Annual Drinking Water Quality Report
Big Plains Water & Sewer Special Service District

We're pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water source(s) have been determined to be from ground sources. Our water source is AV Well #1 and AV Well #2 ***Our wells draw from the Triassic Aquifer***

The Drinking Water Source Protection Plan for ***Big Plains SSD*** is available for your review. It contains information about source protection zones, potential contamination sources and management strategies to protect our drinking water. Our sources have been determined to have a low level of susceptibility from potential contamination from sources such as our sources are located in remote and protected areas and have a low susceptibility to potential contamination sources. We have also developed management strategies to further protect our sources from contamination. Please contact us if you have questions or concerns about our source protection plan.

There are many connections to our water distribution system. When connections are properly installed and maintained, the concerns are very minimal. However, unapproved and improper piping changes or connections can adversely affect not only the availability, but also the quality of the water. A cross connection may let polluted water or even chemicals mingle into the water supply system when not properly protected. This not only compromises the water quality but can also affect your health. So, what can you do? Do not make or allow improper connections at your homes. Even that unprotected garden hose lying in the puddle next to the driveway is a cross connection. The unprotected lawn sprinkler system after you have fertilized or sprayed is also a cross connection. When the cross connection is allowed to exist at your home, it will affect you and your family first. If you'd like to learn more about helping to protect the quality of our water, call us for further information about ways you can help.

I'm pleased to report that our drinking water meets federal and state requirements.

If you have any questions about this report or concerning your water utility, please contact Dale E. Harris at 435-877-1190**.** We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They

are held on the first Thursday of every month at 1777 North Meadow Lark Dr. at 6p.m.

Big Plains SSD routinely monitors for constituents in our drinking water in accordance with the Federal and Utah State laws. The following table shows the results of our monitoring for the period of January 1st to December 31st, 2018. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

ND/Low - High - For water systems that have multiple sources of water, the Utah Division of Drinking Water has given water systems the option of listing the test results of the constituents in one table, instead of multiple tables. To accomplish this, the lowest and highest values detected in the multiple sources are recorded in the same space in the report table.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter (ug/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (MCL) - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) - The "Goal"(MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level (MRDL) - The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) - The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Date- Because of required sampling time frames i.e. yearly, 3 years, 4 years and 6 years, sampling dates may seem out-dated.

Waivers (W)- Because some chemicals are not used or stored in areas around drinking water sources, some water systems have been given waivers that exempt them from having to take certain chemical samples, these waivers are also tied to Drinking Water Source Protection Plans.

TEST RESULTS							
Contaminant	Violation Y/N	Level Detected ND/Low-High	Unit Measurement	MCLG	MCL	Date Sampled	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform Bacteria	N	ND	N/A	0	Presence of coliform bacteria in 5% of monthly samples	2018	Naturally present in the environment
Fecal coliform and *E.coli*	N	ND	N/A	0	If a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive	2015	Human and animal fecal waste
Turbidity for Ground Water	N	0.12/1	NTU	N/A	5	2014	Soil runoff
Turbidity for Surface Water	N	ND	NTU	N/A	0.5 in at least 95% of the samples and must never exceed 5.0		Soil Runoff (highest single measurement & the lowest monthly percentage of samples meeting the turbidity limits)
Inorganic Contaminants							
Antimony	N	W	ppb	6	6		Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder

Arsenic	N	1.2/1.3	ppb	0	10	2014	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Asbestos	N	W	MFL	7	7		Decay of asbestos cement water mains; erosion of natural deposits
Barium	N	.02/.028	ppb	2000	2000	2014	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	N	W	ppb	4	4		Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium	N	W	ppb	5	5		Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Carbon, Total Organic (TOC)	N	W	ppm	NA	TT		Naturally present in the environment
Chromium	N	W	ppb	100	100		Discharge from steel and pulp mills; erosion of natural deposits
Copper a. 90% results b. # of sites that exceed the **AL**	N	a0.056 b.0	ppb	1300	AL=1300	2016	Corrosion of household plumbing systems; erosion of natural deposits
Cyanide	N	W	ppb	200	200		Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	N	0.2/0.2	ppb	4000	4000	2014	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead a. 90% results b. # of sites that exceed the **AL**	N	a.1.9 b.0	ppb	0	AL=15	2016	Corrosion of household plumbing systems, erosion of natural deposits
Mercury (inorganic)	N	W	ppb	2	2		Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nickel	N	W	Ppb	10000	10000		
Nitrate (as Nitrogen)	N	2.71/2.74	ppb	10000	10000	2018	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen)	N	W	ppb	1000	1000	2015	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	N	4.9/5.9	ppb	50	50	2014	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

