

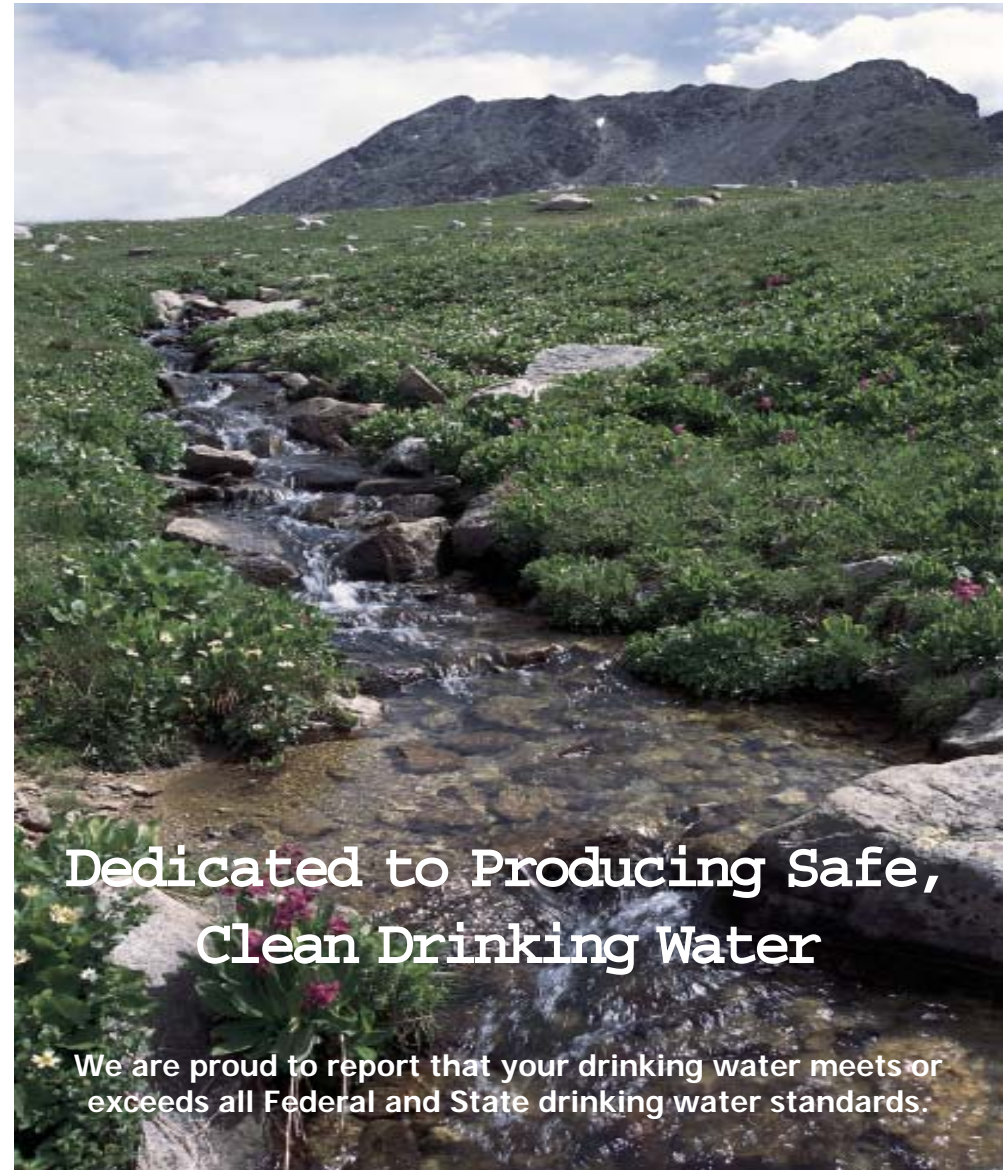


Barrow Utilities & Electric Co-op., Inc.

**2005**

# **Annual Water Quality Report**

City of Barrow / Browerville



**Dedicated to Producing Safe,  
Clean Drinking Water**

We are proud to report that your drinking water meets or exceeds all Federal and State drinking water standards.

## Dear Customer:

Una maqpigaaq sivunikqaqtuk ikayuutinik suli ilitchugimagiksaanikun Utkeagvium iminagun. Mumiksagin naaga uqautigilugu kimun kaniqsilaruamun.

We are pleased to present a summary of the quality of the water provided to you during the past year. The Safe Drinking Water Act (SDWA) now requires that utilities issue an annual “Consumer Confidence” report to customers in addition to other notices that may be required by law. This report details where our water comes from, what it contains, and the contaminants our water testing and treatment are designed to remove. Barrow Utilities & Electric Co-op., Inc. is committed to providing you with the safest and most reliable water supply. Informed consumers are our best allies in maintaining safe drinking water.

