

## Drinking Water Contaminants

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 storm water 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 storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

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

## Vulnerability

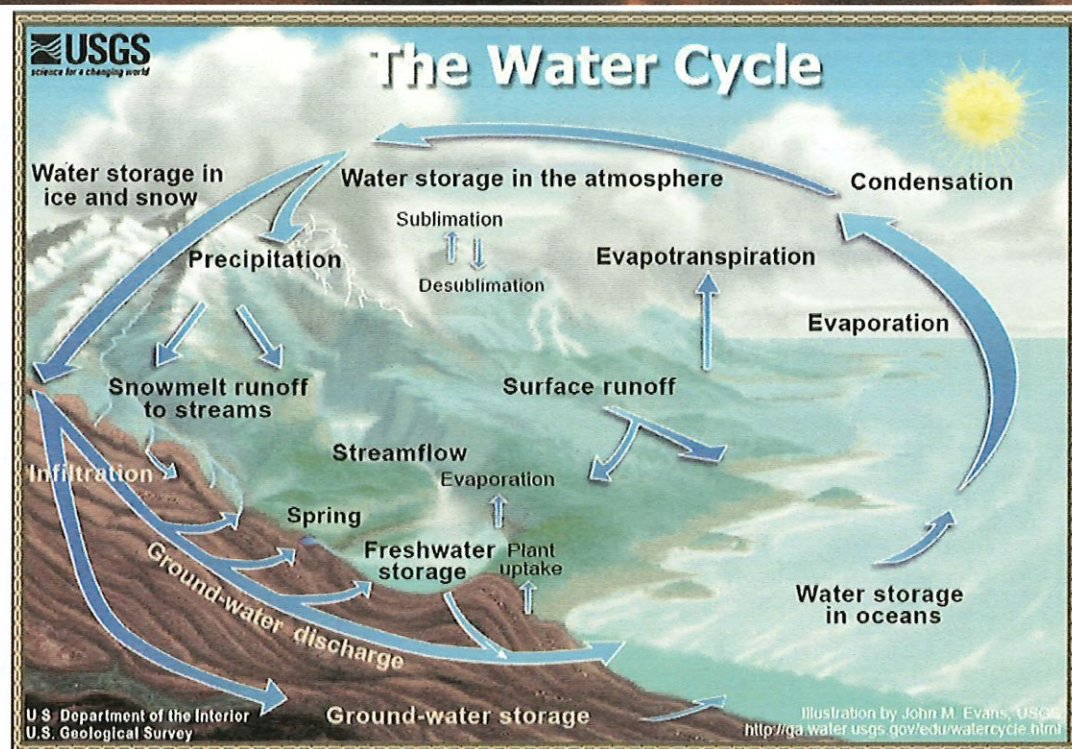
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants 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 microbial contaminants are available from the Safe Drinking Water Hotline 1.800.426.4791.

## WATER

Water is vital for all known forms of life, even though it provides no calories or organic nutrients.

The earth has an abundance of water, but unfortunately, only a small percentage (about 0.3 percent), is even usable by humans.

It is incumbent on all of us to keep it clean.



# 2019

## Consumer Confidence Report DOT & PF – Fox Watering Point

PWS ID# AK2310277

### Our Goals

We're pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services at the Fox Watering Point.

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 and protect our water resources. We are committed to ensuring the quality of your water.

### The Intent of this Report

The intent of this report is to show you the results of our water-quality monitoring program and to explain what the monitoring means.

The contents of this report are specified under Federal regulation, which requires that this information be supplied to every customer. It is important to recognize that this regulation requires us to inform you of constituents detected in the water even if the measured value is well below the regulatory limit.

If you are interested in learning more about our water system and about opportunities for public participation in decisions that may affect the quality of water, please contact Daniel Gibson at 907-328-9389.



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## Our Commitment

We at, DOT & PF – Fox Watering Point, have worked diligently to assure top quality water. 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.

DOT & PF – Fox Watering Point routinely monitors for constituents in your drinking water according to Federal and State laws.

The table shows the results of our monitoring for the period of January 1, 2019 to December 31, 2019.

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

levels. The state allows us to monitor for some contaminants less than once per year because concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than a year old.

As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic or organic chemicals and radioactive substances. All drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituent does not necessarily pose 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.

## Source Water Assessment

For the last several years, the ADEC has been working on assessments of the vulnerability of the water sources that provide water to all of the public water systems in Alaska. The source water assessment for DOT & PF – Fox Watering Point was completed in 2002.

The source water assessment results can be viewed online at <http://dec.alaska.gov/DWWW/> or the full report can be obtained by contacting the DEC Drinking Water Program directly at 907-451-3038.

The following text is from the Executive Summary of our assessment: "Combining the natural susceptibility of the well with the contaminant risk, the public water source for DOT & PF – Fox Watering Point received a vulnerability rating of; High for Heavy Metals, Volatile Organic Chemicals and Other Organic Chemicals. Medium for bacteria and viruses, nitrates/nitrites, and synthetic organic chemicals." The assessment ratings were developed by analyzing the statistical vulnerability of several different categories, such as local potential sources of contamination, the susceptibility of the wellhead, and historical laboratory data.





