

# 2017 Annual Drinking Water Quality Report

## For Alta Town

We are very 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 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.

### BACKGROUND

Alta Town operates a water system at the headwaters of Little Cottonwood Canyon at an elevation of approximately 8600 feet. Our population is 383 residents, but our customer base in the winter exceeds 2000. Our partner in the water business and in protecting the watershed in the canyon is Salt Lake County Service Area #3 (Service Area #3) at Snowbird, with whom we contract for operation and maintenance of our system. The Service Area has a full time staff of three as well as a three person part-time staff of night operators. The Service Area can also supply us with water from their system in an emergency.

### WATER SOURCE

Our only source of culinary water is the deep-shaft workings of the Bay City Tunnel (drainage tunnel to the famous Emma Mine) located across the street from the Snowpine Lodge. Ground water is pumped from a 300-foot deep vertical shaft located 1800 feet from the portal of the mine. This water is pumped to a storage reservoir on the mountain above the tunnel that stores 350,000 gallons of water.

These mines are part of a vast silver mining complex that dates back to 1868. There are over 100 miles of mine tunnels on the mountains above Alta that help supply our ground water needs. Surface water is very sparse at this altitude, especially in the winter.

We also have a pumping plant west of the Alta Lodge to boost water from Service Area #3 in an emergency and approximately 3 miles of distribution piping. All of our contract system operators are continually trained and are State certified in water treatment or distribution, at levels above those required by law.

### SOURCE PROTECTION

Alta Town has a Drinking Water Source Protection Plan that is available for your review. It contains information about our source protection zones, potential contamination sources, and management strategies to protect our drinking water. The Bay City Tunnel has been determined to have a **medium susceptibility level** to potential sources of contamination, the potential contamination sources that could affect the Bay City Tunnel include: roads, residential areas, and holding tanks. We have also developed management strategies to further protect our source from contamination. If you have any questions or concerns regarding source protection, contact the office at 801-742-3522 to review our source protection plan.

### CROSS CONNECTION

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.

**We at the Town of Alta are very pleased to report to our customers that our drinking water meets federal and state requirements.**

### QUESTIONS

We want our valued customers to be informed about their water utility. If you want to learn more, please call or attend any of our regularly scheduled Town Council meetings. They are held on the second Thursday of each month, at 10:00 AM at the Alta Community Center / Library, located above the Alta Fire Station, Alta, Utah. Please call in advance to verify the schedule of the meeting. If you have any questions about this report or concerning your water utility, please contact the General Manager of Salt Lake County Service Area #3 – Keith Hanson, at 801-278-9660 or our office at 801-742-3522.

### MONITORING PERIOD

Alta Town routinely monitors for constituents in your drinking water according to Federal and State laws. The table below shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2017. 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.

### DEFINITIONS

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:

**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.

2017 TEST RESULTS							
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Date Sampled	Likely Source of Contamination
<b>Microbiological Contaminants</b>							
Coliform Bacteria	N	0	N/A	0	5	2017	Naturally present in the environment
Turbidity for Ground Water	N	0.1	NTU	N/A	5	2016	Soil runoff
<b>Radioactive Contaminants</b>							
Gross Alpha	N	0.7	pCi/l	0	15	2012	Erosion of natural deposits
Beta/photon emitters	N	1.9	pCi/l	0	5	2012	Erosion of natural deposits
Radium 228	N	0.24	pCi/l	0	5	2012	Erosion of natural deposits
Radon	N	<300	pCi/l	N/A	N/A	1992	Erosion of natural deposits
<b>Inorganic Contaminants</b>							
Antimony	N	4.7***	ppb	6	6	2017	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
		3.8-6.5					
Arsenic	N	1.5-1.5	ppb	0	10	2017	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	N	0.035-0.035	ppm	2	2	2016	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cadmium	N	1.5-1.5	ppb	5	5	2017	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Mercury	N	0.3-0.3	ppb	0.2	2	2016	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland.
Copper a. 90% results b. # of sites that exceed the AL	N	a.0.059 b.0	ppm	1.3	AL=1.3	2016	Corrosion of household plumbing systems; erosion of natural deposits

Lead a. 90% results b. # of sites that exceed the AL	N	a. 2 b.0	ppb	0	AL=15	2016	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	N	.2	ppm	10000	10000	2017	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	N	2.3	ppb	50	50	2016	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium	N	4.1	ppm	None set by EPA	None set by EPA	2016	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills.
Sulfate	N	54	ppm	1000*	1000*	2016	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland
TDS (Total Dissolved solids)	N	212	ppm	2000**	2000**	2016	Erosion of natural deposits
*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. **If TDS is greater than 1000 ppm the supplier shall demonstrate 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.							
<b>Disinfection By-products</b>							
TTHM [Total trihalomethanes]	N	2.5-2.5	ppb	0	80	2017	By-product of drinking water disinfection
Haloacetic Acids	N	ND	ppb	0	60	2016	By-product of drinking water disinfection
Chlorine	N	0.20-0.30	ppm	4	4	2017	Water additive used to control microbes

\*\*\* This contaminant is monitored more than once per year and the result is reported as an average for 2017

#### TEST SUMMARY

As you can see by the above tables, our system had no violations and we are 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.**

#### RADON

We constantly monitor the water supply for various constituents. We have detected radon in the water supply of the Bay City Tunnel in 1 out of 1 samples tested. There is no federal regulation for radon levels in drinking water. Exposure to air transmitted radon over a long period of time may cause adverse health effects.