**Please read this report carefully and, if you have any questions, please give us a call at (907) 852-3176.**

We encourage public interest and participation in our community’s decisions affecting drinking water. Regular meetings are held on the last Tuesday of each month at the BUECI conference room. The public is welcome.

*“What can I do to help protect our source water?”*

Spilled gasoline and diesel are difficult to remove from water even with the best treatment. Broken down snow machines and ATV’s should be towed away from the reservoir to keep fuel leaks from contaminating the reservoir. Make sure abandoned snow machines are brought in off the ice before spring

break-up. Report any unusual activity around the reservoir or at the pumphouse to BUECI immediatly.

## Where Does Your Water Come From?

BUECI is supplied by surface water from the **Isatkoak Reservoir** which is located on the Northeast side of the dam road. The Alaska Department of Environmental Conservation completed a Source Water Assessment for the Reservoir in 2003 to aid us in identifying and protecting against potential sources of contamination. The Executive Summary from the report is list below:



### **Source Water Assessment for the Barrow Drinking Water System ADEC - Drinking Water Protection Program EXECUTIVE SUMMARY**

“The Barrow Utilities protection area is approximately 4.1 square miles in size and received a susceptibility rating of “high”. A rating of high to very high is typical for all systems with surface water intakes. Potential and existing sources of the following contaminants were evaluated for the Source Water Assessment: bacteria and viruses, nitrates and/or nitrites, heavy metals, cyanide, and other inorganic chemicals, synthetic organic chemicals, volatile organic chemicals, and other organic chemicals. Motor vehicle repair shops, above ground fuel tanks, roads, and residential areas are some potential sources of contaminants identified for the drinking water source. This evaluation included all available water sampling data submitted to ADEC by the system operator. The samples may have been collected from either raw water or post-treated water. Combining the susceptibility of the surface water source with the contaminant risks, this water system has received a vulnerability rating of “high” for each of the six contaminant categories, except for nitrates and nitrites, which received a vulnerability rating of “medium”. This assessment can be used as a foundation for local voluntary protection efforts as well as a basis for the continuous efforts on the part of the Barrow Utilities & Electric Cooperative to protect public health.”

## Important Health Information



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.

### SAFE DRINKING WATER HOTLINE

**1-800-426-4791**

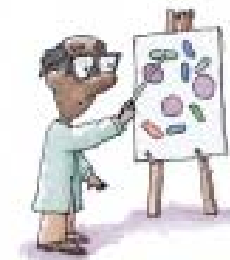
[www.epa.gov/OGWDW](http://www.epa.gov/OGWDW)

## Water Quality Standards

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. FDA regulations establish limits for contaminants in bottled water which provide protection of public health.

## How to Read The Table

The results of tests performed in 2005 or the most recent testing available are presented in the table. Terms used in the Water Quality Table and in other parts of this report are defined here.



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

**Detected Level:** The highest level detected of a contaminant for comparison against the acceptance levels for each parameter. These levels could be the highest single measurement, or an average of values depending on the contaminant.

**Maximum Contaminant Level or MCL:** 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 or MCLG:** 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.

**Range:** The lowest to the highest values for all samples tested for each contaminant. If only one sample is tested, or no range is required for this report, then no range is listed for that contaminant in the table.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

# Water Quality Table

Substance	Date Tested	Units	MCLG	MCL	Detected Level <sup>1</sup>	Range	Is this a Violation?	Major Sources
<b>Inorganic Contaminants</b>								
Fluoride	1/05-12/05	ppm	4 <sup>2</sup>	4	1.68	1.17 -1.68	No	Water additive which promotes strong teeth
Sulfate	6/05	ppm	na	250	2.29	---	No	Erosion of natural deposits
Copper	1/05-12/05	ppm	1.3	AL=1.3	0.08 <sup>3</sup>	---	No	Corrosion of household plumbing systems
<b>Microbiological Contaminants</b>								
Turbidity <sup>4</sup>	1/05-12/05	NTU	na	TT=0.5 NTU	0.043	0.016 -0.043	No	Soil runoff
				TT=95% of samples<0.5 NTU			No	
<b>Disinfection By-products</b>								
Total Trihalomethanes	1/05-12/05	ppb	na	80	16.2 <sup>5</sup>	5.5 -28.2	No	By-product of drinking water chlorination
Total Haloacetic Acids	1/05-12/05	ppb	na	60	3.13 <sup>5</sup>	1.0-4.4	No	By-product of drinking water chlorination
<b>Unregulated Contaminants</b>								
Chlorine	1/05-12/05	ppm	MRDLG=4	MRDL=4	0.43	0.24 -0.43 <sup>6</sup>	No	By-product of drinking water chlorination

## Water Quality Table Footnotes

- 1 Single highest measurement, unless otherwise noted.
- 2 State of Alaska Drinking Water Regulations also list fluoride as a secondary contaminant with the MCL at 2 ppm.
- 3 Regulated at the customers tap. Results are reported as the 90<sup>th</sup> percentile, according to the Lead and Copper Rule. None of the samples tested for copper exceeded the current Action Level of 1.3 ppm.
- 4 100% of the samples tested were below the treatment technique level of 0.5 NTU. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.
- 5 The highest annual rolling average.
- 6 State Regulations require the chlorine concentration to be above 0.20 ppm at this sample location.

