROT / Corr: \_\_\_\_\_  
 Temp Blank Present:  yes  no Biological Tissue is Frozen:  yes  no

Person examining contents: <u>2/4/21</u> Date: _____ / Initials: <u>MM</u>
Labeled By Initials: <u>MM</u>

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>proj# + state / pg# / phone / no analyses 2/4/21</u>
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: 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	8.
Correct Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used: <input checked="" type="checkbox"/> Yes <input checked="" 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: \_\_\_\_\_



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## Report of Analysis

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

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221875

Lot Number: **WB06013**

Date Completed: 02/19/2021

*Karen Coonan*

02/19/2021 9:41 AM

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



The electronic signature above is the equivalent of a handwritten signature.  
This report shall not be reproduced, except in its entirety, without the written approval of Pace Analytical Services, LLC.

# 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: WB06013

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.

The method blank for prep batch 82290 contained analytes: 6:2FTS, PFBS, PFHxA greater than the acceptance criteria. The associated sample WB06013-001 did not contain detections for these target analytes; therefore, re-extraction and/or re-analysis of sample was not performed for these analytes. The data has been reported from Run 1.

Sample WB06013-001 was re-extracted and re-analyzed due to QC failures in the Method Blank and Laboratory Control Sample (LCS) for the analytes PFOS and PFHxS. PFOS and PFHxS will be reported from Run 2.

The method blank associated with prep batch 82993 contained PFOS greater than method criteria. The following sample was affected: WB06013-001. The data has been reported from Run 2.



# PACE ANALYTICAL SERVICES, LLC

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## Sample Summary

Pace Analytical Services, LLC

Lot Number: WB06013

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221875

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Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	282-0	Aqueous	02/03/2021 1457	02/06/2021

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(1 sample)

# PACE ANALYTICAL SERVICES, LLC

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Detection Summary  
Pace Analytical Services, LLC  
Lot Number: WB06013  
Project Name: LACROSSE WELLS 23 & 24  
Project Number: 40221875

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	282-0	Aqueous	PFOSA	PFAS by ID	2.1	J	ng/L	5
001	282-0	Aqueous	PFHxS	PFAS by ID	1.7	J	ng/L	6
001	282-0	Aqueous	PFBA	PFAS by ID	1.3	J	ng/L	6
001	282-0	Aqueous	PFOS	PFAS by ID	4.0	BJ	ng/L	6

(4 detections)

PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB06013-001
Description: 282-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1457	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221875

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/11/2021 0357	JJG	02/09/2021 1126	82290
2	SOP SPE	PFAS by ID SOP	1	02/17/2021 1855	MMM	02/16/2021 1049	82993

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		8.6	2.2	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		17	4.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluoro-1-butanefluoro-1-octanesulfonic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	2.1	J	4.3	1.1	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.7	J	4.3	1.1	ng/L	2
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	1.3	J	4.3	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.6	2.2	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.3	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	4.0	BJ	4.3	1.1	ng/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
13C2_4:2FTS		101	25-150		98	25-150
13C2_6:2FTS		90	25-150		110	25-150
13C2_8:2FTS		85	25-150		104	25-150
13C2_PFDa		90	25-150		99	25-150
13C2_PFHxDA		82	25-150		102	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB06013-001
Description: 282-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1457	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221875

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
13C2_PFTeDA		84	25-150		100	25-150
13C3_PFBs		100	25-150		106	25-150
13C3_PFHxS		88	25-150		105	25-150
13C3-HFPO-DA		93	25-150		106	25-150
13C4_PFBa		100	25-150		108	25-150
13C4_PFHpA		95	25-150		111	25-150
13C5_PFHxA		93	25-150		106	25-150
13C5_PFPeA		101	25-150		106	25-150
13C6_PFDA		88	25-150		105	25-150
13C7_PFUdA		85	25-150		108	25-150
13C8_PFOA		93	25-150		112	25-150
13C8_PFOS		83	25-150		100	25-150
13C8_PFOSA		83	10-150		101	10-150
13C9_PFNA		88	25-150		104	25-150
d-EtFOSA		68	10-150		75	10-150
d5-EtFOSAA		86	25-150		101	25-150
d9-EtFOSE		72	10-150		97	10-150
d-MeFOSA		72	10-150		80	10-150
d3-MeFOSAA		90	25-150		104	25-150
d7-MeFOSE		79	10-150		91	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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: WQ82290-001

Matrix: Aqueous

Batch: 82290

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/09/2021 1126

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
8:2 FTS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
6:2 FTS	120		1	8.0	2.0	ng/L	02/10/2021 1439
10:2 FTS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
4:2 FTS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
GenX	ND		1	8.0	2.0	ng/L	02/10/2021 1439
ADONA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
EtFOSA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
EtFOSAA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
EtFOSE	ND		1	8.0	2.0	ng/L	02/10/2021 1439
MeFOSA	ND		1	16	4.0	ng/L	02/10/2021 1439
MeFOSAA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
MeFOSE	ND		1	8.0	2.0	ng/L	02/10/2021 1439
PFBS	2.9	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFDS	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFHpS	2.0	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFNS	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFOSA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFPeS	1.8	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFDOS	ND		1	8.0	2.0	ng/L	02/10/2021 1439
PFBA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFDA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFDaA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFHpA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFHxDA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
PFHxA	2.2	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFNA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFODA	ND		1	8.0	2.0	ng/L	02/10/2021 1439
PFOA	2.2	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFPeA	1.0	J	1	4.0	1.0	ng/L	02/10/2021 1439
PFTeDA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFTrDA	ND		1	4.0	1.0	ng/L	02/10/2021 1439
PFUdA	ND		1	4.0	1.0	ng/L	02/10/2021 1439

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		87	25-150
13C2_6:2FTS		82	25-150
13C2_8:2FTS		84	25-150
13C2_PFDaA		83	25-150
13C2_PFHxDA		70	25-150
13C2_PFTeDA		78	25-150
13C3_PFBS		75	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: WQ82290-001

Matrix: Aqueous

Batch: 82290

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/09/2021 1126

Surrogate	Q	% Rec	Acceptance Limit
13C3_PFHxS		78	25-150
13C3-HFPO-DA		84	25-150
13C4_PFBA		85	25-150
13C4_PFHpA		86	25-150
13C5_PFHxA		90	25-150
13C5_PFPeA		81	25-150
13C6_PFDA		83	25-150
13C7_PFUdA		77	25-150
13C8_PFOA		86	25-150
13C8_PFOS		66	25-150
13C8_PFOSA		80	10-150
13C9_PFNA		79	25-150
d-EtFOSA		60	10-150
d5-EtFOSAA		80	25-150
d9-EtFOSE		78	10-150
d-MeFOSA		71	10-150
d3-MeFOSAA		78	25-150
d7-MeFOSE		88	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  $\geq$  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: WQ82290-002

