Public Education Notice

Important Information About Your Drinking Water
Spirit Lake Water Management Public Water System

On 02/17/2022, a sample of drinking water from the Spirit Lake Water Management Public Water System was collected to test for per- and polyfluoroalkyl substances (PFAS).

Results from the water sample showed that perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) **were not "detected" (i.e., found at or above EPA's Minimum Reporting Level)**. A total of 16 additional PFAS compounds, for which EPA has not established a Drinking Water Health Advisory, were also not detected. See links provided below where you can access this information.

Below are your detailed results for PFOA and PFOS:

Sampling Location	**PFOA parts per trillion (ppt)**	**PFOS (ppt)**	**PFOA + PFOS (ppt) Total**
TP01 - TREATMENT PLANT SP01 – SAMPLE POINT	Less than Minimum Reporting Level (< MRL)	< MRL	< MRL

NOTE: <MRL indicates that the lab did not measure the contaminant in the water sample at or above the established minimum reporting level.

What are PFAS?

PFAS are a group of man-made chemicals that have been in use since the 1940s. PFAS are (or have been) found in a wide array of consumer products and as an ingredient in firefighting foam. PFAS manufacturing and processing facilities, airports, and military installations are some of the contributors to PFAS releases into the air, soil, and water. Because of their widespread use, most people have been exposed to PFAS, and there is evidence that exposure to certain PFAS may lead to adverse health effects.

What is EPA doing about PFAS?

In May of 2016, EPA established life-time health advisories for PFOA and PFOS in drinking water of 70 parts per trillion (ppt). EPA's health advisory levels are non-enforceable and nonregulatory and provide important technical information to states and public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. However, EPA's preliminary review of new data and analyses indicates that the levels at which negative health effects could occur for PFOA and PFOS are much lower than previously understood – including near zero for certain health effects. EPA is concerned about the public health implications of these preliminary findings and will move as quickly as possible to issue updated health advisories for PFOA and PFOS that reflect this new science and input from the Science Advisory Board. Concurrently, EPA will continue to develop a proposed PFAS National Drinking Water Regulation for publication in Fall 2022. EPA anticipates finalizing the rule in fall of 2023.

For More Information

Contact Name: Pernell Jackson

Contact Phone and email: 701-766-1209 / sltwr-op3@spiritlakenation.com

For information on PFOS, PFOA, and other PFAS, including possible health outcomes, you may visit these websites:

- x Basic information, EPA actions to address PFAS, and links to informational resources: www.epa.gov/pfas

- x Tribal PFAS information on sample results for all PFAS analytes: https://www.epa.gov/tribaldrinkingwater

- x Health information, exposure, and links to additional resources for PFAS in drinking water: www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoaand-pfos

Per- and Polyfluoroalkyl Substances (PFAS) in your Drinking Water

Basic Information

Per- and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals that have been manufactured and used by many different types of industries since the 1940s. There are thousands of types of PFAS chemicals, some of which have been more widely used than others. They can be found in many different consumer, commercial, and industrial products. Because of the number of PFAS and limited information for many of the chemicals it is challenging to assess their potential human health and environmental risks.

The public may be exposed to PFAS if present in consumer products, food, and drinking water. Drinking water may be impacted in communities where these chemicals have contaminated the water supply. Such contamination is typically localized and associated with a specific facility, for example, an industrial facility where these chemicals were produced or used to manufacture other products or an airfield where they were used for firefighting or training exercises.

Current scientific research has shown links between exposure to some PFAS chemicals and adverse health outcomes. Research is ongoing to determine how different levels of exposure to different PFAS can lead to particular health effects. Research is also underway to better understand the health effects associated with low level exposure to PFAS over long periods of time, especially in children.

Questions and Answers

What are the potential sources of PFAS?

PFAS can be present in our water, soil, and air as well as materials found in our homes or workplaces, including:

x **Soil and water at or near waste sites** – at landfills, disposal sites, and hazardous waste sites. x **Fire extinguishing foam** – in aqueous film-forming foams (or AFFFs) used to extinguish flammable liquid-based fires. Such foams are used in training and emergency response events at locations such as airports, shipyards, military bases, firefighting training facilities, chemical plants, and refineries.

x **Manufacturing or chemical production facilities that produce or use PFAS** – for example at chrome plating, electronics, and certain textile and paper manufacturers.

x **Certain types of food** – for example if processed with equipment that used PFAS or grown in PFAS-contaminated soil or water.

x **Food packaging using PFAS-containing materials** – for example in grease-resistant paper, fast food containers/wrappers, microwave popcorn bags, pizza boxes, and candy wrappers. x **Household products** – for example in stain and water-repellent used on carpets, upholstery, clothing, and other fabrics; cleaning products; non-stick cookware; paints, varnishes, and sealants.

x **Personal care products** – for example in certain shampoo, dental floss, and cosmetics.

x **Drinking water** – in contaminated public drinking water systems and private drinking water wells.

