

Gustavus August 2021 Private Well Analytical Results - PFAS

Analyte	Sample Name		PW-010	PW-012		PW-032	PW-037	PW-038	PW-039	PW-040	PW-059	PW-061
	EPA LHA	Units	8/24/2021	8/26/2021 DUP	8/26/2021	8/24/2021	8/23/2021	8/23/2021	8/23/2021	8/23/2021	8/23/2021	8/26/2021
Perfluorohexanesulfonic acid (PFHxS)	-	ng/L	<1.9	1.9	2.3	<1.9	<2.0	<1.9	<1.9	<1.9	1.5 J	0.93 J
Perfluorohexanoic acid (PFHxA)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	0.84 J
Perfluoroheptanoic acid (PFHpA)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
Perfluorononanoic acid (PFNA)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
Perfluorobutanesulfonic acid (PFBS)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	0.38 J
Perfluorodecanoic acid (PFDA)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
Perfluoroundecanoic acid (PFUnA)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
Perfluorododecanoic acid (PFDoA)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
Perfluorotridecanoic acid (PFTTrDA)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
Perfluorotetradecanoic acid (PFTeA)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)	-	ng/L	<4.7	<4.7	<4.7	<4.7	<4.9	<4.8	<4.7	<4.7	<5.0	<4.8
N-Ethyl perfluorooctane sulfonamidoacetic acid (N-EtFOSAA)	-	ng/L	<4.7	<4.7	<4.7	<4.7	<4.9	<4.8	<4.7	<4.7	<5.0	<4.8
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	-	ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	ng/L	<3.7	<3.8	<3.8	<3.8	<3.9	<3.9	<3.7	<3.8	<4.0	<3.8
Perfluorooctanesulfonic acid (PFOS)	70†	ng/L	<1.9	4.2	4.3	<1.9	<2.0	<1.9	<1.9	<1.9	<2.0	<1.9
Perfluorooctanoic acid (PFOA)		ng/L	<1.9	<1.9	<1.9	<1.9	<2.0	<1.9	<1.9	<1.9	0.85 JH*	1.8 J
LHA Combined (PFOS + PFOA)	70†	ng/L	N/A	4.2 ‡	4.3 ‡	N/A	N/A	N/A	N/A	N/A	0.85 JH*‡	1.8 J‡

Notes: Sample results reported in TestAmerica Work Order J78307-1

ng/L nanograms per liter, equivalent to parts per trillion

EPA Environmental Protection Agency

LHA Lifetime Health Advisory

† EPA LHA level is 70 ppt for PFOS and PFOA combined.

MDL method detection limit

LOQ limit of quantitation, used as the reporting limit

DUP Field-duplicate sample

< Analyte not detected; listed as <LOQ unless otherwise flagged due to quality-control (QC) failures.

Bold Result exceeds EPA LHA.

J Estimated concentration, detected between the MDL and LOQ. Flag applied by the laboratory.

J* Estimated concentration due to a laboratory QC failure. Flag applied by Shannon & Wilson, Inc.

JH* Result considered estimated, biased high, due to a QC failure. Flag applied by Shannon & Wilson, Inc.

‡ Minimum concentration, the LHA combined concentration includes one or more result that is not detected greater than the MDL.

N/A Not applicable. The LHA Combined concentration could not be calculated because PFOS and PFOA were not detected in the project sample.

Gustavus August 2021 Private Well Analytical Results - PFAS

Analyte	Sample Name		PW-1001 (NPS Well)		PW-203	PW-204.1		PW-205.1	PW-207	PW-211	PW-212	PW-219
	EPA LHA	Units	8/25/2021 DUP	8/25/2021	8/26/2021	8/24/2021 DUP	8/24/2021	8/24/2021	8/24/2021	8/23/2021	8/25/2021	8/23/2021
Perfluorohexanesulfonic acid (PFHxS)	-	ng/L	7.7	8.2	0.80 J	25	25	1.0 J	0.95 J	0.83 J	<1.9	<1.9
Perfluorohexanoic acid (PFHxA)	-	ng/L	4.0	3.7	<1.9	7.2	8.0	<1.9	<1.9	<1.9	<1.9	<1.9
Perfluoroheptanoic acid (PFHpA)	-	ng/L	2.1	2.1	<1.9	3.1	2.7	<1.9	<1.9	<1.9	<1.9	<1.9
Perfluorononanoic acid (PFNA)	-	ng/L	<1.8	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
Perfluorobutanesulfonic acid (PFBS)	-	ng/L	1.2 J	1.2 J	<1.9	2.8	2.2	<1.9	0.66 J	0.45 J	<1.9	<1.9
Perfluorodecanoic acid (PFDA)	-	ng/L	<1.8	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
Perfluoroundecanoic acid (PFUnA)	-	ng/L	<1.8	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
Perfluorododecanoic acid (PFDoA)	-	ng/L	<1.8	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
Perfluorotridecanoic acid (PFTrDA)	-	ng/L	<1.8	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
Perfluorotetradecanoic acid (PFTeA)	-	ng/L	<1.8	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)	-	ng/L	<4.6	<4.9	<4.7	<4.8	<4.8	<4.7	<4.6	<4.8	<4.7	<4.7
N-Ethyl perfluorooctane sulfonamidoacetic acid (N-EtFOSAA)	-	ng/L	<4.6	<4.9	<4.7	<4.8	<4.8	<4.7	<4.6	<4.8	<4.7	<4.7
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	-	ng/L	<1.8	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	-	ng/L	<1.8	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	-	ng/L	<1.8	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	ng/L	<3.7	<3.9	<3.8	<3.9	<3.9	<3.7	<3.7	<3.8	<3.7	<3.8
Perfluorooctanesulfonic acid (PFOS)	70†	ng/L	7.8	8.1	<1.9	39	44	<1.9	<1.9	<1.9	<1.9	<1.9
Perfluorooctanoic acid (PFOA)		ng/L	3.7	3.3	<1.9	2.5	2.4	<1.9	0.89 J	<1.9	<1.9	<1.9
LHA Combined (PFOS + PFOA)	70†	ng/L	12	11	N/A	42	46	N/A	0.89 J‡	N/A	N/A	N/A