Matrix: Aqueous

Batch: 82290

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/09/2021 1126

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	16	14		1	89	50-150	02/10/2021 1449
11CI-PF3OUdS	16	16		1	95	50-150	02/10/2021 1449
8:2 FTS	17	18		1	109	50-150	02/10/2021 1449
6:2 FTS	16	19		1	113	50-150	02/10/2021 1449
10:2 FTS	17	14		1	83	50-150	02/10/2021 1449
4:2 FTS	16	16		1	96	50-150	02/10/2021 1449
GenX	35	35		1	101	50-150	02/10/2021 1449
ADONA	16	17		1	106	50-150	02/10/2021 1449
EtFOSA	17	19		1	112	50-150	02/10/2021 1449
EtFOSAA	17	16		1	90	50-150	02/10/2021 1449
EtFOSE	17	18		1	106	50-150	02/10/2021 1449
MeFOSA	17	19		1	111	50-150	02/10/2021 1449
MeFOSAA	17	19		1	107	50-150	02/10/2021 1449
MeFOSE	17	19		1	109	50-150	02/10/2021 1449
PFBS	15	15		1	99	50-150	02/10/2021 1449
PFDS	17	14		1	83	50-150	02/10/2021 1449
PFHpS	17	19		1	114	50-150	02/10/2021 1449
PFNS	17	17		1	102	50-150	02/10/2021 1449
PFOSA	17	19		1	110	50-150	02/10/2021 1449
PFPeS	16	17		1	103	50-150	02/10/2021 1449
PFDOS	17	13		1	76	50-150	02/10/2021 1449
PFBA	17	17		1	99	50-150	02/10/2021 1449
PFDA	17	17		1	96	50-150	02/10/2021 1449
PFDoA	17	17		1	97	50-150	02/10/2021 1449
PFHpA	17	17		1	100	50-150	02/10/2021 1449
PFHxDA	17	16		1	94	50-150	02/10/2021 1449
PFHxA	17	18		1	104	50-150	02/10/2021 1449
PFNA	17	17		1	97	50-150	02/10/2021 1449
PFODA	17	15		1	84	50-150	02/10/2021 1449
PFOA	17	17		1	97	50-150	02/10/2021 1449
PFPeA	17	17		1	99	50-150	02/10/2021 1449
PFTeDA	17	17		1	96	50-150	02/10/2021 1449
PFTTrDA	17	19		1	106	50-150	02/10/2021 1449
PFUdA	17	17		1	97	50-150	02/10/2021 1449
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		84	25-150				
13C2_6:2FTS		78	25-150				
13C2_8:2FTS		90	25-150				
13C2_PFDoA		79	25-150				
13C2_PFHxDA		74	25-150				
13C2_PFTeDA		78	25-150				
13C3_PFBS		77	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: WQ82290-002

Matrix: Aqueous

Batch: 82290

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/09/2021 1126

Surrogate	Q	% Rec	Acceptance Limit
13C3_PFHxS		75	25-150
13C3-HFPO-DA		81	25-150
13C4_PFBA		83	25-150
13C4_PFHpA		85	25-150
13C5_PFHxA		84	25-150
13C5_PFPeA		80	25-150
13C6_PFDA		79	25-150
13C7_PFUdA		83	25-150
13C8_PFOA		85	25-150
13C8_PFOS		70	25-150
13C8_PFOSA		72	10-150
13C9_PFNA		78	25-150
d-EtFOSA		64	10-150
d5-EtFOSAA		78	25-150
d9-EtFOSE		76	10-150
d-MeFOSA		74	10-150
d3-MeFOSAA		81	25-150
d7-MeFOSE		79	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 - MB

Sample ID: WQ82993-001

Matrix: Aqueous

Batch: 82993

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/16/2021 1049

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
PFHxS	ND		1	4.0	1.0	ng/L	02/17/2021 1659
PFOS	21		1	4.0	1.0	ng/L	02/17/2021 1659
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		87	25-150				
13C2_6:2FTS		102	25-150				
13C2_8:2FTS		99	25-150				
13C2_PFDaA		94	25-150				
13C2_PFHxDA		100	25-150				
13C2_PFTeDA		96	25-150				
13C3_PFBs		99	25-150				
13C3_PFHxS		106	25-150				
13C3-HFPO-DA		103	25-150				
13C4_PFBA		101	25-150				
13C4_PFHpA		108	25-150				
13C5_PFHxA		102	25-150				
13C5_PFPeA		101	25-150				
13C6_PFDA		100	25-150				
13C7_PFUdA		99	25-150				
13C8_PFOA		105	25-150				
13C8_PFOS		95	25-150				
13C8_PFOSA		98	10-150				
13C9_PFNA		95	25-150				
d-EtFOSA		83	10-150				
d5-EtFOSAA		94	25-150				
d9-EtFOSE		95	10-150				
d-MeFOSA		78	10-150				
d3-MeFOSAA		95	25-150				
d7-MeFOSE		93	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: WQ82993-002

Matrix: Aqueous

Batch: 82993

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/16/2021 1049

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
PFHxS	15	15		1	106	50-150	02/17/2021 1709
PFOS	15	21		1	141	50-150	02/17/2021 1709
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS	92		25-150				
13C2_6:2FTS	85		25-150				
13C2_8:2FTS	94		25-150				
13C2_PFDaA	92		25-150				
13C2_PFHxDA	97		25-150				
13C2_PFTeDA	92		25-150				
13C3_PFBS	93		25-150				
13C3_PFHxS	93		25-150				
13C3-HFPO-DA	98		25-150				
13C4_PFBA	96		25-150				
13C4_PFHpA	100		25-150				
13C5_PFHxA	94		25-150				
13C5_PFPeA	96		25-150				
13C6_PFDA	90		25-150				
13C7_PFUdA	98		25-150				
13C8_PFOA	98		25-150				
13C8_PFOS	94		25-150				
13C8_PFOSA	87		10-150				
13C9_PFNA	94		25-150				
d-EtFOSA	76		10-150				
d5-EtFOSAA	89		25-150				
d9-EtFOSE	87		10-150				
d-MeFOSA	68		10-150				
d3-MeFOSAA	94		25-150				
d7-MeFOSE	85		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  
 Owner Received Date: 2/4/2021

Results Requested By: 2/17/2021

Workorder: 40221875 Workorder Name: LACROSSE WELL 23&24

Report To:		Subcontract To:		Requested Analysis:											
Christopher Hyska Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436		Pace Analytical West Columbia 106 Vantage Point Drive West Columbia, SC 29172 Phone (803)791-9700		<div style="text-align: right;">   <b>WB06013</b>            KLC2         </div>											
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Unpreserved	Preserved Containers					LAB USE ONLY			
1	282-0	PS	2/3/2021 14:57	40221858006	Water	2								X	
2															
3															
4															
5															
Transfers		Released By	Date/Time	Received By	Date/Time	Comments									
1		<i>[Signature]</i>	2/5/21 1605			IR77 - MDL reporting - Quote 23482									
2						Rush TAT!									
3		FedEx	2/6/21 1238	<i>[Signature]</i>	2/6/21 1238										
Cooler Temperature on Receipt		3.7°C		Custody Seal Y or (N)		Received on Ice (Y) or N		Samples Intact (Y) 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.