What is a health advisory? How is it different than a drinking water regulation?

Health advisories provide information on contaminants that can cause human health effects above the advisory level and are known or anticipated to occur in drinking water. EPA's health advisories are nonenforceable and non-regulatory and provide technical information to state agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination.

EPA has established health advisories for PFOA and PFOS (individually, and as the sum of the two) at the level of 70 parts per trillion. However, EPA's preliminary review of new data and analyses indicates that the levels at which negative health effects could occur for PFOA and PFOS are much lower than previously understood – including near zero for certain health effects. EPA is concerned about the public health implications of these preliminary findings and will move as quickly as possible to issue updated health advisories for PFOA and PFOS that reflect this new science and input from the Science Advisory Board.

Is EPA developing a federally enforceable level for PFAS?

EPA is preparing to propose a national primary drinking water regulation for PFOA and PFOS for public drinking water systems across the country in the fall of 2023. The agency is continuing to evaluate the emerging science for additional PFAS chemicals and considering regulation of groups of PFAS.

EPA also announced a proposal to collect new data for 29 PFAS from many public drinking water systems under the fifth Unregulated Contaminant Monitoring Rule (UCMR 5). The new data will be used to better understand occurrence and prevalence of these PFAS in the nation's drinking water.

Some states have established state-specific regulations or recommended levels for PFOA, PFOS and/or other PFAS.

What actions are being taken by the EPA to address PFAS in drinking water?

President Biden has highlighted the importance of, and his commitment to, tackling PFAS pollution and protecting public health and the environment. EPA is committed to taking action to better understand and ultimately reduce the potential risks caused by these chemicals, including how to safely dispose of PFAS, clean up PFAS in the environment, and address PFAS contamination in water. EPA's actions to address these chemicals will be underpinned by science and will support the agency's efforts to develop effective regulation and provide improved public health protections for all Americans.

How can I remove PFAS from my drinking water?

In home treatment of drinking water to remove PFAS include activated carbon filtration, reverse osmosis (RO), and anion exchange treatment. Independent product testing information can be found on the following sites: PFAS (wqa.org), PFOA/PFOS in Drinking Water | NSF International

Can I boil the water to remove PFAS?

No; PFAS cannot be removed by heating or boiling water.

What is a safe level for PFAS other than PFOA and PFOS?

In 2016 EPA established health advisories for PFOA and PFOS in drinking water. EPA's health advisory levels for PFOA and PFOS is 70 parts per trillion. However, EPA's preliminary review of new data and analyses indicates that the levels at which negative health effects could occur for PFOA and PFOS are much lower than previously understood – including near zero for certain health effects. EPA is concerned about the public health implications of these preliminary findings and will move as quickly as possible to issue updated health advisories for PFOA and PFOS that reflect this new science and input from EPA Science Advisory Board.

The information about PFAS in drinking water is evolving. EPA has not established drinking water health advisories for PFAS compounds other than PFOA and PFOS. The agency and other research organizations are actively working to better understand potential health risks for other PFAS in drinking water.

Frequently Asked Questions about Manganese in Drinking Water

Q. What is manganese and where does it come from?

A. Manganese is a common, naturally occurring element found in rocks, soil, water, air, and the food we eat.

Q. How are people exposed to manganese?

A. Most of the general population is exposed to manganese through the food they eat. Grains, beans, nuts, seeds, leafy vegetables, and teas are rich in manganese. Manganese is also found in breastmilk and infant formula. ***Although the primary source of exposure to manganese is food, drinking water can increase the overall dietary intake of manganese.***

Q. What are EPA's Health Advisories for Manganese?

A. • Bottle-Fed infants and infants younger than 6 months old: 0.3 mg/L or 300 µg/L (EPA 10-day Health Advisory level)

- Children older than 6 months and adults: 1 mg/L or 1000 µg/L (EPA's One-Day and 10-day level)
- EPA's Lifetime Health Advisory value is 0.3mg/L (or 300 µg/L)

Health advisories (HAs) are concentrations in drinking water at or below which health effects are not anticipated over a specific duration. For instance, the 10 day health advisory above shows that for bottle-fed infants and infants under 6 months of age are not expected to see health effects until they ingest 0.3 mg/L or 300 µg/L of manganese in a 10-day period. For manganese, drinking water concentrations above the lifetime HA are not necessarily harmful to much of the population. An individual's nutritional requirements for manganese and potential for harmful health effects due to exposure may be highly variable. In fact, some adults consume more than 10 mg/day of manganese in their diet without experiencing any harmful health effects. However, bottle-fed infants who drink water containing more than 0.3 mg/L of manganese over a period of 10 days may have negative neurological effects. People who have decreased ability to excrete manganese, such as those with liver disease, and the elderly, are more prone to the negative effects of elevated manganese exposure than the general population.