Sodium	N	30.2/40.7	ppm	None set by EPA	None set by EPA	2014	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills.
Sulfate	N	348/360	ppm	1000	1000	2014	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland
If the sulfate level of a public water system is greater than 500 ppm, the supplier must satisfactorily demonstrate that: a) no better water is available, and b) the water shall not be available for human consumption from commercial establishments. In no case shall water having a level above 1000 ppm be used.							
TDS (Total Dissolved solids)	N	736/738	ppm	2000	2000	2014	Erosion of natural deposits
If TDS is greater than 1000 ppm the supplier shall deomonstrate to the Utah Drinking Water Board that no better water is available. The Board shall not allow the use of an inferior source of water if a better source is available.							
Thallium	N	W	ppb	1	2		Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Disinfection By-products							
TTHM [Total trihalomethanes]	N	N/A	ppb	0	80		By-product of drinking water disinfection
Haloacetic Acids	N	N/A	ppb	0	60		By-product of drinking water disinfection
Chlorine	N	N/A	ppb	4000	4000		Water additive used to control microbes
Radioactive Contaminants							
Alpha emitters	N	3.3/4.1	pCi/l	0	15	2014	Erosion of natural deposits
Combined	N	N/A	pCi/l	0	5	2018	Erosion of natural deposits
Beta/Photon	N	W	mem/yr	0	5		Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Radium 226	N	N/A	pCi/l	0	5		Erosion of natural deposits
Radium 228	N	0.22/0.23	pCi/l	0	5	2014	Erosion of natural deposits
Synthetic Organic Contaminants including Pesticides and Herbicides (If Water System has been issued waivers for these samples then this table can be deleted from the report).							
2,4-D	N	W	ppb	70	70		Runoff from herbicide used on row crops
2,4,5-TP (Silvex)	N	W	ppb	50	50		Residue of banned herbicide
Acrylamide	TT	W	N/A		TT		Added to water during sewage/wastewater treatment
Alachlor	N	W	ppb	0	2		Runoff from herbicide used on row crops
Atrazine	N	W	ppb	3	3		Runoff from herbicide used on row crops
Benzo(a)pyrene (PAH)	N	W	ppt	0	200		Leaching from linings of water storage tanks and distribution lines
Carbofuran	N	W	ppb	40	40		Leaching of soil fumigant used on rice and alfalfa
Chlordane	N	W	ppb	0	2		Residue of banned termiticide

Dalapon	N	W	ppb	200	200		Runoff from herbicide used on rights of way
Di(2-ethylhexyl) adipate	N	W	ppb	400	400		Discharge from chemical factories
Di(2-ethylhexyl) phthalate	N	W	ppb	0	6		Discharge from rubber and chemical factories
Dibromochloropropane	N	W	ppt	0	200		Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb	N	W	ppb	7	7		Runoff from herbicide used on soybeans and vegetables
Diquat	N	W	ppb	20	20		Runoff from herbicide use
Dioxin [2,3,7,8-TCDD]	N	W	ppq	0	30		Emissions from waste incineration and other combustion; discharge from chemical factories
Endothall	N	W	ppb	100	100		Runoff from herbicide use
Endrin	N	W	ppb	2	2		Residue of banned insecticide
Epichlorohydrin	TT	W	N/A	0	TT		Discharge from industrial chemical factories; an impurity of some water treatment chemicals
Ethylene dibromide	N	W	ppt	0	50		Discharge from petroleum refineries
Glyphosate	N	W	ppb	700	700		Runoff from herbicide use
Heptachlor	N	W	ppt	0	400		Residue of banned termiticide
Heptachlor epoxide	N	W	ppt	0	200		Breakdown of heptachlor
Hexachlorobenzene	N	W	ppb	0	1		Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclo-pentadiene	N	W	ppb	50	50		Discharge from chemical factories
Lindane	N	W	ppt	200	200		Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor	N	W	ppb	40	40		Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate]	N	W	ppb	200	200		Runoff/leaching from insecticide used on apples, potatoes and tomatoes
PCBs [Polychlorinated biphenyls]	N	W	ppt	0	500		Runoff from landfills; discharge of waste chemicals
Pentachlorophenol	N	W	ppb	0	1		Discharge from wood preserving factories
Picloram	N	W	ppb	500	500		Herbicide runoff
Simazine	N	W	ppb	4	4		Herbicide runoff
Toxaphene	N	W	ppb	0	3		Runoff/leaching from insecticide used on cotton and cattle
Volatile Organic Contaminants							
Benzene	N	ND	ppb	0	5	2015	Discharge from factories; leaching from gas storage tanks and landfills

Carbon tetrachloride	N	ND	ppb	0	5	2015	Discharge from chemical plants and other industrial activities
Chlorobenzene	N	ND	ppb	100	100	2015	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene	N	ND	ppb	600	600	2015	Discharge from industrial chemical factories
p-Dichlorobenzene	N	ND	ppb	75	75	2015	Discharge from industrial chemical factories
1,2 - Dichloroethane	N	ND	ppb	0	5	2015	Discharge from industrial chemical factories
1,1 - Dichloroethylene	N	ND	ppb	7	7	2015	Discharge from industrial chemical factories
cis-1,2-ichloroethylene	N	ND	ppb	70	70	2015	Discharge from industrial chemical Factories
trans - 1,2 - Dichloroethylene	N	ND	ppb	100	100	2015	Discharge from industrial chemical factories
Dichloromethane	N	ND	ppb	0	5	2015	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane	N	ND	ppb	0	5	2015	Discharge from industrial chemical factories
Ethylbenzene	N	ND	ppb	700	700	2015	Discharge from petroleum refineries
Styrene	N	ND	ppb	100	100	2015	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene	N	ND	ppb	0	5	2015	Discharge from factories and dry cleaners.
1,2,4 -Trichlorobenzene	N	ND	ppb	70	70	2015	Discharge from textile-finishing factories
1,1,1 - Trichloroethane	N	ND	ppb	200	200	2015	Discharge from metal degreasing sites and other factories
1,1,2 -Trichloroethane	N	ND	ppb	3	5	2015	Discharge from industrial chemical factories
Trichloroethylene	N	ND	ppb	0	5	2015	Discharge from metal degreasing sites and other factories
Toluene	N	ND	ppb	1000	1000	2015	Discharge from petroleum factories
Vinyl Chloride	N	ND	ppb	0	2	2015	Leaching from PVC piping; discharge from plastics factories

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Big Plains SSD is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

As you can see by the table, our system had no violations. We're proud that your drinking water

meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

All drinking water are subject to potential contamination by constituents that are naturally occurring or man-made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers about drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We at Big Plains SSD work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.