

## ANNUAL DRINKING WATER QUALITY REPORT - 2017

### CITY OF STANLEY WATER DEPARTMENT

We're pleased to present to you this year's annual quality water report. This report is designed to inform you about the quality of 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. Eight wells supply our water source. Two wells are on the southwest side of town. They are approximately 90 feet deep and are capable of pumping 400 gpm. Our water supply is filtered and treated for iron and manganese removal. Also the water supply is softened to an average of six grains per gallon. Daily testing of the water include testing for hardness, chlorine residual, fluoride, iron, manganese residual and pH. The City of Stanley also tests for bacteria four times a month, bromate one time per month and fluoride one time per month. Our raw water out of the well is also tested for bacteria before treatment on a quarterly basis. Six (6) wells and a water treatment plant on the northwest side of the city was developed and put online March of 2003. These wells are 65 feet deep, and are capable of pumping 300 gpm each. The new wells are very high in iron and manganese, therefore, a new iron and manganese removal plant was constructed and put on-line in 2003. The new treatment plant is capable of treating 700 gpm of water. Ozone is used at this plant as the main oxidizer for iron and manganese removal. After being oxidized the water goes through the process of flocculation, settling and filtration in two separate UTS units. Each unit is capable of treating 350 gpm each.

Our reverse osmosis system for softening water from the northwest treatment plant was put online May 13, 2014. We are softening from 12 grains hardness down to 6 grains of hardness. Stanley's whole distribution system is down to the 6 grains at the present time. This process takes the water from a very hard state down to a medium soft state.

Based on a vulnerability assessment of the area around each well, we sample for constituents that could possibly reach our water supply. Our sampling frequency is based on that assessment.

The sources of drinking water, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

**Contaminants that may be present in source water include:** Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Inorganic contaminants, such as salts and metals, which can be naturally – occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming. Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses. Organic chemical contaminants, including synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems. Radioactive contaminants, which can be naturally occurring or by the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which shall provide the same protection for public health.

This report shows our water quality and what it means. If you have any questions about this report or concerning your water utility, please contact Don Goettl at (715) 644-2915. We want our customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled city council meetings held the first and third Mondays of each month at 7:00p.m. in the meeting room at the Fire Station.

The Stanley water department routinely monitors for contaminants in your drinking water according to federal and state laws. This table shows results of our monitoring for the period of January 1, 2017 to December 31, 2017. Not all contaminants are monitored each year, some data is from prior years.

The new disinfectant/disinfection by-product rule in 2004, requires the utility to monitor for three more parameters. The parameters are total trihalomethanes (tthms) and haloacetic acids 5 (haa5s) for chlorine, and bromate for ozone usage. These results will be posted in each year's CCR report.

In this 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:

**Definition of Terms:**

- Al** action level: the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- MCL** maximum contaminant level: 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.
- MCLG** maximum contaminant level goal: 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.
- mdl** minimum detection level
- mfl** million fibers per liter
- Mrem/yr** millirems per year (a measure of radiation absorbed by the body)
- n** none detected at or above mdl
- ntu** nephelometric turbidity units
- Pci/l** picocuries per liter (a measure of radioactivity)
- ppm** parts per million, or milligrams per liter (mg/l)
- ppb** parts per billion, or micrograms per liter (ug/l)
- ppt** parts per trillion, or nanograms per liter
- ppq** parts per quadrillion, or picograms per liter
- Tt** treatment technique: a required process intended to reduce the level of a contaminant in drinking water

**Stanley Waterworks for 2017**

**Number of contaminants required to be tested**

This table displays the number of contaminants that were required to be tested in the last five years. The CCR may contain up to five year's worth of water quality results. If a water system tests annually, or more frequently, the results from the most recent year are shown on the CCR. If testing is done less frequently, the results shown on the CCR are from the past five years.

<u>Contaminant group</u>	<u># of contaminants to be tested for</u>
Inorganic contaminants	16
Microbiological contaminants	2
Synthetic organic contaminants including pesticides and herbicides	26
Unregulated contaminants	33
Volatile organic contaminants list of VOC's available upon request.	21