(Please Print Clearly)

Company Name: The OS Group  
 Branch/Location:  
 Project Contact: Steve Oseseck  
 Phone:  
 Project Number:  
 Project Name: LaCrosse Well 23+24  
 Project State:  
 Sampled By (Print): Kristie Tweed  
 Sampled By (Sign): Kristie Tweed  
 PO #:  
 Regulatory Program:



UPPER MIDWEST REGION  
 MN: 612-807-1700 WI: 920-460-2435

Page 1 of 40221875

40221856

**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\*

DATE	TIME	MATRIX	ANALYZED	1"
2/23/21	1:45	DW	X	1"
2/24			X	1"
2/18			X	1"
			X	1"
2:37			X	1"
2:57			X	1"
			X	1"

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 = Soil DW = Drinking Water  
 C = Charcoal GW = Ground Water  
 D = DI SW = Surface Water  
 S = Sol YW = Waste Water  
 SL = Sludge WP = WFO

Quote #:  
 Mail To Contact: Steve Oseseck  
 Mail To Company: The OS Group  
 Mail To Address: 444 Wisconsin LaCrosse, WI 54601  
 Invoice To Contact: Steve Oseseck  
 Invoice To Company: The OS Group  
 Invoice To Address: 444 Wisconsin LaCrosse, WI 54601  
 Invoice To Phone: 608-433-9388

CLIENT COMMENTS  
 LAB COMMENTS (Lab Use Only)  
 Profile #

① Update per Steve O. 2/4/2021

1" Samples moved to separate CoC for split reporting per John S. 2/4/21 CDH

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)  
 Date Needed:  
 Transmit Prelim Rush Results by (complete what you want):  
 Email #1:  
 Email #2:  
 Telephone:  
 Fax:

Relinquished By: Kristie Tweed Date/Time: 02-03-21 4:00  
 Relinquished By: FEDEX Date/Time: 2/4/21 09:15  
 Relinquished By:  
 Relinquished By:

Received By: Date/Time:  
 Received By: Wendy Hackel Date/Time: 2/4/21 09:15  
 Received By:  
 Received By:

PACE Project No. 40221856  
 Receipt Temp: NOT °C  
 Sample Receipt pH: OK / Adjusted  
 Cooler Custody Seal Present / Not Present: Intact / Not Intact

PACE ANALYTICAL SERVICES, LLC



### Sample Preservation Receipt Form

Client Name: OS Group

Project # 40221856

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

40221875

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 52	NaOH+Zn Act pH 50	NaOH pH 212	HNO3 pH 52	pH after adjusted	Volume (mL)		
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	HG9H	VG9M	VG9D	JGFU	JG9U	WGFU								WPFU	SP5T
001																															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
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016																															2.5/5/10
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 8 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			

\* Update per John S - OS Group, 2/4/21 CDH

Page 1 of 2

# PACE ANALYTICAL SERVICES, LLC

 1241 Fellowship 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: OS Group Project #: **WO#: 40221875**  
 Courier:  CS Logistics  Fed Ex  Speedee  UPS  Waltoe  
 Client  Pace Other: \_\_\_\_\_  
 Tracking #: 7833 5693 8925

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 - N/A Type of Ice:  Wet  Blue  Dry  None  Samples on ice, cooling process has begun  
 Cooler Temperature: Uncorr: 2.0°C  
 Temp Blank Present:  yes  no Biological Tissue is Frozen:  yes  no  
 Temp should be above freezing to 8°C  
 Biota Samples may be received at < 0°C if shipped on Dry Ice.

Person examining contents:	
Date: <u>2/1/21</u>	Initials: <u>MD</u>
Labeled By Initials: <u>MD</u>	

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>proj # + state / pg# / phone / no analyses 2/1/21</u>
Chain of Custody Relinquished:	<input 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:		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: <u>MD</u>	<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: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PM Review is documented electronically in LIMS. By releasing the project, the PM acknowledges they have reviewed the sample log:

Page 2 of 2



# PACE ANALYTICAL SERVICES, LLC



**Samples Receipt Checklist (SRC) (ME0018C-15)**

Issuing Authority: Pace ENV - WCOL

WB06013

7/2020  
1 of 1

## Sample Receipt Checklist (SRC)

Client: Pace

Cooler Inspected by/date: KBS, 2/6/21 Lot #: KL02

Means of receipt: <input type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: <u>nc</u> Chlorine Strip ID: <u>nc</u> Tested by: <u>nc</u>	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: <u>nc</u>	
<u>3.7/3.7 °C</u> <u>nc</u> °C <u>nc</u> °C <u>nc</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 type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14. Were all samples received within 1/2 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 >"pca-size" (1/4" 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 <sub>3</sub> /TKN/cyanide/phenol/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 #
<b>Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)</b>	
Sample(s) <u>nc</u> were received incorrectly preserved and were adjusted accordingly	
in sample receiving with <u>nc</u> mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # <u>nc</u>	
Time of preservation <u>nc</u> . If more than one preservative is needed, please note in the comments below.	
Sample(s) <u>nc</u> were received with bubbles >6 mm in diameter.	
Sample(s) <u>nc</u> were received with TRC > 0.5 mg/L (if #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) with Shealy ID: <u>nc</u>	
SR barcode labels applied by: <u>KBS</u> Date: <u>2/6/21</u>	

Comments:

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444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 22, 2021

[Redacted]

3114 Howry Avenue  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2511 Second Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-378-0  
Sampling Point # 378-0  
Sample Date: February 3, 2021

Dear [Redacted]:

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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.2 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	2.7 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.6 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.5 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	35 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	1.1 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

<sup>b</sup> 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.

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>Bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2511 Second Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-378-0  
Sampling Point # 378-0  
February 22, 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](mailto: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.