Fox Spring is a state-owned, state-maintained facility that is privately funded through a Memorandum of Agreement with the nonprofit corporation, Friends of Fox Spring, which is a member of the North Star Community Foundation.

The Fox Spring facility is a well, located at 2331 Elliott Highway in Fox, Alaska that provides free potable water to about 2000 local residents year-round. The well was purchased by the state in 1966, but recent budget concerns prompted the state to announce its intention to cease funding maintenance of Fox Spring. In response, the Friends of Fox Spring was organized to fundraise and solicit donations to reimburse the state for maintenance expenses, preserving public access to the free water source.

The continuation of maintenance operations at Fox Spring depends on the donations received by the Friends of Fox Spring. If you would like to donate, please visit the Friends of Fox Spring website or follow the Friends of Fox Spring on Facebook.

For questions or comments about maintenance and operation of Fox Spring, contact the DOT&PF facilities maintenance shop at (907) 451-2308



## Information About Your Water

We are committed to providing you with this information because informed customers are our best allies.

**DOT & PF – Fox Watering Point** draws its water from a ground water spring, located at the junction of Route 2 (Elliot Hwy) & 6 (Steese Hwy), heading north on the Elliot Highway. The spring is located 0.4 miles past this junction (on the west side of the Elliot Highway).

### What you should know about certain Contaminants

#### Nitrate

Although the level of nitrate (refer to the table on water quality data, p. 3) is consistently below the health effect level, the EPA requires the following information be included in this report: "Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider."

#### Lead

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. DOT & PF – Fox Watering Point is responsible for providing high quality drinking water, however, 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 [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead)

#### Radon

Radon is a naturally occurring, inert, odorless, colorless, radioactive gas that is released slowly over time from soil and bedrock. Research has linked radon in

air, and to a *much lesser extent* drinking water, to increased chances of respiratory illness and several types of cancer (lung, throat, etc.).

Currently radon is not regulated by Federal and State Drinking Water Regulations. However, there is a proposed MCL for radon in drinking water of 300 pCi/L, with an alternate MCL of 4000 pCi/L, if the State develops a specific mitigation program. Over 50 community water systems around the state were tested for radon, including the Fox Watering Point.

Since radon is a gas, the best way to remove it is by a simple aeration process. Aeration of water needs to be done in a well-ventilated area or outside as radon can accumulate indoors and can build up to high levels in all types of homes.

For more information about radon in drinking water and the proposed rule, please visit the EPA website at <https://archive.epa.gov/water/archive/web/html/index-9.html>.

Contaminant	Sample Date	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination	Health Effects
The following constituents were detected in low levels.								
Nitrate	01/09/2019	N	0.640	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Barium	01/09/2019	N	0.014	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Fluoride	01/09/2019	N	0.100	ppm	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
Copper	04/03/2018	N	0.01900	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Lead	04/03/2018	N	1.00	ppb	0	AL=15	Corrosion of household plumbing systems; Erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Gross Alpha* Including Radon & U	01/09/2019	N	5.8	pCi/L	0	15	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Beta/Photon emitters**	07/11/2007	N	7.25	pCi/L	0	50	Decay of natural and man-made deposits	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. 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.
Combined Uranium	07/11/2007	N	5.3	ppb	0	30	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Radon	2001		2830	pCi/L			Erosion of natural deposits	Radon is a naturally occurring, inert, odorless, colorless, radioactive gas that is released slowly over time from soil and bedrock. Research has linked radon in air, and to a <i>much lesser extent</i> drinking water, to increased chances of respiratory illness and several types of cancer (lung, throat, etc.).
Combined Radium 226/228	01/09/2019	N	226 – 0.250 228 – 0.860 Total 1.11	pCi/L	0	30	Erosion of natural deposits	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

\*Since our results were over 5 pCi/L our system is required to do additional testing for radium and uranium.  
\*\* Because the beta particle results were below 50 pCi/L, no testing for individual beta particle constituents was required.

### \*Abbreviated Definitions:

**AL:** Action level. The concentration of a contaminant, which if exceeded, triggers treatment or other requirements which a water system must follow.

**NA:** Not Available.

**ND:** No Detection.

**ppm or mg/L:** Parts Per Million, One part per million corresponds to one minute in two years.

**ppb or ug/L:** Parts Per Billion, One part per billion corresponds to one minute in 2,000 years.

**pCi/L:** Picocuries per liter, Measure of radioactivity in water.

**MCLG:** Maximum Contaminant Level Goal, Level of a contaminant in drinking water below which no known or expected risk to health exists. MCLG's allow for a margin of safety.

**MCL:** Maximum Contaminant Level, Highest allowable amount of a contaminant that is allowed in drinking water. 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.