**INORGANIC CONTAMINANTS**

<b>Contaminant (Units)</b>	<b>MCL</b>	<b>MCLG</b>	<b>Level</b>	<b>Range Found</b>	<b>Sample Date</b>	<b>Violation</b>	<b>Typical Source of contaminant</b>
<b>Copper (ug/l)</b>	<b>AL-1300</b>	<b>1300</b>	<b>790</b>	<b>51 to 790</b>	<b>08/15/2017 08/21/2017</b>	<b>90<sup>th</sup> Percentile 607 NO</b>	<b>Corrosion of household plumbing systems; erosion of natural deposits, leaching from wood preservatives</b>
<b>Fluoride (ppm)</b>	<b>4</b>	<b>4</b>	<b>0.81</b>	<b>0.62-0.81</b>	<b>01/01/2017 TO 12/31/2017</b>	<b>NO</b>	<b>Erosion of Natural Deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories</b>
<b>Lead (ppb)</b>	<b>AL=15</b>	<b>0</b>	<b>2.0</b>	<b>&lt;1-5</b>	<b>08/15/2017 TO 08/21/2017</b>	<b>90<sup>th</sup> Percentile 2.0 NO</b>	<b>Corrosion of Household Plumbing Systems; erosion of natural deposits</b>
<b>Nickel (ppb) Entry Point 300 Entry Point 3 Entry Point 10</b>	<b>100</b>		<b>NO [0.64] [0.79]</b>	<b>UG/L</b>	<b>07/18/17 07/25/17 07/25/17</b>	<b>NO</b>	<b>Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products</b>
<b>Nitrite NO<sub>2</sub>-N (ppm) Entry Point 300 Entry Point 3 Entry Point 10</b>	<b>1</b>	<b>1</b>	<b>ND</b>	<b>ND ND ND</b>	<b>7/18/17 7/25/17 7/25/17</b>	<b>NO</b>	<b>Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits</b>
<b>Sodium (ppm) Entry point 3 Entry point 10 Entry Point 300</b>	<b>N/A</b>	<b>N/A</b>	<b>80 71 20</b>	<b>20-80</b>	<b>07/25/17 07/25/17 07/18/17</b>	<b>NO</b>	<b>N/A</b>
<b>Bacteria</b>			<b>0</b>		<b>YR 2017</b>	<b>NO</b>	<b>Naturally present in environment</b>

Contaminant (Units)	MCL	MCLG	Level	Range Found	Sample Date	Violation	Typical Source of contaminant
Nitrates As- N Entry Point 300 Entry Point 3 Entry Point 10	10	<10	0.36 mg/l 0.24 mg/l 0.21 mg/l		03/08/16 06/28/16 06/28/16	NO NO NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Bromates	10		0.60 (08/22/17)		Once per month	NO	Due to use of ozone this parameter was tested.
TTHM's (bromodichloromethane, bromoform, chloroform, dibromochloromethane)	80		23 ug/L	Sample #1-23 ug/L	08/29/17	NO	Under disinfection byproduct rule of 2014
Haloacetic Acids (HAA5)	60		8.0 ug/l		08/29/17	NO	Under disinfection byproduct rule of 2014
Radioactivity Gross Alpha Radium 226 Radium 228	15 PCi/l 5 PCi/l 5PCi/l		EP 3 EP 3 EP 3	.0579±0.745 0.314±0.308 0.733±0.341	07/18/17	NO	Erosion of natural deposits
Gross Alpha Radium 226 Radium 228	15 PCi/l 5 PCi/l 5PCi/l		EP 10 EP 10 EP 10	1.98±1.60 0.253±0.248 0.555±0.326	07/25/17		

Description	Contaminant Group	Sample Location	Compliance Period Beginning	Compliance Period Ending
Failure to maintain Log 4 Virus Removal Inactivation Ratio	Failure to maintain microbial treatment	EP 300	05/21/2017 05/23/2017 05/25/2017 05/27/2017 05/28/2017 05/29/2017 05/30/2017	06/01/2017

#### UNREGULATED CONTAMINANTS

Contaminant (Units)	MCL	MCLG	Level	Range Found	Sample Date	Violation	Typical Source of contaminant
Chloroform	80	N/A	4.2 ug/L	NO	03/08/16	No	N/A

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the **safe drinking water hotline (1-800-426-4791)**.

The water department samples for bacteria four (4) times monthly. The water department had no unsafe sample in 2017. We're pleased to report that your drinking water meets or exceeds all federal and state requirements. We have learned through our monitoring and testing that some contaminants have been detected. The EPA has determined that your water **is safe** at these levels.

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.

In 2017, the utility mistakenly missed a quarterly synthetic organic contaminant sample for Entry Point 10. We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. Between 04-01-2017 and 06-30-2017, we did not monitor sample for synthetic organic contaminants, and therefore cannot be sure of the quality of your drinking water during that time. There were no special precautions you needed to take at that time. However, it is important to remember that the quality of your drinking water was not known in that time period. We sampled for synthetic organics on 07-25-17, the results of all parameters was ND (not detected). If you have any questions on this matter, please contact Don Goettl at the Water Utility 715-644-2915 or City Hall at 715-644-5758.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, 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. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than the general populations. Immuno-compromised 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 about drinking water from their health care providers. 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).

In 2017, the water department pumped 310,480,000 gallons of water. In our continuing efforts to maintain a safe and dependable water supply, it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

Please call our office if you have any questions. A copy of the annual drinking water quality report is available for your review at the City Clerk's Office, 353 South Broadway St, Stanley between the hours of 8:00 a.m. – 5:00 p.m. a bulk mailing of this report to the City of Stanley residents will **not** take place this year. If you desire of a copy of this report, the city will deliver a copy to you on request by calling our office at (715) 644-5758.

We, at the Stanley Water Department, strive to provide top quality water at every tap. We ask that all our customers help us protect our water sources, which are the heart of our community. Also, check your outside faucets for backflow prevention. Regulations, that have already been present, are being enforced more stringent on this matter. Stanley's private well ordinance is also being enforced. Homeowners with private wells will need to comply with the ordinance by getting the well certified or the well will need to be abandoned if it is not being used. Letters have been sent to the home owners explaining the private wells need to be in compliance with this ordinance. Contact City Hall with questions (715) 644-5758.