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

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: WB06015-001
Description: 378-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1315	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221856

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/12/2021 2058	JJG	02/11/2021 1217	82588

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	1.6	J	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	ND		3.6	0.90	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.1	J	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	3.5	J	3.6	0.90	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	35		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	1.2	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	2.7	J	3.6	0.90	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		103	25-150
13C2_6:2FTS		99	25-150
13C2_8:2FTS		113	25-150
13C2_PFDaA		98	25-150
13C2_PFHxDA		98	25-150
13C2_PFTeDA		96	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB06015-001
Description: 378-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1315	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221856

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		101	25-150
13C3_PFHxS		98	25-150
13C3-HFPO-DA		97	25-150
13C4_PFBa		106	25-150
13C4_PFHpA		102	25-150
13C5_PFHxA		107	25-150
13C5_PFPeA		105	25-150
13C6_PFDa		102	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		109	25-150
13C8_PFOS		95	25-150
13C8_PFOSA		98	10-150
13C9_PFNA		103	25-150
d-EtFOSA		83	10-150
d5-EtFOSAA		96	25-150
d9-EtFOSE		95	10-150
d-MeFOSA		81	10-150
d3-MeFOSAA		98	25-150
d7-MeFOSE		93	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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



444 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 22, 2021

[Redacted]

2511 Second Avenue West  
La Crosse, WI 54603

Subject: Private Well Sampling Results  
2511 Second Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-378-0  
Sampling Point # 378-0  
Sample Date: February 3, 2021

Dear [Redacted]:

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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	1.2 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	2.7 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.6 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.5 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	35 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-1-pentanesulfonic acid (PFPeS) CAS # 2706-91-4	1.1 ppt	None Established <sup>c</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.

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

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

<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.

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

<sup>Bl</sup> Detected in the method blank. Possible lab contaminant.



Private Well Sampling Results for  
2511 Second Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-378-0  
Sampling Point # 378-0  
February 22, 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](mailto: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.

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

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: WB06015-001
Description: 378-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1315	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221856

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/12/2021 2058	JJG	02/11/2021 1217	82588

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	1.6	J	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	ND		3.6	0.90	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	1.1	J	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	3.5	J	3.6	0.90	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	35		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	1.2	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	2.7	J	3.6	0.90	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		103	25-150
13C2_6:2FTS		99	25-150
13C2_8:2FTS		113	25-150
13C2_PFDaA		98	25-150
13C2_PFHxDA		98	25-150
13C2_PFTeDA		96	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB06015-001
Description: 378-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1315	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221856

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		101	25-150
13C3_PFHxS		98	25-150
13C3-HFPO-DA		97	25-150
13C4_PFBa		106	25-150
13C4_PFHpA		102	25-150
13C5_PFHxA		107	25-150
13C5_PFPeA		105	25-150
13C6_PFDa		102	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		109	25-150
13C8_PFOS		95	25-150
13C8_PFOsA		98	10-150
13C9_PFNa		103	25-150
d-EtFOSA		83	10-150
d5-EtFOSAA		96	25-150
d9-EtFOSE		95	10-150
d-MeFOSA		81	10-150
d3-MeFOSAA		98	25-150
d7-MeFOSE		93	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 22, 2021

██████████  
 2515 Second Avenue West  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 2515 Second Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-379-0  
 Sampling Point # 379-0  
 Sample Date: February 3, 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. **PLEASE NOTE: As a quality check, we collected a “duplicate” sample from your well, and it was sent to the lab without the sampling point number, (identified as Dup #11). The results were similar. The higher of the two results are presented in the table below:**

**Sample Results**

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	2.3 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	5.5 ppt	20 ppt <sup>a,b</sup>	

Private Well Sampling Results for  
 2515 Second Avenue West, La Crosse, WI 54603  
 Tax Parcel # 4-379-0  
 Sampling Point # 379-0  
 February 22, 2021

Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.5 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	3.5 ppt	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	16 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	Not Detected	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	Not Detected	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>

<sup>a</sup> Public health enforcement standard (ES) recommended by DHS.  
<sup>b</sup> 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.  
<sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation.  
<sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code.  
<sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L)  
<sup>Bl</sup> Detected in the method blank. Possible lab contaminant.

Private Well Sampling Results for  
2515 Second Avenue West, La Crosse, WI 54603  
Tax Parcel # 4-379-0  
Sampling Point # 379-0  
February 22, 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](mailto: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.

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

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: WB06015-002
Description: 379-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1404	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221856

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/12/2021 2119	JJG	02/11/2021 1217	82588

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		7.8	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		7.8	2.0	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	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		16	3.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.5	J	3.9	0.98	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	3.5	J	3.9	0.98	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	16		3.9	0.98	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.3	J	3.9	0.98	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	5.5		3.9	0.98	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		104	25-150
13C2_6:2FTS		100	25-150
13C2_8:2FTS		107	25-150
13C2_PFDaA		93	25-150
13C2_PFHxDA		98	25-150
13C2_PFTeDA		97	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB06015-002
Description: 379-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1404	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221856

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		101	25-150
13C3_PFHxS		100	25-150
13C3-HFPO-DA		97	25-150
13C4_PFBa		107	25-150
13C4_PFHpA		102	25-150
13C5_PFHxA		105	25-150
13C5_PFPeA		102	25-150
13C6_PFDa		101	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		110	25-150
13C8_PFOS		87	25-150
13C8_PFOsA		103	10-150
13C9_PFNa		96	25-150
d-EtFOsA		86	10-150
d5-EtFOsAA		94	25-150
d9-EtFOsE		95	10-150
d-MeFOsA		88	10-150
d3-MeFOsAA		99	25-150
d7-MeFOsE		89	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB06015-003
Description: DUP-12	Matrix: Aqueous
Date Sampled: 02/03/2021	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221856

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/12/2021 2130	JJG	02/11/2021 1217	82588

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		8.4	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
1H,1H,2H,2H-perfluorododecane sulfonic acid (10:2 FTS)	120226-60-0	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		17	4.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.4	J	4.2	1.1	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.5	J	4.2	1.1	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	16		4.2	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	67905-19-5	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-octadecanoic acid (PFODA)	16517-11-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.0	J	4.2	1.1	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		4.2	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		99	25-150
13C2_6:2FTS		106	25-150
13C2_8:2FTS		113	25-150
13C2_PFDaA		97	25-150
13C2_PFHxDA		96	25-150
13C2_PFTeDA		95	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB06015-003
Description: DUP-12	Matrix: Aqueous
Date Sampled: 02/03/2021	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221856

