



**NOME JOINT UTILITY SYSTEM**

June 2007

# 2006 Annual Water Quality Report

Public Water System ID #AK2340010



## To inform you –

This annual report of water quality covers calendar year 2006. It is designed to inform you about the quality of drinking water and services we provide you every day. **You will find Nome Joint Utility System supplies high quality well water that meets or exceeds all water quality standards set by both State and Federal regulatory agencies.** Our constant goal is to provide you with a safe and dependable supply of drinking water. We take very seriously our responsibility to provide and protect the water resource, as well as the water distribution and treatment and wastewater collection systems. We are proud of the water and service we provide.



## Where does your water come from?

Nome has one source of water known as Moonlight Springs. Our water source is classified as a ground water source. Three artesian wells located north of the Nome-Beltz High School at the base of the southwest face of Anvil Mountain provide water to the community. These wells are capable of adequately supplying Nome's year-round water needs. The infiltration gallery previously used is no longer connected to our distribution system; however, this could be reactivated in the event of an emergency and is available to provide an additional source of fire fighting water to the facilities in the vicinity of the high school.



## Treatment of Nome's water

Nome's potable water is chlorinated to kill any disease-causing organisms and fluoridated to promote dental health. Inadequately treated water may contain disease causing organisms such as bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.



Our water treatment facility is located to the west of the Nome-Beltz High School Apartment complex. At this location we monitor, disinfect and fluoridate the water before it is distributed to the high school system and the community of Nome.

## Getting the water safely to you

NJUS continues to regularly assess community water and sewer systems and improvements and expansions have been identified to insure its continued reliability and efficiency. The Nome Joint Utility Board adopted a Water & Sewer Master Plan, updated in 2004, identifying necessary system improvement projects through 2010.

NJUS completed replacement of the utilidor system in 2002 with a new, more reliable direct bury system. This project resulted in significant reduction in water use when leaking mains were replaced. The Utility has embarked on a force account construction program to replace the old "sclaircore" distribution and collection systems. These systems were installed by contractors over 20 years ago and have served the community

Water distribution system upgrades were made in connection with construction of the new power plant. The new water distribution plant automatically adjusts to community water demands and provides operators enhanced monitoring capability and the ability to maintain more consistent pressures system-wide.

well but are deteriorating rapidly due to settlement as a result of thawing permafrost. They are no longer reliable, resulting in repeated breaks as lines pull apart and are prohibitively expensive to maintain. This project is planned to be continued in 2008, contingent on the availability of funding.

Other projects have expanded water and sewer service and fire protection to areas not previously served by the distribution system. With the assistance of the FAA and the Alaska Department of Environmental Conservation service has been expanded to include the airport and port area which previously were dependent on trucked water and hauled sewage disposal systems.

In 2005, NJUS force account crews replaced all water-sewer mains and service lines on East Front Street from Steadman to N Street in advance of pavement replacement by the Alaska Department of Transportation & Public Facilities.

With the construction of the new power plant, the water distribution pump house was relocated to allow continued use of waste heat to heat the water prior to distribution. Adding waste heat to the water system results in a significant savings to customers in the operation of their water heaters.

Plans for 2008 include installation of a new water line routed from the new power plant through the Sandspit to town, providing an alternate route to town and reducing reliance on the 40 year old water distribution line located in Seppala Drive.

In the last decade the Utility has been successful in seeking and receiving in excess of \$30 million in funding assistance for water and sewer improvements and we gratefully acknowledge the assistance made possible through the Alaska Department of Environmental Conservation Municipal Matching Grant Program and the US Department of Agriculture, Rural Development—Rural Utilities Programs.

## Explanation of Violations

Your public water system must comply with state law and applicable standards imposed by federal guidelines. We must regularly report to the Alaska Department of Environmental Conservation on system operations and compliance.

During calendar year 2006 NJUS was in full compliance with all requirements. The State of Alaska recorded “NO VIOLATIONS”.

## Results of tests performed on Nome's Drinking Water

Contaminant	Date Tested	Unit	MCL	MCLG	Detected Level	Major Sources	Violation
Barium	2002	ppm	2.0	0	0.013	Erosion of natural deposits	NO
Lead	2005	ppb	AL=15	0	3.9	Corrosion of household plumbing systems; Erosion of natural deposits	NO
Copper-3	2005	ppm	1.3	1.3	0.132	Corrosion of household plumbing systems and lead solder joints	NO
Gross Alpha	2006	pCi/l	15	15	0.17	Erosion of natural deposits	NO
Arsenic	2006	ppb	10	10	0.514	Erosion of natural deposits	NO

This report is based on tests conducted by NJUS between 1996 and 2006. Terms used in the Water Quality Table and in other parts of this report are defined here.

