

2018 Bethel Heights Water Quality Report

PWSID#AK2270346

Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

Do I need to take special precautions?

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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?

The Bethel Heights water system gets its water from two deep groundwater wells located at the Bethel Heights Water Treatment Plant at 900 Ridgecrest.

Source water assessment and its availability

Source water assessment and its availability

A source water assessment for both of the Bethel Heights water wells was completed in 2004. The results of the assessment for each of the two wells was identical and are:

Executive Summary:

The Wellhead/Surface Intake Susceptibility is Low.

The Aquifer Susceptibility is Very High.

The overall vulnerability to potential contaminants is:

Bacteria and Viruses is Very High;

Nitrates/Nitrites is Very High;

Volatile Organic Chemicals is Very High;

Inorganics/Heavy Metals is Very High;

Synthetic Organic Chemicals is Very High;

Other Organic Chemicals is Very High.

For further information regarding this source water assessment, please contact the local water system operator, or the Alaska Resources Library & Information Services (ARLIS) located at 3211 Providence Drive, Room 111, Anchorage, Alaska 99508; phone number 907-272-7547. If the water operator does not have copy of the source water assessment results, you may also access it online at the ADEC Drinking Water Watch website. Instructions on how to access it online may be obtained at: <https://dec.alaska.gov/DWW/JSP/swaDisclaimer.html>. For specific questions regarding the results of the

source water assessments, you may contact Chris Miller from ADEC Drinking Water Protection Program at 907-269-7549.

Why are there contaminants in my drinking water?

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800-426-4791). 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: microbial contaminants, such as viruses and bacteria, that 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; and 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 that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

How can I get involved?

Interested persons can learn more about the Bethel Heights water system by using the contact information provided in this report.

Waivers

ADEC has granted us a monitoring waiver for Synthetic Organic Compounds (SOC). We are not required to monitor during the waived compliance period. We will continue to apply for waiver renewal at the end of each compliance period.

Monitoring and reporting of compliance data violations

Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5)

We are required to monitor for TTHM and HAA5 from two locations in the distribution system annually. We did submit a sample on 12/5/18, but we missed collecting dual set from another location per approved Stage 2 sampling plan. In 2019, we will ensure the approved plan is followed and both locations are monitored according to the approved sampling plan in order to return to compliance.

Consumer Confidence Report (CCR)

We were required to complete, distribute, and submit a CCR report to ADEC before 7/1/18 and failed to do so. We were also required to submit the certification page to ADEC before 10/1/18 and failed to do so. We did complete those requirements and returned to compliance on 3/8/19.

Additional Information for 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. Bethel Heights 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>.

Water Quality Data Table

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfection By-Products								
(There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)								
Chlorine (as Cl ₂) (ppm)	4	4	0.196	.01	1.53	2018	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	18.9	NA	NA	2018	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	14	NA	NA	2018	No	By-product of drinking water disinfection
Inorganic Contaminants								
Barium (ppm)	2	2	.235	NA	NA	2016	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	Detect In Your Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Fluoride (ppm)	4	4	.665	NA	NA	2016	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Mercury [Inorganic] (ppb)	2	2	1.29	NA	NA	2016	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland

Radioactive Contaminants

Radium (combined 226/228) (pCi/L)	0	5	1.14	NA	NA	2017	No	Erosion of natural deposits
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Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
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Inorganic Contaminants

Copper - action level at consumer taps (ppm)	1.3	1.3	1.04	2016	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
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Inorganic Contaminants

Lead - action level at consumer taps (ppb)	0	15	3.21	2016	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
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Unit Descriptions

Term	Definition
ppm	ppm: parts per million, or milligrams per liter (mg/L)
ppb	ppb: parts per billion, or micrograms per liter (µg/L)
pCi/L	pCi/L: picocuries per liter (a measure of radioactivity)
NA	NA: not applicable
ND	ND: Not detected
NR	NR: Monitoring not required, but recommended.

Important Drinking Water Definitions

Term	Definition
MCLG	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.

Important Drinking Water Definitions	
MCL	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.
TT	TT: Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	AL: Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	Variances and Exemptions: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	MRDLG: Maximum residual disinfection level goal. 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.
MRDL	MRDL: Maximum residual disinfectant level. 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.
MNR	MNR: Monitored Not Regulated
MPL	MPL: State Assigned Maximum Permissible Level

For more information please contact:

Contact Name: William Arnold
Address: PO Box 1388
Bethel, AK 99559
Phone: 907-543-3110

2018 Bethel City Subdivision Water Quality Report PWSID# AK2271999

Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies. Last year, we conducted tests for over 80 contaminants. We only detected 11 of those contaminants, and found only 2 at a level higher than the EPA allows. As we informed you at the time, our water temporarily exceeded drinking water standards. (For more information see the section labeled Violations at the end of the report.)

