

**CITY OF SAINT PAUL  
WATER UTILITY**

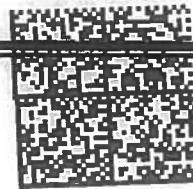
**2015  
ANNUAL  
WATER QUALITY  
REPORT  
June 2016**

**A little bit of a new look – we reduced the size of the print on some of the info we've been repeating each year, but left the important "numbers" big for all to see. There's still lots to read, as well as helpful hints. News on the last page, as usual!**

***To: St. Paul Boxholders  
St. Paul Island, Alaska  
99660***

*Prepared for*  
**THE RESIDENTS AND WATER UTILITY CUSTOMERS  
OF  
THE CITY OF SAINT PAUL**

*Prepared by*  
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and  
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**US POSTAGE**

**1. Water System Information**

Water System Name:	St. Paul Aquifer	Public Water System #:	260286
Water System Operator:	City of Saint Paul		
Address:	P.O. Box 901	Phone #:	(907) 546-3152
	St. Paul Island, Alaska 99660	Fax #:	(907) 546-3188
Population Served:	450-700	Number of Connections:	194
Date of Distribution:	June 30, 2016	For Calendar Year:	2015

Special meetings are not held for the water utility. Public participation in the operation of the water utility is through City Council meetings. Agendas are posted at least three days prior to Council meetings and are announced on KUHB FM radio.

**2. Where Our Water Comes From - Water Sources and System**

The source of drinking water on St. Paul is groundwater. Drinking water begins as rain falling over the Island. Because volcanic rock is porous, much of this rain is naturally filtered through the ground on its way to large underground formations called aquifers. Fresh water forms a lens on top of the salt water within the Island’s core. The depth of the fresh water lens is about 40 times that of its height above sea level. The water level at the top of the aquifer in the City drinking water wells ranges from 4 to 4½ feet above sea level as it fluctuates with seasonal runoff. The bottom of the water aquifer has not been found but is estimated to be about 100 feet below sea level.

As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals. It can also pick up substances from the presence of animals or from human activity and development.

Domestic water for the community of Saint Paul is obtained from seven domestic water wells. These wells are located between Telegraph Hill and Kaminista Ridge. The “North” and “South” wells are located on the northeast slope of Telegraph Hill. The remaining five wells, named “Fredreka #1” through “Fredreka #5”, are located along the base of Kaminista Ridge. Wells extend down to approximately 4 feet below sea level to tap into the aquifer.

The City operates six of the seven water wells on a rotating basis to deliver an average of 251 thousand gallons of water per day to the community and processors. Water is pumped from the water wells through a treatment facility, where chlorine and fluoride are injected into the water, then to water storage tanks on top of Village Hill. Water flows by gravity from the water storage tanks through water mains to individual homes and buildings.

**3. Glossary of Terminology**

The following glossary of terminology is provided to help you better understand the report.

Action Level – The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

ADEC – Alaska Department of Environmental Conservation. The State agency charged with protecting human health and safeguarding the natural environment (air, water, and soil) from harmful pollution.

CCR – Consumer Confidence Report. An annual report prepared by community water systems for their customers with information about the quality of their drinking water. Required by Federal water regulations that took effect September 1998.

CFU – Colony Forming Units. A measurement used to count the number of bacteria colonies found in water.

Distribution System – The network of water mains and pipelines which carry water from the source to the user’s tap or faucet.

EPA – Environmental Protection Agency. The Federal agency charged with protecting human health and safeguarding the natural environment (air, water, and soil) from harmful pollution.

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.

**NYA** – Not Yet Available. NYA will be used when the maximum contaminant level (MCL) has not been determined by federal or state agencies.

**PPB** – Parts Per Billion or micrograms per liter. For example, if the measurement reads 10 ppb of a contaminant, there would be 10 parts of the substance in a billion parts of water.