Q. Is manganese regulated in drinking water?

A. No. There is no National Drinking Water Regulation (NPDWR) for manganese. The Safe Drinking Water Act (SDWA) requires the EPA to evaluate unregulated drinking water contaminants. EPA included manganese on the fourth Contaminant Candidate List after considering new health effects information. The Agency has gathered occurrence data for manganese in public drinking water systems as part of the fourth Unregulated Contaminant Monitoring Rule (UCMR 4). The next step of the SDWA process will be for the Agency to consider this occurrence information and available health effects information to evaluate whether EPA should develop a NPDWR for manganese.

Q. Why does the EPA have a "secondary standard" for manganese in drinking water?

A. Manganese is among 15 contaminants for which the EPA has established National Secondary Drinking Water Regulations ("secondary standards") that set nonmandatory water quality standards. They are intended as guidelines to assist public water systems in managing their drinking water for aesthetic considerations. The EPA's secondary-standard concentration for manganese is 0.05 mg/L (or 50 µg/L) and addresses potential staining of plumbing fixtures and laundry, taste, and color effects that may occur above that concentration.

Q. How does a utility reduce or remove manganese from water?

B. Manganese levels in drinking water may be controlled through source water management prior to water treatment and distribution. For example, a groundwater system may pump water from alternate wells, or a surface water system may use a multi-level intake to utilize source water with lower background manganese concentrations.

In addition to source water management, multiple treatment options are available. Prior to selecting a treatment option, the utility should conduct monitoring to characterize the concentration and form of manganese (e.g., dissolved, particulate, colloidal) in the source water, in order to determine the most effective treatment option. Chemical oxidation followed by precipitate removal, absorption and catalytic oxidation, ion exchange, and lime softening are effective at reducing manganese levels in drinking water.

Q. How does a homeowner remove manganese from water?

A. Water softeners and reverse osmosis have been shown to be effective at lowering manganese levels in tap water, depending on the form of manganese in your water (dissolved or particulate), and concentration. ***Do not boil water to reduce manganese. Boiling will concentrate manganese in drinking water.***

It's important to verify that the filter, purifier, or treatment system is certified to the applicable standard for the reduction of the manganese. Filters found in refrigerators, water pitchers, or filters installed on a home water tap are not effective at removing manganese. Please check with the filter manufacturer for specific details on manganese removal and proper filter maintenance. Any type of treatment device requires regular maintenance, such as changing filters, cleaning scale build-up, maintaining adequate salt levels in brine tanks, or disinfecting the unit. Failure to properly maintain a unit reduces its effectiveness and, in some cases, may make the water quality worse. Continued maintenance, either by a service contract or by the individual, is necessary for the life of the device along with regular water testing to ensure the device is working properly.

Q. If the manganese in my drinking water is currently elevated, should I expect it to return to "normal" levels quickly?

A. The concentration of manganese and other naturally occurring elements does not change significantly over short periods. This is particularly true if your water system relies on groundwater as its source. Treatment at the public water system or in-home may be necessary to reduce high concentrations of manganese.

For more information:

EPA's Office of Ground water and Drinking Water:
https://www.epa.gov/groundwater-and-drinking-water

EPA's Drinking Water Health Advisory for Manganese:
https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf

EPA's Secondary Drinking Water Standards:
https://www.epa.gov/dwstandardsregulations/secondary-drinking-waterstandards-guidance-nuisance-chemicals

EPA's Drinking Water Criteria Document for Manganese:
https://www.epa.gov/sites/default/files/2018-12/documents/dwcriteriamanganese.pdf