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		104	25-150
13C3_PFHxS		104	25-150
13C3-HFPO-DA		100	25-150
13C4_PFBa		109	25-150
13C4_PFHpA		102	25-150
13C5_PFHxA		105	25-150
13C5_PFPeA		104	25-150
13C6_PFDa		103	25-150
13C7_PFUdA		96	25-150
13C8_PFOa		105	25-150
13C8_PFOs		86	25-150
13C8_PFOsA		103	10-150
13C9_PFNa		105	25-150
d-EtFOsA		82	10-150
d5-EtFOsAA		97	25-150
d9-EtFOsE		98	10-150
d-MeFOsA		88	10-150
d3-MeFOsAA		95	25-150
d7-MeFOsE		94	10-150

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LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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 21<sup>st</sup> Street South · La Crosse, Wisconsin · 54601

February 20, 2021

██████████  
 3049 Edgewater Lane  
 La Crosse, WI 54603

Subject: Private Well Sampling Results  
 3049 Edgewater Lane, La Crosse, WI 54603  
 Tax Parcel # 4-1704-0  
 Sampling Point # 1704-0  
 Sample Date: February 3, 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 <sup>e</sup> )	
N-Ethyl Perfluorooctane sulfonamide (NEtFOSA) CAS # 4151-50-2	Not Detected	20 ppt <sup>a,b</sup>	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 <sup>a,b</sup>	
N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE) CAS # 1691-99-2	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctane sulfonamide (PFOSA) CAS # 754-91-6	Not Detected	20 ppt <sup>a,b</sup>	
Perfluorooctanoic acid (PFOA) CAS # 335-67-1	4.3 ppt	20 ppt <sup>a,b</sup>	
Perfluorooctanesulfonic acid (PFOS) CAS # 1763-23-1	5.4 ppt	20 ppt <sup>a,b</sup>	

Compound	Sample Result (unit)	Recommended Public Health Standard (unit <sup>e</sup> )
Hexafluoropropylene oxide dimer acid (HPFO-DA; GenX) CAS # 13252-13-6	Not Detected	300 ppt <sup>a</sup>
Perfluorobutanesulfonic acid (PFBS) CAS # 375-73-5	1.5 ppt	450,000 ppt <sup>a</sup>
Perfluorohexanesulfonic acid (PFHxS) CAS # 355-46-4	Not Detected	40 ppt <sup>a</sup>
Perfluorobutanoic acid (PFBA) CAS # 375-22-4	9.4 ppt	10,000 ppt <sup>a</sup>
Perfluorodecanoic acid (PFDA) CAS # 335-76-2	0.95 ppt	300 ppt <sup>a</sup>
Perfluorododecanoic acid (PFDoA) CAS # 307-55-1	Not Detected	500 ppt <sup>a</sup>
Perfluorohexanoic acid (PFHxA) CAS # 307-24-4	1.2 ppt	150,000 ppt <sup>a</sup>
Perfluorononanoic acid (PFNA) CAS # 375-95-1	Not Detected	30 ppt <sup>a</sup>
Perfluorotetradecanoic acid (PFTeA) CAS # 376-06-7	Not Detected	10,000 ppt <sup>a</sup>
Perfluoroundecanoic acid (PFUnA) CAS # 2058-94-8	Not Detected	3,000 ppt <sup>a</sup>
4,8-Dioxa-3H-perfluorononanoic acid (DONA) CAS # 919005-14-4	Not Detected	3,000 ppt <sup>a</sup>
Perfluorooctadecanoic acid (PFODA) CAS # 16517-11-6	Not Detected	400,000 ppt <sup>a</sup>
Perfluoro-n-heptanoic acid (PFHpA) CAS # 375-85-9	1.0 ppt	None Established <sup>c</sup>
Perfluoro-n-pentanoic acid (PFPeA) CAS # 2706-90-3	1.3 ppt	None Established <sup>c</sup>
<sup>a</sup> Public health enforcement standard (ES) recommended by DHS. <sup>b</sup> DHS recommends a combined enforcement standard of 20 ng/L and combined preventive action limit of 2 ng/L for PFOSA, NEt-FOSE, NEt-FOSA, NetFOSAA, PFOS, and PFOA. <sup>c</sup> A current standard is not available; the compound is currently under review by DHS for potential public health standard recommendation. <sup>d</sup> Public health enforcement standard (ES) in NR 140, Wisconsin Administrative Code. <sup>e</sup> Units: Parts per trillion (ppt) = nanograms of substance per liter of water (ng/L) <sup>Bl</sup> Detected in the method blank. Possible lab contaminant.		

Private Well Sampling Results for  
3049 Edgewater Lane, La Crosse, WI 54603  
Tax Parcel # 4-1704-0  
Sampling Point # 1704-0  
February 20, 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](mailto: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.

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

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

Attachment: Lab report for your well

February 19, 2021

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

RE: Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221874

Dear Steve Osesek:

Enclosed are the analytical results for sample(s) received by the laboratory on February 04, 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

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## SAMPLE SUMMARY

Project: LACROSSE WELL 23 & 24  
Pace Project No.: 40221874

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
40221856003	1704-0	Water	02/03/21 14:18	02/04/21 14:12

## 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  
 Branch/Location:  
 Project Contact: Steve Oseseck  
 Phone:  
 Project Number:  
 Project Name: Lacrosse Well 23+24  
 Project State:  
 Sampled By (Print): Kristie Tweed  
 Sampled By (Sign): Kristie Tweed  
 PO #:  
 Regulatory Program:



UPPER MIDWEST REGION  
 MN: 612-607-1700 WI: 920-469-2436

Page 1 of  
 40221874

40221856

Page 3 of 24

### 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	Pick Letter	Analyses Requested	Matrix	DATE	TIME	MATRIX
N	A	PFAS WI 36	DW	02-03	1:45	DW
					2:04	
					2:18	
					2:37	
					2:57	

Quote #: 40221856  
 Mail To Contact: Steve Oseseck  
 Mail To Company: The OS Group  
 Mail To Address: 444 21st St S  
Lacrosse, WI 54601  
 Invoice To Contact: Steve Oseseck  
 Invoice To Company: The OS Group  
 Invoice To Address: 444 21st St S  
Lacrosse, WI 54601  
 Invoice To Phone: 608-433-9388  
 CLIENT COMMENTS: Update per Steve O. 2/4/2021 CS  
 LAB COMMENTS (Lab Use Only):  
 Profile #  
 40221874

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	DATE	TIME	MATRIX
001	378-0	02-03	1:45	DW
002	379-0		2:04	
003	1704-0		2:18	
004	Dup 12			
005	96-0		2:37	
006	282-0		2:57	
007	Blank 12			

1\* Samples moved to separate CoC for split reporting per John S. 2/4/21 CDH

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)  
 Date Needed:  
 Transmit Prelim Rush Results by (complete what you want):  
 Email #1:  
 Email #2:  
 Telephone:  
 Fax:  
 Samples on HOLD are subject to special pricing and release of liability