**PPM** – Parts Per Million or milligrams per liter.

**PPT** – Parts Per Trillion or nanograms per liter.

**Treatment Technique** – A required process intended to reduce the level of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Water Shed** – The land area from which precipitation and snowmelt filters down through the ground to the aquifer around our wells.

**Water Source** – The location where our water originates. Water is withdrawn from wells in specific areas, which is groundwater. Surface water would be a lake or a stream.

#### 4. Drinking Water Standards and Testing

In order to ensure that tap water is safe to drink, the ADEC has regulations specific to the State of Alaska, based on EPA prescribed regulations, which limit the amount of certain contaminants in water provided by public water systems.

A contaminant is any substance that may pose a potential health concern if present in very large quantities. The highest amount allowable in drinking water is known as the Maximum Contaminant Level. This limit is the standard for safe drinking water and is set by federal and/or state health agencies.

The regulations require testing tap water for many different categories of contaminants. One category is the regulated or primary contaminants. Each has a maximum contaminant goal and maximum contaminant level. The Maximum Contaminant Level Goal (MCLG) is the level of a contaminant in drinking water that the State would like us to stay below. MCLGs allow for a margin of safety. The Maximum Contaminant Level (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.

The regulations also have testing requirements for certain unregulated contaminants. Health agencies generally do not specify MCLs or MCLGs for unregulated contaminants. However, they may establish an action level that is the concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

The rules also require testing the water in the distribution system. We test every month for coliform bacteria and annually for trihalomethanes (residual from chlorine that reacts with contaminants). We also test the taps of various consumers every three years for lead and copper.

Each contaminant category has its own monitoring frequency established by regulation. If a contaminant is detected, then additional testing is done to determine the cause. Monitoring for certain contaminants is performed less frequently because the amount present does not change frequently. For this reason, some of the data can be more than a year old.

#### 5. Contaminants That May be Present in Source Water

There are many contaminants that may be present in a source water. We test to make sure there are none in ours. Some substances tested for are:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, 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.
- 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 stormwater runoff, fuel spills and septic systems.
- Radioactive contaminants, which can occur naturally, or be the result of oil and gas production and mining activities.

The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals 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, or to try to lower the risk of infection, call for info from the Safe Drinking Water Hotline (previous page).

#### 6. Detected Regulated/Unregulated Contaminants for Which Monitoring is Required

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. Following is a list of substances that have been found in St. Paul's water and their possible sources. In all cases, the amounts present pose no health concern and are fully compliant with the standards.

Data in this report is from the most recent testing done in accordance with regulations and presented as required by 40CFR141.153. You'll notice that some of the data in the chart is more than one year old; the State requires the City to monitor for certain contaminants less than once a year because concentrations of these contaminants are not expected to vary significantly from year to year. The City had three violations in 2015 – we missed a chlorine test in August, a coliform test in August, and a fluoride monitor test in October. Nothing major, and all have been corrected and we're back to "good". We will try for perfect this next year. (We are also behind in our scheduled Sanitary Survey, (checking water, sewer and landfill utilities) -- usually done by ANTHC. They are no longer able to provide those, so we will be scheduling a visit from the Alaska Rural Water Association engineer for this summer. This isn't a "violation", but needs to be done.)

This table contains data that has to be reported in the Consumer Confidence Report.