Radon is a radioactive gas, which is naturally occurring in some ground water. It poses a lung cancer risk when the gas is released from your water into the air (as occurs during showering, bathing, or washing dishes or clothes), and a stomach cancer risk when you drink water containing radon. Radon gas released from drinking water is a relatively small part of the total radon in air. Other sources are radon gas from soil, which enter homes through foundations, and radon inhaled directly while smoking cigarettes. Experts are not sure exactly what the cancer risk is from a given level of radon in your drinking water. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on how to have your home tested contact Project Environment Radon Hotline 800-458-0145.

#### CRYPTOSPORIDIUM

We are required to test our sources of drinking water, as well as our treated tap water, for the presence of Cryptosporidium. Cryptosporidium is a microbial parasite which is found in surface water throughout the United States. When ingested Cryptosporidium can cause gastrointestinal distress for otherwise healthy people and more serious illness or death for people with weak immune systems. We did not find any Cryptosporidium in our source (untreated) water or finished (treated) water. Therefore, we don't believe that you need to worry about these results. We have a modern and effective filtration plant, and as far as anyone knows, filtration is the single best protection against Cryptosporidium

#### 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. The Town of Alta 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>.

#### IS BOTTLED WATER BETTER?

**As can be seen from this report, your water is safe from your tap.** All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or are 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 some 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. The EPA Web site is [www.epa.gov/safewater](http://www.epa.gov/safewater)

## **SPECIAL HEALTH ALERT**

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791). The EPA Web site is [www.epa.gov/safewater](http://www.epa.gov/safewater)

## **WHAT DETERMINES THE MCL LEVEL?**

Maximum Contaminant Levels or 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.

## **VALUE OUR WATERSHED**

The Town of Alta receives ground water that is recently recharged by the snowmelt and surface water systems high in Little Cottonwood Canyon. Any type of pollution in these high alpine watersheds can cause long-lasting or even permanent damage to our valuable drinking water sources and fragile ecosystems. The canyon is also a major water resource to the Salt Lake Valley. We are all stewards of this watershed and we must play an active role in the protection of it. Prevention is much cheaper than water treatment. Please keep a watchful eye and report any watershed violations or suspicious activity to Town of Alta, the Service Area, or Salt Lake City Department of Public Utilities. Please observe the following common sense guidelines:

- Do not play in or near the bank of any stream, lake, reservoir, or wetlands area.
- Do not bring dogs or other pets into the canyon watersheds that are not specifically licensed for such. If they are – use good sanitary practices while caring for the animals' needs.
- Do not empty or drain any oil, gasoline, solvents, paints, grease, or other hazardous household or commercial contaminants into the canyon environment – regardless of quantity.
- Do not play on or tamper with any of our water storage reservoirs or facilities on the mountain.  
Stay away from high erosion areas and do your best to plant water efficient native vegetation in areas of your property that are susceptible to soil erosion. Do not remove any native vegetation or tamper with any erosion control devices.
- Use public restrooms when skiing or recreating on the mountain.
- Use only a minimal amount of salt on your driveways in the winter.
- Do not litter, and keep all of your solid waste contained in animal-proof and weather-resistant enclosures or areas.

## **WHAT IS IN STORE FOR THE FUTURE?**

In our continuing efforts to maintain a safe and dependable water supply it is always necessary to make improvements in your water system. There are portions of the distribution system that are over 40 years old. We will continue to replace or upgrade them as needed. The costs of some of these upgrades or improvements have been reflected in the rate structure. Rate adjustments may also be necessary in the future in order to address some of these larger concerns and improvements. Many of our customers do not consume the 8000 gallons allotted monthly as part of the residential water base rate and we have been asked if we could reduce our rates because of this. Unfortunately, we cannot. We have compared our rate structures with many other comparable water utilities and our rates are truly reasonable! In fact, our customers who use 8000 gallons a month, pay less than one cent for every gallon. That penny includes the cost of treating the waste as well. If you don't use the 8000-gallon allotted, you obviously pay a little more per gallon but you can rest assured knowing that the water and sewer are available to you.

We at the Town of Alta work around the clock to provide top quality water to every tap. We test more often than required for contaminants that concern us and we truly are committed to the preservation and delivery of pure water.

We ask again that all our customers help us protect our water sources and the canyon watershed. These assets are irreplaceable, and they are the heart of our community, our way of life and our children's future.

We are pleased to keep you informed and educated on all water matters within our service area. We will present you with this report every year. Please call our office if you have questions.

Kate Black – Town Clerk  
And  
Keith Hanson – General Manager  
Salt Lake County  
Service Area # 3