**Maximum Contaminant Level (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 (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;

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow;

**NTU = Nephelometric Turbidity Units;**

**pCi/l = picocuries per liter,** a measure of Radioactivity;

**ppm = parts per million,** or milligrams per liter (mg/L);

**ppb = parts per billion,** or micrograms per liter (µg/L);

**TT=Treatment technique:** a required process intended to reduce the level of a contaminant in drinking water.

# Other testing and waivers

**Inorganic Chemicals** include heavy metals, fluoride and nitrate. Our water is no longer tested for asbestos since there is no asbestos water pipe in the distribution system. NJUS has current ADEC testing waivers for Arsenic, Barium, Cadmium, Chromium, Mercury, Selenium, Antimony, Beryllium, Cyanide, Nickel, and Thallium.

Fluoride occurs naturally in Nome's water at about 0.2 mg/l. Fluoride is added to promote dental health. Less than 1 mg/l of Nitrate (as nitrogen) occurs naturally in Nome's water and is not a concern at this low level.

Lead and copper are from the corrosion of copper pipes, fittings, and old lead/tin solder inside houses and service lines.

The Lead and Copper rule is based on 90% of the test site results being less than or equal to the action level which if exceeded would require additional water treatment or addition of corrosion inhibiting chemicals to our water. Nome is currently under reduced lead and copper monitoring requirements because historically 90% of our test site results have been less than the maximum contaminant level (MCL). Compliance testing scheduled once every three years was last completed in November 2005 with 90% of the samples under the MCL for both lead and copper.

**Volatile Organic Chemicals (VOC)** are either disinfectants residual by-products such as total Trihalomethane (TTHM) that are formed when naturally occurring organics in the water that is chlorinated or from contamination by petroleum and other products. No Volatile Organic Chemicals were detected in Nome's water in 2006.

**Synthetic/Other Organic Chemicals** include pesticides and herbicides. Nome is a non-agricultural area and these chemicals are not used; as a result ADEC has granted Nome a testing waiver.

**Radioactive Contaminants** have never been detected in Nome's water.

After **Radon** was discovered in buildings located in the general vicinity of Moonlight Springs, the Utility had tests conducted and verified Radon was not present in the community's drinking water.

## NOME JOINT UTILITY SYSTEM (907) 443-6587 [www.njus.org](http://www.njus.org)

John K. Handeland  
General Manager/  
Chief Operating Officer  
(907) 443-6587

Toby M. Schield  
Superintendent of Field Operations  
(907) 443-6330

State-Certified  
Water Treatment Operators:  
Jay H. Wieler, Foreman  
Carl O. Merchant  
Wesley S. Perkins

Testing Laboratories:  
Norton Sound Regional Hospital  
Analytica, Inc

NOME JOINT UTILITY BOARD:  
Jim West, Jr., Chair  
Berda J. Willson, Vice Chair  
David Barron, Secretary  
Carl Emmons, Member  
Fred H. Moody, Member

## If you have questions

We are happy to answer any other questions about our water system or water quality. If you have any questions about this report or are interested in learning more about the drinking water system in Nome, you may contact:

Water & Sewer Superintendent – (907) 443-6330 or  
the Utility Manager's Office – (907) 443-6587

The Utility Board holds regularly scheduled meetings the third Tuesday of each month. The public is invited to direct any concerns not addressed by management to the Board.

You may also call the Alaska Department of Environmental Conservation – Drinking Water Division in Fairbanks, AK (907-451-2179).

## Could you be vulnerable?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as people 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 individuals should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate methods to lessen the risk of infection by Cryptosporidium are available from the EPA Safe Drinking Water Hotline (1-800-426-4791).

*Prudently operating and maintaining system assets in a fiscally responsible manner  
Providing reliable utility services to system rate payers efficiently and economically by*

\* \*www.njus.org.\* \*

Box holder

2006 Annual Water Quality Report

#AK2340010  
Public Water System ID

(907) 443-NJUS · Fax (907) 443-6336  
P.O. Box 70 · Nome, Alaska 99762

NAME: **JOINT UTILITY SYSTEM**



PRSR STD  
U.S. Postage  
PAID  
Nome, AK  
Permit #10

## Water quality standards and water testing to protect your health

The State of Alaska and Environmental Protection Agency (EPA) limit amounts of certain contaminants in drinking water provided by public water systems in order to ensure that tap water is safe to drink. Our state certified water treatment operators monitor for contaminants in drinking water in accordance with federal and state drinking water regulations. Drinking water quality tests are performed by certified water treatment operators and by an independent ADEC-certified laboratory.

Sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. All drinking water, including bottled water, may be expected to contain at least small amounts of some contaminants. Water is a universal solvent that naturally picks up material as it falls from the sky as rain or snow, and travels over or through the ground. 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:

- Microbiological 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 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, storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organics, which are by-products 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.