Do I need to take special precautions?

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/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Where does my water come from?

A ground water well located at 235 Akiak Drive supplies water to the Bethel City Subdivision water treatment plant located at the same address. Water treatment includes filtration to remove turbidity and color, disinfection with chlorine, and fluoridation before distribution.

Source water assessment and its availability

Executive Summary:

A source water assessment for the Bethel City Subdivision water well was completed in 2014 and the results of the assessment are:

The Wellhead/Surface Intake Susceptibility is Low.

The Aquifer Susceptibility is Very High.

The overall vulnerability to potential contaminants is:

Bacteria and Viruses is Very High;

Nitrates/Nitrites is Very High;

Volatile Organic Chemicals is Very High;

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How can I get involved?

Interested persons can contact the Bethel City Subdivision by using the following contact information:
Bethel City Subdivision Water Plant
PO Box 1388
Bethel, Alaska 99559
Phone 907-543-5024
FAX 907-543-5023

Waivers

ADEC has granted us a monitoring waiver for Synthetic Organic Compounds (SOC). We are not required to monitor during the waived compliance period. We will continue to apply for waiver renewal at the end of each compliance period.

Additional Information for 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. Bethel City Subdivision 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>.

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Chlorine (as Cl ₂) (ppm)	4	4	.79	.02	.79	2018	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	25.8	NA	NA	2018	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	15.3	NA	NA	2018	No	By-product of drinking water disinfection
Inorganic Contaminants								
Barium (ppm)	2	2	.136	NA	NA	2016	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4	4	.26	NA	NA	2016	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Mercury [Inorganic] (ppb)	2	2	.242	NA	NA	2016	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
Nitrate [measured as Nitrogen] (ppm)	10	10	ND	NA	NA	2018	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Radioactive Contaminants								
Alpha emitters (pCi/L)	0	15	1.4	NA	NA	2017	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	0	5	.24	NA	NA	2017	No	Erosion of natural deposits

Contaminants	MCLG	AL	Your Water	Sample Date	# Samples Exceeding AL	Exceeds AL	Typical Source
Inorganic Contaminants							
Copper - action level at consumer taps (ppm)	1.3	1.3	1.92	2018	5	Yes	Corrosion of household plumbing systems; Erosion of natural deposits
Inorganic Contaminants							
Lead - action level at consumer taps (ppb)	0	15	33.2	2018	3	Yes	Corrosion of household plumbing systems; Erosion of natural deposits

Violations and Exceedances
<p>Copper - action level at consumer taps</p> <p>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. The exceedances were noted once the 9/25/18 annual Copper sample results were received. There were more exceedances this year than last year. The Bethel City Subdivision water treatment plant has had Copper exceedances for many years. The City of Bethel has been working to complete a corrosion control study. The corrosion control study includes a desk top study, public education, quarterly posting of public notices, and WQP (water quality parameters) and source water testing. We have not been able to complete this study and plan to ask for an extension of time from ADEC in 2019.</p>
<p>Lead - action level at consumer taps</p> <p>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. The exceedances were noted once the 9/25/18 annual Lead sample results were received. There were more exceedances this year than last year. The Bethel City Subdivision water treatment plant has had Lead exceedances for many years. The City of Bethel has been working to complete a corrosion control study. The corrosion control study includes a desk top study, public education for exceeding the Lead action level, quarterly posting of public notices, and WQP (water quality parameters) and source water testing. We have not been able to complete this study and plan to ask for an extension of time from ADEC in 2019.</p>

Unit Descriptions	
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MRDLG	MRDLG: Maximum residual disinfection level goal. 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.
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MPL	MPL: State Assigned Maximum Permissible Level

TT Violation	Explanation	Length	Health Effects Language	Explanation and Comment
Lead and copper rule violations	The Bethel City Subdivision has had Copper and Lead exceedances for many years. This was first noticed following their lead exceedance on 11/10/2004 monitoring with a lead Action Level of 0.09060 mg/L; the limit is 0.015 mg/L.	Since 11/10/04. In 2018, five out of ten sample sites exceeded the Copper Action Level, and three out of ten sample sites exceeded the Action level for Lead.	Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	The City of Bethel has been working to complete a corrosion control study. The corrosion control study includes a desk top study, public education for exceeding the Lead action level, quarterly posting of public notices, and WQP (water quality parameters) and source water testing. We have not been able to complete this study and plan to ask for an extension of time from ADEC in 2019.

For more information please contact:

Contact Name: William Arnold
Address: PO Box 1388
Bethel, AK 99559
Phone: 907-543-3110