**For more information, call Barrow Utilities & Electric Co-op., Inc. at (907) 852-3176.**

## Key To Table

<b>AL</b>	Action Level
<b>MCL</b>	Maximum Contaminant Level
<b>MCLG</b>	Maximum Contaminant Level Goal
<b>MRDL</b>	Maximum Residual Disinfectant Level
<b>MRDLG</b>	Maximum Residual Disinfectant Level Goal
<b>NTU</b>	Nephelometric Turbidity Units
<b>ppm</b>	parts per million, or milligrams per liter (mg/L)
<b>ppb</b>	parts per billion, or micrograms per liter (ug/L)
<b>TT</b>	Treatment Technique
<b>na</b>	not applicable

## Variations and/or Exemptions

Under a waiver granted by the State Water Office our system does not have to monitor for inorganics and organic pesticides because previous tests have indicated that these substances do not occur in our source water. Our system is next scheduled to monitor for these contaminants after December 31, 2006.

## What Else Should I Know About Drinking Water?



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 be the result of oil and gas production and mining activities.

Because of this, 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 Safe Drinking Water Hotline (800) 426-4791.

## What about *Cryptosporidium*?

During our testing, we found evidence that *Cryptosporidium* may be present in our source water. The parasite is common in surface water, very hard to kill, and even a well-run water system can contain some live parasites. This parasite can cause outbreaks of intestinal disease, but scientists have not yet determined the best testing methods, or the levels at which a public health danger occurs. We are not currently required to test for *Cryptosporidium* in our finished water, however, our filtration system has been proven to be very effective in removing *Cryptosporidium* and other microbial pathogens found in surface waters. Based on current knowledge, no precaution about our drinking water is currently needed for the general public.

**"Contaminants are listed in ppm and ppb. What does this mean?"**

Most contaminant concentrations are measured in parts per million (ppm) or parts per billion (ppb). These numbers are hard to imagine. Here are some examples.

**1 ppm is equal to one minute in two years or one drop of water in a 55-gallon drum.**

**1 ppb is equal to one minute in 32 years or one inch in 16,000 miles.**

# Your Water Treatment System

## Microfiltration

The Microfilter is the first stage of the treatment process. Raw untreated water is pumped through the Microfilters 48 filters at up to 300 gallons per minute. The filters have a pore size of .2 microns or about 200 times finer than a human hair. The Microfilter is unique because it does not require chemical pretreatment. Every 30 minutes the filters are backwashed with high pressure air and water to flush the accumulated buildup from the filters membranes.



## Nanofiltration

The Nanofilter treats the water (filtrate) after the Microfilter. The Nanofilter is a 3-stage system that is 85% efficient. The 12 filters are able to remove molecular size contaminants such as salts, viruses, and large organic molecules that cause color in the product water. This configuration is becoming more popular in the water industry in meeting stricter water quality standards.



**Without clean water...**

*people, especially women and children, are condemned to a life of poverty and hardship.*

*Worldwide, a child under the age of five dies every 15 seconds from a water-related illness. This remains one of the greatest tragedies of our time.*

*Providing potable water and hygiene education helps improve the health of poor people. It helps them take their first step out of poverty.*

*Help create real change in the world by supporting Water For People's outreach programs. Make a difference. Make a donation to Water For People today.*



**[www.waterforpeople.org](http://www.waterforpeople.org)**

Water For People • 6666 W. Quincy Ave. • Denver, CO 80235  
303.734.3490 • Fax: 303.734.3499

Water professionals from the American Water Works Association established Water For People in 1991 and Water For People-Canada in 1995. They saw this as a natural extension of what their 57,000 members already do on a daily basis — bring safe, sufficient drinking water to their own communities.

## Where Can I Get More Information?

Although our Water Quality Report is intended to be easy to understand, some aspects of water quality are complicated. If you have any questions about your water or this report, please call us at (907) 852-3176.

**BUECI is a proud member of:**



BUECI  
P.O. Box 449  
Barrow, AK 99723

PRSRT STD  
US Postage  
PAID  
Permit #14  
Barrow, AK

**BOXHOLDER**