Relinquished By: Kristie Tweed Date/Time: 02-03-21 4:00  
 Relinquished By: Feed Ex Date/Time: 2/4/21 0915  
 Relinquished By:  
 Relinquished By:  
 Relinquished By:

Received By: Vicki Hackett Date/Time: 2/4/21 0915  
 Received By:  
 Received By:  
 Received By:

PACE Project No. 40221856  
 Receipt Temp 20.1 °C  
 Sample Receipt pH 6.2  
 OK / Adjusted  
 Cooler Custody Seal Present / Not Present  
 Intact / Not Intact



# Sample Preservation Receipt Form

Client Name: OS Group

Project # 40221856

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

40221874

Initial when completed:

Date/Time:

Lab Lot# of pH paper:

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


Page 4 of 4

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																																			2.5 / 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
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016																																			2.5 / 5 / 10
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

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

1\* Update per John S - OS Group. 2/4/21 CDH


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

### Sample Condition Upon Receipt Form (SCUR)

**Client Name:** OS Group  
**Courier:**  CS Logistics  Fed Ex  Speedee  UPS  Walco  
 Client  Pace Other: \_\_\_\_\_

Project #: \_\_\_\_\_

**WO#: 40221874**



40221874

**Tracking #:** 7833 5693 8325  
**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 - N/A    **Type of Ice:**  Wet  Blue Dry None     Samples on ice, cooling process has begun  
**Cooler Temperature:** Uncorr: 20.1 / Corr: \_\_\_\_\_  
**Temp Blank Present:**  yes  no    **Biological Tissue is Frozen:**  yes  no

Person examining contents:  
 Date: 2/4/21 / Initials: NDH  
 Labeled By Initials: NDH

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>proj# + state / pg# / phone / no analyses 2/4/21</u>
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:		8.
For Analysis: <input 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: <u>2/4/21</u>	<input checked="" type="checkbox"/> Yes <input checked="" 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: LACROSSE WELLS 23 & 24

Project Number: 40221874

Lot Number: **WB06014**

Date Completed: 02/18/2021

*Karen Coonan*

02/18/2021 6:54 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: WB06014**

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

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## Sample Summary

Pace Analytical Services, LLC

Lot Number: WB06014

Project Name: LACROSSE WELLS 23 & 24

Project Number: 40221874

---

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	1704-0	Aqueous	02/03/2021 1418	02/06/2021

---

(1 sample)

# PACE ANALYTICAL SERVICES, LLC

Detection Summary  
Pace Analytical Services, LLC  
Lot Number: WB06014  
Project Name: LACROSSE WELLS 23 & 24  
Project Number: 40221874

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	1704-0	Aqueous	PFBS	PFAS by ID	1.5	J	ng/L	5
001	1704-0	Aqueous	PFBA	PFAS by ID	9.4		ng/L	5
001	1704-0	Aqueous	PFDA	PFAS by ID	0.95	J	ng/L	6
001	1704-0	Aqueous	PFHpA	PFAS by ID	1.0	J	ng/L	6
001	1704-0	Aqueous	PFHxA	PFAS by ID	1.2	J	ng/L	6
001	1704-0	Aqueous	PFOA	PFAS by ID	4.3		ng/L	6
001	1704-0	Aqueous	PFPeA	PFAS by ID	1.3	J	ng/L	6
001	1704-0	Aqueous	PFOS	PFAS by ID	5.4		ng/L	6

(8 detections)

# PFAS by LC/MS/MS

Client: Pace Analytical Services, LLC	Laboratory ID: WB06014-001
Description: 1704-0	Matrix: Aqueous
Date Sampled: 02/03/2021 1418	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221874

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	02/12/2021 2037	JJG	02/11/2021 1217	82588

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	3.5	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	1.5	J	3.5	0.88	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.5	0.88	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		3.5	0.88	ng/L	1
Perfluoro-n-butyric acid (PFBA)	375-22-4	PFAS by ID SOP	9.4		3.5	0.88	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	0.95	J	3.5	0.88	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.0	J	3.5	0.88	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	1.2	J	3.5	0.88	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.88	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	4.3		3.5	0.88	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	1.3	J	3.5	0.88	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.88	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	5.4		3.5	0.88	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS		115	25-150
13C2_6:2FTS		96	25-150
13C2_8:2FTS		92	25-150
13C2_PFDaA		81	25-150
13C2_PFHxDA		63	25-150
13C2_PFTeDA		71	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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: WB06014-001
Description: 1704-0	Matrix: Aqueous
Date Sampled: 02/03/2021 14:18	Project Name: LACROSSE WELLS 23 & 24
Date Received: 02/06/2021	Project Number: 40221874

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C3_PFBs		87	25-150
13C3_PFHxS		83	25-150
13C3-HFPO-DA		86	25-150
13C4_PFBa		93	25-150
13C4_PFHpA		93	25-150
13C5_PFHxA		96	25-150
13C5_PFPeA		94	25-150
13C6_PFDa		87	25-150
13C7_PFUdA		89	25-150
13C8_PFOA		95	25-150
13C8_PFOS		72	25-150
13C8_PFOSA		88	10-150
13C9_PFNA		91	25-150
d-EtFOSA		81	10-150
d5-EtFOSAA		84	25-150
d9-EtFOSE		73	10-150
d-MeFOSA		73	10-150
d3-MeFOSAA		88	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  
 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  
 H = Out of holding time      W = Reported on wet weight basis

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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: WQ82588-001

Matrix: Aqueous

Batch: 82588

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/11/2021 1217

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	02/12/2021 1331
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	02/12/2021 1331
8:2 FTS	ND		1	8.0	2.0	ng/L	02/12/2021 1331
6:2 FTS	ND		1	8.0	2.0	ng/L	02/12/2021 1331
10:2 FTS	ND		1	8.0	2.0	ng/L	02/12/2021 1331
4:2 FTS	ND		1	8.0	2.0	ng/L	02/12/2021 1331
GenX	ND		1	8.0	2.0	ng/L	02/12/2021 1331
ADONA	ND		1	8.0	2.0	ng/L	02/12/2021 1331
EtFOSA	ND		1	8.0	2.0	ng/L	02/12/2021 1331
EtFOSAA	ND		1	8.0	2.0	ng/L	02/12/2021 1331
EtFOSE	ND		1	8.0	2.0	ng/L	02/12/2021 1331
MeFOSA	ND		1	16	4.0	ng/L	02/12/2021 1331
MeFOSAA	ND		1	8.0	2.0	ng/L	02/12/2021 1331
MeFOSE	ND		1	8.0	2.0	ng/L	02/12/2021 1331
PFBS	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFDS	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFHpS	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFNS	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFOSA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFPeS	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFDOS	ND		1	8.0	2.0	ng/L	02/12/2021 1331
PFHxS	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFBA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFDA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFDoA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFHpA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFHxDA	ND		1	8.0	2.0	ng/L	02/12/2021 1331
PFHxA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFNA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFODA	ND		1	8.0	2.0	ng/L	02/12/2021 1331
PFOA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFPeA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFTeDA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFTTrDA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFUdA	ND		1	4.0	1.0	ng/L	02/12/2021 1331
PFOS	ND		1	4.0	1.0	ng/L	02/12/2021 1331