Contaminant	Date Tested	Units	MCL	MCLG	Highest Detected Level	Is this a Violation?	Major Contaminant Sources
Copper	12/17/13	ppb	1.300	1.300	.0406 mg/l	No	Standard household plumbing
Fluoride	12/10/15	ppm	4	4	1.2 mg/l	No	Additive to promote strong teeth
Lead	12/17/13	ppb	15	0	.0108 mg/l	No	Plumbing: byproduct of solder
Arsenic	04/18/12	ppb	0.05	0.05	1.85 ug/l	No	Occurs naturally in rock, soil and sediment, and water
Nitrate	01/14/15	ppm	10	10	1.38 mg/l	No	Erosion of natural deposits, runoff from quarry operations
Trihalomethanes	07/15/15	ppb	80	N/A	44.4 ug/l	No	Byproduct of chlorine disinfection
Haloacetic Acids	07/15/15	ppb	60	N/A	12.0 ug/l	No	Byproduct of chlorine disinfection
Barium	06/21/10	ppb	2000	2000	1.02 ug/l	No	Discharge of drilling wastes, erosion of natural deposits
Chromium	06/21/10	ppb	100	100	2.71 ug/l	No	Erosion of natural deposits
Selenium	06/21/10	ppb	50	50	2.93 ug/l	No	Erosion of natural deposits; discharge from mines
Nickel	06/21/10	ppb	N/A	N/A	0.779 ug/l	No	Erosion of natural deposits

*Microbial contaminants, organic pesticides and turbidity:* have not been tested, as we do not have surface water. It is not required for groundwater systems.

*Inorganic contaminants:* (The highest single measurement is reported here, unless otherwise noted.)

- Copper may occur in tap water from new, or the corrosion of, household copper plumbing systems, erosion of natural deposits, or leaching from wood preservatives.
- Fluorides occur naturally in groundwater. According to EPA, they may also come from the erosion of natural deposits or a water additive that promotes strong teeth.
- Lead may occur naturally or be picked up from household pipes as water travels through them past non lead-free solder joints.
- Arsenic is a semi-metallic element that occurs naturally in rock, soil and sediment and water. Changes to the environmental area surrounding a water source or sources including volcanic activities, landslides, earthquakes and natural rock erosion can change arsenic concentrations in a drinking water source.
- Nitrate (as nitrogen) occurs naturally in groundwater. According to EPA, nitrates may come from leaching from septic tanks, sewage, or erosion of natural deposits. Nitrate in drinking water at levels above 10 parts per million (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. If you are caring for an infant, always check the nitrate level (see table above – St. Paul has a low concentration).

In the past, some water samples have been near nitrate level limits that may have required treatment to remove the contaminants, if they had continued to rise. They did not. Regulations mandate that testing be done annually, to keep track of nitrate levels. According to health officials, the small amounts that appear in the water do not pose a concern. St. Paul's levels have ranged between 2.37 mg/l in 2010, down to 1.27 mg/l in 2014.

Other contaminants/minerals tested for have been under the method detection limit, or not significant. They are: silver, aluminum, arsenic, gold, boron, barium, bismuth, calcium, cadmium, cobalt, chromium, arsenic, copper, iron, mercury, potassium, magnesium, manganese, molybdenum, sodium, nickel, phosphorous, platinum, antimony, selenium, silicon, tin, strontium, titanium, tungsten, vanadium, zinc, zirconium, phenol, chloride, polychlorinated biphenyl (PCBs), antimony, beryllium, cyanide, thallium, benzene, bromoform, carbon tetrachloride, chloroform, hexachlorobutadiene, toluene, alpha and beta activity (radioactivity, as well as over fifty other types of volatile organic chemicals (VOCs).

## Summary

Your drinking water *remains* AWESOME! Results show that our water complies with all Federal and State standards. Each year, or as otherwise required by federal and state schedules, the City tests the water wells and distribution system for more than 100 different types of contaminants. Contaminants that have been found pose no health concern, and we are fully compliant with the standards for safe drinking water. If you're buying bottled water, you're spending money you don't have to!

## 8. Frequently Asked Questions

### What is the Consumer Confidence Report (CCR)?

An annual report, required of water utilities, that provides the utilities customers with information on the quality of their drinking water. Reports are mailed each June to customers. Extra copies are available at the City Office; for a copy, call (907) 546-3152.

### What kinds of information must be in the reports?

Where the water comes from. What was detected in the water. How the results compare to standards for safe drinking water. Information on likely sources of contamination. Definitions and explanation of terms used in the regulation of drinking water. Where to go for more information.