ANALYTICAL SUMMARY REPORT

March 04, 2022

RATES
1306 Patriot Street
Billings, MT 59105

Work Order: B22021270

Project Name: Spirit Lake Water System 083890025

Energy Laboratories Inc Billings MT received the following 2 samples for RATES on 2/17/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B22021270-001	TP01 SP01 Entry Point	02/16/22 6:00	02/17/22	Drinking Water	Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Total PFAS Compounds in Drinking Water PFAS 537.1 Drinking Water Extraction Metals Digestion by E200.2 Preparation, Dissolved Filtration MCAWW
B22021270-002	Field Blank-12668	02/16/22 6:00	02/17/22	Aqueous	PFAS Compounds in Drinking Water PFAS 537.1 Drinking Water Extraction

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

CLIENT: RATES

Report Date: 03/04/22

Project: Spirit Lake Water System 083890025

Work Order: B22021270

CASE NARRATIVE

PFAS Analyte Translation

Analyte Acronym	Analyte Name
PFHxA	Perfluorohexanoic Acid
PFHpA	Perfluoroheptanoic Acid
PFOA	Perfluorooctanoic Acid

PFNA	Perfluorononanoic Acid
PFDA	Perfluorodecanoic Acid
PFUnA	Perfluoroundecanoic Acid
PFDoA	Perfluorododecanoic Acid
PFTrDA	Perfluorotridecanoic Acid
PFTA	Perfluorotetradecanoic Acid
PFBS	Perfluorobutanesulfonic Acid
PFHxS	Perfluorohexanesulfonic Acid PFOS

Perfluorooctanesulfonic Acid

NEtFOSAA	N-ethylPerfluoroctanesulfonamidoacetic Acid
NMeFOSAA	N-methylPerfluorooctanesulfonamidoacetic Acid
HFPO-DA	Hexafluoropropylene Oxide Dimer Acid
ADONA	4,8-dioxa-3H-perfluorononanoic Acid
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic Acid
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone-1-sulfonic Acid

Surrogates

13C2-PFDA	13C2-Perfluorodecanoic Acid
13C2-PFHxA	13C2-Perfluorohexanoic Acid
13C3-HFPO-DA	13C3-Hexafluoropropylene Oxide Dimer Acid d5-NEtFOSAA

d5-N-ethyl Perfluorooctanesulfanamidoacetic Acid

LABORATORY ANALYTICAL REPORT
Prepared by Billings, MT Branch

Client: RATES
Lab ID: B22021270-001
Client Sample ID: TP01 SP01 Entry Point
Report Date: 03/04/22
PWS #: 083890025 **Name:** SPIRIT LAKE WATER MANAGEMENT RWS
Collection Date: 02/16/22 06:00
Facility ID: TP01
Date Received: 02/17/22
SamplingPoint/Location: SP01 / TP01 SP01 Entry Poin
Matrix: Drinking Water
Project ID: Spirit Lake Water System 083890025
Federal ID#: MT00005
Collector's Name: Jason Michalsky **Contact Phone #:** 406-252-2858
Compliance Sample: NO **Sample Type:** SP

FRDS Analyses	Result	Units	Qual	MCL/ RL QCL	Method	Analysis Date / By
METALS, DISSOLVED						
1032 Manganese	0.007	mg/L		0.001	E200.8	02/24/22 03:45 / car
METALS, TOTAL						
1032 Manganese	0.007	mg/L		0.001	E200.8	02/24/22 04:03 / car
PFAS COMPOUNDS IN DRINKING WATER						
2809 PFHxA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2802 PFHpA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2806 PFOA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2804 PFNA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2807 PFDA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2812 PFUnA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2808 PFDoA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2811 PFTrDA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2810 PFTA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2801 PFBS	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2803 PFHxS	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2805 PFOS	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2817 NEtFOSAA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb
2818 NMeFOSAA	ND	ng/L		2.0	E537.1	03/01/22 14:33 / blb

ND - Not detected at the Reporting Limit (RL)

2816 HFPO-DA	ND	ng/L	2.0		E537.1	03/01/22 14:33 / blb
2815 ADONA	ND	ng/L	2.0		E537.1	03/01/22 14:33 / blb
2813 11Cl-PF3OUdS	ND	ng/L	2.0		E537.1	03/01/22 14:33 / blb
2814 9Cl-PF3ONS	ND	ng/L	2.0		E537.1	03/01/22 14:33 / blb
Surr: 13C2-PFDA	99.0	%REC		70-130	E537.1	03/01/22 14:33 / blb
Surr: 13C2-PFHxA	100	%REC		70-130	E537.1	03/01/22 14:33 / blb
Surr: 13C3-HFPO-DA	75.0	%REC		70-130	E537.1	03/01/22 14:33 / blb
Surr: d5-NEtFOSAA	90.0	%REC		70-130	E537.1	03/01/22 14:33 / blb

Report Definitions: RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

QCL - Quality Control Limit