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		105	25-150
13C2_6:2FTS		114	25-150
13C2_8:2FTS		100	25-150
13C2_PFDoA		109	25-150
13C2_PFHxDA		111	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: WQ82588-001

Matrix: Aqueous

Batch: 82588

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/11/2021 1217

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		111	25-150
13C3_PFBs		106	25-150
13C3_PFHxS		112	25-150
13C3-HFPO-DA		105	25-150
13C4_PFBa		114	25-150
13C4_PFHpA		109	25-150
13C5_PFHxA		117	25-150
13C5_PFPeA		113	25-150
13C6_PFDa		107	25-150
13C7_PFUdA		110	25-150
13C8_PFOA		116	25-150
13C8_PFOs		98	25-150
13C8_PFOsA		104	10-150
13C9_PFNa		117	25-150
d-EtFOsA		85	10-150
d5-EtFOsAA		104	25-150
d9-EtFOsE		106	10-150
d-MeFOsA		86	10-150
d3-MeFOsAA		105	25-150
d7-MeFOsE		98	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: WQ82588-002

Matrix: Aqueous

Batch: 82588

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/11/2021 1217

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	14	14		1	97	50-150	02/12/2021 1342
11CI-PF3OUdS	14	14		1	98	50-150	02/12/2021 1342
8:2 FTS	15	17		1	115	50-150	02/12/2021 1342
6:2 FTS	14	12		1	85	50-150	02/12/2021 1342
10:2 FTS	15	16		1	107	50-150	02/12/2021 1342
4:2 FTS	14	16		1	111	50-150	02/12/2021 1342
GenX	30	32		1	107	50-150	02/12/2021 1342
ADONA	14	15		1	106	50-150	02/12/2021 1342
EtFOSA	15	19		1	125	50-150	02/12/2021 1342
EtFOSAA	15	14		1	94	50-150	02/12/2021 1342
EtFOSE	15	18		1	120	50-150	02/12/2021 1342
MeFOSA	15	14		1	91	50-150	02/12/2021 1342
MeFOSAA	15	14		1	95	50-150	02/12/2021 1342
MeFOSE	15	16		1	104	50-150	02/12/2021 1342
PFBS	13	14		1	102	50-150	02/12/2021 1342
PFDS	15	16		1	108	50-150	02/12/2021 1342
PFHpS	14	16		1	109	50-150	02/12/2021 1342
PFNS	15	14		1	94	50-150	02/12/2021 1342
PFOSA	15	16		1	108	50-150	02/12/2021 1342
PFPeS	14	15		1	104	50-150	02/12/2021 1342
PFDOS	15	13		1	86	50-150	02/12/2021 1342
PFHxS	14	14		1	104	50-150	02/12/2021 1342
PFBA	15	15		1	100	50-150	02/12/2021 1342
PFDA	15	15		1	101	50-150	02/12/2021 1342
PFDoA	15	16		1	104	50-150	02/12/2021 1342
PFHpA	15	15		1	100	50-150	02/12/2021 1342
PFHxDA	15	15		1	101	50-150	02/12/2021 1342
PFHxA	15	15		1	102	50-150	02/12/2021 1342
PFNA	15	16		1	103	50-150	02/12/2021 1342
PFODA	15	14		1	93	50-150	02/12/2021 1342
PFOA	15	16		1	106	50-150	02/12/2021 1342
PFPeA	15	16		1	104	50-150	02/12/2021 1342
PFTeDA	15	15		1	101	50-150	02/12/2021 1342
PFTTrDA	15	17		1	111	50-150	02/12/2021 1342
PFUdA	15	15		1	98	50-150	02/12/2021 1342
PFOS	14	14		1	102	50-150	02/12/2021 1342
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		106	25-150				
13C2_6:2FTS		121	25-150				
13C2_8:2FTS		115	25-150				
13C2_PFDoA		110	25-150				
13C2_PFHxDA		105	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: WQ82588-002

Matrix: Aqueous

Batch: 82588

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/11/2021 1217

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		104	25-150
13C3_PFBs		104	25-150
13C3_PFHxS		105	25-150
13C3-HFPO-DA		104	25-150
13C4_PFBa		108	25-150
13C4_PFHpA		109	25-150
13C5_PFHxA		109	25-150
13C5_PFPeA		108	25-150
13C6_PFDa		105	25-150
13C7_PFUdA		107	25-150
13C8_PFOA		109	25-150
13C8_PFOs		97	25-150
13C8_PFOsA		99	10-150
13C9_PFNa		109	25-150
d-EtFOsA		76	10-150
d5-EtFOsAA		102	25-150
d9-EtFOsE		102	10-150
d-MeFOsA		90	10-150
d3-MeFOsAA		103	25-150
d7-MeFOsE		105	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 - MS