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‡ Minimum concentration, the LHA combined concentration includes one or more result that is not detected greater than the MDL.

N/A Not applicable. The LHA Combined concentration could not be calculated because PFOS and PFOA were not detected in the project sample.

Gustavus August 2021 Private Well Analytical Results - PFAS

Analyte	Sample Name		PW-221	PW-230	PW-240	PW-401		PW-419	PW-438	PW-467
	EPA LHA	Units	8/24/2021	8/26/2021	8/24/2021	8/23/2021 DUP	8/23/2021	8/25/2021	8/23/2021	8/25/2021
Perfluorohexanesulfonic acid (PFHxS)	-	ng/L	<1.8	1.8 J	1.7 J	4.2 J*	3.1 J*	<18	2.4	27
Perfluorohexanoic acid (PFHxA)	-	ng/L	<1.8	<1.9	<2.0	1.5 J	1.5 J	<18	<1.9	9.3
Perfluoroheptanoic acid (PFHpA)	-	ng/L	<1.8	<1.9	<2.0	0.65 J	<1.9	<18	<1.9	3.5
Perfluorononanoic acid (PFNA)	-	ng/L	<1.8	<1.9	<2.0	<1.9	<1.9	<18	<1.9	<1.9
Perfluorobutanesulfonic acid (PFBS)	-	ng/L	<1.8	<1.9	<2.0	0.42 J	<1.9	<18	1.0 J	2.9
Perfluorodecanoic acid (PFDA)	-	ng/L	<1.8	<1.9	<2.0	<1.9	<1.9	<18	<1.9	<1.9
Perfluoroundecanoic acid (PFUnA)	-	ng/L	<1.8	<1.9	<2.0	<1.9	<1.9	<18	<1.9	<1.9
Perfluorododecanoic acid (PFDoA)	-	ng/L	<1.8	<1.9	<2.0	<1.9	<1.9	<18	<1.9	<1.9
Perfluorotridecanoic acid (PFTTrDA)	-	ng/L	<1.8	<1.9	<2.0	<1.9	<1.9	<18	<1.9	<1.9
Perfluorotetradecanoic acid (PFTeA)	-	ng/L	<1.8	<1.9	<2.0	<1.9	<1.9	<18	<1.9	<1.9
N-Methyl perfluorooctane sulfonamidoacetic acid (N-MeFOSAA)	-	ng/L	<4.6	<4.8	<5.0	<4.8	<4.8	<46	<4.8	<4.7
N-Ethyl perfluorooctane sulfonamidoacetic acid (N-EtFOSAA)	-	ng/L	<4.6	<4.8	<5.0	<4.8	<4.8	<46	<4.8	<4.7
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9CI-PF3ONS)	-	ng/L	<1.8	<1.9	<2.0	<1.9	<1.9	<18	<1.9	<1.9
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	-	ng/L	<1.8	<1.9	<2.0	<1.9	<1.9	<18	<1.9	<1.9
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	-	ng/L	<1.8	<1.9	<2.0	<1.9	<1.9	<18	<1.9	<1.9
Hexafluoropropylene oxide dimer acid (HFPO-DA)	-	ng/L	<3.7	<3.8	<4.0	<3.8	<3.8	<37	<3.9	<3.8
Perfluorooctanesulfonic acid (PFOS)	70†	ng/L	1.0 J	2.0	<2.0	16 J*	22 J*	<18	3.8	69
Perfluorooctanoic acid (PFOA)		ng/L	<1.8	1.1 J	<2.0	<1.9	<1.9	<18	<1.9	2.5
LHA Combined (PFOS + PFOA)	70†	ng/L	1.0 J‡	3.1 J	N/A	16 J*‡	22 J*‡	N/A	3.8 ‡	72

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