### Where can I go for more information or to ask questions?

Contact the City of Saint Paul by:

Phone: (907) 546-3110 or 546-3152

Fax: (907) 546-3188

E-mail: [phyllis@stpaulak.com](mailto:phyllis@stpaulak.com)

Or write to:

City of Saint Paul

P.O. Box 901

St. Paul Island, AK 99660

When requesting information, please provide your full name, address of service location, mailing address (if different from the service address) and daytime telephone number.

### Should I use bottled water or install a home filter?

If public tap water were ever contaminated, bottle or filtered water is probably a good temporary solution and may be recommended. On an ongoing basis, however, we can't tell you whether bottled water, filtered water, other home treatment devices, are any better than local tap water. Keep these things to keep in mind:

*Bottled water:* Bottled water, like distilled water, is regulated by the Food and Drug Administration. Although bottled water is generally of good quality, concerns have been raised by environmental and government advisory groups about the level of oversight that bottled water receives. Even bottled water that is covered by FDA's regulations does not have to conform to the same standards as public tap water. The manufacturer can give you testing data.

Note: bottled water is discouraged by those to seek to protect the environment through less waste and/or less petroleum products being created/sold. The economic benefits of refilling a reusable water bottle are great. So many choices of sizes, designs, and materials to choose from. Try one!

*Home Filters:* Home filters are used by some people who want the added protection from contaminants. Since no single filter takes out every kind of drinking water contaminant, it is important to first determine what contaminants are likely to occur in your water and then match the water filter to the contaminants you wish to eliminate. Many people use home filters to prepare water for their reusable water bottle, keeping it in the refrigerator for easy access and promoting its use.

*Why does my report always look the same every year?*

The City is required to send an annual report to all customers of the water utility. Requirements of what is to be *in* the report do not change. Attempts to streamline the report have been discouraged; the State of Alaska and other health providers *love* our comprehensive report!

## **9. Local Water News**

Last year the City raised its water rates a little – and that worked! The department is now “in the black”, and that’s good news. The bad news is that we have yet to address the needed maintenance that we delay because of expense: well upgrades, well house repairs, security systems, and the like. But we’re planning for that, and doing what we can to get grants and financial assistance to help keep costs down for residents.

Having the Sanitary Survey this summer will help us identify what our needs are – a view from an outside source is always helpful. We have our own list of what we think is to-do, but staying ahead of the game is always a goal. We have also submitted an updated Priority Measures Plan (an Emergency Plan) to the State for the water system, outlining who does what when, in case of a natural disaster or accident.

We are also seeking ways to make sure our aquifer is protected: the State rates our Source Water Assessment for natural contaminants as “Medium” and “High” for bacteria and viruses (which is why water is treated with chlorine prior to distribution to the system). We care!

In related news (water in = water out!) the Village Safe Water Old Town Sewer Project is DONE! So guess what – we’ll be putting in for a new grant! There’s always something that needs something! Engineer Mike Dahl has several plans on the shelf to choose from. City management will be working with him on that.

## **10. Conclusion**

All of our water contains naturally-occurring substances that are not harmful. Although some of our samples have been found to contain chemical contaminants, they are at a level that poses no known human health risk, and are usually naturally-occurring.

Always remember that our water supply is not limitless; unless used wisely, it can be depleted. As your water service provider, it is our job to help ensure that the community has enough water, good water, to meet its needs, and to protect the water supply from pollutants. To do our job effectively, we need the help of you – the consumer. This report shows you how we can work together to make certain that our water supply remains healthy and in adequate supply for many years to come. Protecting our water resources begins with protecting our environment. Use water wisely. Protect your pipes in winter. Dispose of wastes properly.

Keep St. Paul clean “inside and out”!

*The City of Saint Paul Municipal Water Utility  
Working for the health, safety and well-being of our community.  
Working for YOU!*