Sample ID: WB06014-001MS

Matrix: Aqueous

Batch: 82588

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/11/2021 1217

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	ND	14	12		1	86	50-150	02/12/2021 2047
11CI-PF3OUdS	ND	14	8.5		1	61	50-150	02/12/2021 2047
8:2 FTS	ND	14	12		1	84	50-150	02/12/2021 2047
6:2 FTS	ND	14	13		1	90	50-150	02/12/2021 2047
10:2 FTS	ND	14	9.8		1	68	50-150	02/12/2021 2047
4:2 FTS	ND	14	11		1	82	50-150	02/12/2021 2047
GenX	ND	30	27		1	92	50-150	02/12/2021 2047
ADONA	ND	14	14		1	100	50-150	02/12/2021 2047
EtFOSA	ND	15	14		1	92	50-150	02/12/2021 2047
EtFOSAA	ND	15	15		1	98	50-150	02/12/2021 2047
EtFOSE	ND	15	15		1	102	50-150	02/12/2021 2047
MeFOSA	ND	15	12		1	82	50-150	02/12/2021 2047
MeFOSAA	ND	15	14		1	95	50-150	02/12/2021 2047
MeFOSE	ND	15	14		1	96	50-150	02/12/2021 2047
PFBS	1.5	13	13		1	88	50-150	02/12/2021 2047
PFDS	ND	14	10		1	71	50-150	02/12/2021 2047
PFHpS	ND	14	12		1	88	50-150	02/12/2021 2047
PFNS	ND	14	11		1	76	50-150	02/12/2021 2047
PFOSA	ND	15	15		1	98	50-150	02/12/2021 2047
PFPeS	ND	14	14		1	100	50-150	02/12/2021 2047
PFDOS	ND	14	7.3		1	51	50-150	02/12/2021 2047
PFHxS	ND	13	12		1	89	50-150	02/12/2021 2047
PFBA	9.4	15	22		1	85	50-150	02/12/2021 2047
PFDA	0.95	15	15		1	104	50-150	02/12/2021 2047
PFDaA	ND	15	13		1	85	50-150	02/12/2021 2047
PFHpA	1.0	15	14		1	87	50-150	02/12/2021 2047
PFHxDA	ND	15	14		1	92	50-150	02/12/2021 2047
PFHxA	1.2	15	14		1	88	50-150	02/12/2021 2047
PFNA	ND	15	14		1	93	50-150	02/12/2021 2047
PFODA	ND	15	11		1	74	50-150	02/12/2021 2047
PFOA	4.3	15	17		1	82	50-150	02/12/2021 2047
PFPeA	1.3	15	14		1	87	50-150	02/12/2021 2047
PFTeDA	ND	15	13		1	89	50-150	02/12/2021 2047
PFTrDA	ND	15	15		1	100	50-150	02/12/2021 2047
PFUdA	ND	15	14		1	92	50-150	02/12/2021 2047
PFOS	5.4	14	21		1	112	50-150	02/12/2021 2047
Surrogate	Q	% Rec	Acceptance Limit					
13C2_4:2FTS		122	25-150					
13C2_6:2FTS		100	25-150					
13C2_8:2FTS		104	25-150					
13C2_PFDaA		84	25-150					
13C2_PFHxDA		67	25-150					

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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 - MS

Sample ID: WB06014-001MS

Matrix: Aqueous

Batch: 82588

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 02/11/2021 1217

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFTeDA		78	25-150
13C3_PFBs		89	25-150
13C3_PFHxS		86	25-150
13C3-HFPO-DA		93	25-150
13C4_PFBa		100	25-150
13C4_PFHpA		97	25-150
13C5_PFHxA		104	25-150
13C5_PFPeA		99	25-150
13C6_PFDa		90	25-150
13C7_PFUdA		90	25-150
13C8_PFOA		97	25-150
13C8_PFOs		70	25-150
13C8_PFOsA		93	10-150
13C9_PFNa		97	25-150
d-EtFOsA		77	10-150
d5-EtFOsAA		83	25-150
d9-EtFOsE		76	10-150
d-MeFOsA		87	10-150
d3-MeFOsAA		90	25-150
d7-MeFOsE		83	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  
 Owner Received Date: 2/4/2021 Results Requested By: 2/25/2021



Workorder: 40221874 Workorder Name: LACROSSE WELL 23&24

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Impresment	Preserved Containers	Requested Analytes
1	1704-0	PS	2/3/2021 14:18	40221856003	Water	2		
2								
3								
4								
5								

WB06014

KLC2

LAB USE ONLY

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	<i>[Signature]</i>	2/5/21 16:00			IR77 - MDL reporting - Quote 23492
2					
3	<i>FedEx</i>	2/6/21 17:50	<i>[Signature]</i>	2/6/21 12:58	


Cooler Temperature on Receipt: -3.7°C Custody Seal Y or (N) Received on Ice (Y) or N Samples Intact (Y) 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.*








 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: OS Group  
 Courier:  CS Logistics  Fed Ex  Speedee  UPS  Waltoe  
 Client  Pace Other: \_\_\_\_\_

Project #:  
**WO# : 40221874**  
  
 40221874

Tracking #: 7833 5193 8925  
 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 - N/A    Type of Ice: VOA Blue Dry None  Samples on ice, cooling process has begun  
 Cooler Temperature: Uncorr: 20.0 / Corr: \_\_\_\_\_  
 Temp Blank Present:  yes  no    Biological Tissue is Frozen:  yes  no

Person examining contents:  
 Date: 2/4/21    Initials: MA  
 Labeled By Initials: MA

Temp should be above freezing to 8°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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>proj# + state / pg# / phone / no analyses 2/4/21</u>
Chain of Custody Relinquished:	<input 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:	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	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input 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: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample log.

Page 2 of 2





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: KBS/2/6/21 Lot: WB06014



WB06014

Means of receipt:  Pace  Client  UPS  FedEx  Other: \_\_\_\_\_

Yes  No 1. Were custody seals present on the cooler?

Yes  No  NA 2. If custody seals were present, were they intact and unbroken?

pH Strip ID: NA Chlorine Strip ID: NA Tested by: NA

Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: NA  
3.9/3.7 °C NA °C NA °C NA °C

Method:  Temperature Blank  Against Bottles IR Gun ID: 5 IR Gun Correction Factor: 0 °C

Method of coolant:  Wet Ice  Ice Packs  Dry Ice  None

Yes  No  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)

Yes  No  NA 4. Is the commercial courier's packing slip attached to this form?

Yes  No 5. Were proper custody procedures (relinquished/received) followed?

Yes  No 6. Were sample IDs listed on the COC?

Yes  No 7. Were sample IDs listed on all sample containers?

Yes  No 8. Was collection date & time listed on the COC?

Yes  No 9. Was collection date & time listed on all sample containers?

Yes  No 10. Did all container label information (ID, date, time) agree with the COC?

Yes  No 11. Were tests to be performed listed on the COC?

Yes  No 12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?

Yes  No 13. Was adequate sample volume available?

Yes  No 14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?

Yes  No 15. Were any samples containers missing/excess (circle one) samples Not listed on COC?

Yes  No  NA 16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any of the VOA vials?

Yes  No  NA 17. Were all DRO/metals/nutrient samples received at a pH of < 2?

Yes  No  NA 18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?

Yes  No  NA 19. Were all applicable NH<sub>3</sub>/TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?

Yes  No  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?

Yes  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) WB06014 were received incorrectly preserved and were adjusted accordingly in sample receiving with 2 mL of circle one: H<sub>2</sub>SO<sub>4</sub>, HNO<sub>3</sub>, HCl, NaOH using SR # NA.

Time of preservation 2. If more than one preservative is needed, please note in the comments below.

Sample(s) NA were received with bubbles >6 mm in diameter.

Samples(s) NA were received with TRC > 0.5 mg/L (If #19 is no) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>) with Shealy ID: NA.

SR barcode labels applied by: KBS Date: 2/6/21

Comments:

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