



2005 Annual Water Quality Report

To inform you -

This annual report of water quality covers the 2005 calendar year. 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.

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.

Where does your water come from?

Nome has one source of water known as Moonlight Springs. 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.

Our water source is classified as a ground water source. The 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.

Getting the water safely to you

NJUS completed replacement of the utilidor system in 2002 with a new, more reliable direct bury system. Made possible with funding assistance from the Alaska Dept. of Environmental Conservation (ADEC) and the U.S. Dept. of Agriculture Rural Utility Service (USDA-RUS), this project resulted in significant reduction in water use by replacement of leaking mains.

NJUS continues to regularly assess the community water and sewer systems and improvements and expansions have been identified as required to insure it's 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.

During 2005 the Utility embarked on a force account construction program to replace the old "sclairecore" distribution and collection systems. These systems were installed by contractors over 20 years ago and have served the community 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. ADEC and RUS are providing

funding assistance to the community to upgrade and replace these utilities. In 2005, NJUS force account crews replaced all water and sewer mains on East Front Street from Steadman to N Street in advance of pavement replacement to be done by DOT.

Other projects in 2005 expanded water and sewer service and fire protection to areas not previously served by the distribution system. With the assistance of the FAA and ADEC service has been expanded to include the airport and port area which previously were dependent on trucked water and hauled sewage disposal systems.

With the construction of the new power plant we will also be relocating the water distribution pump house to allow us to continue to use waste heat to heat the water prior to distribution. Adding waste heat to the system results in a significant savings to customers in the operation of their water heaters. Plans for 2007 include installation of a new water line routed from the new power plant through the Sand spit to town, providing an alternate route to town and reducing reliance on the 40 year old water distribution line located in Seppala Drive.

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 natu-

rally 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.

Results of tests performed on Nome's Drinking Water

Contaminant	Date Tested	Unit	MCL	MCLG	Detected Level	Major Sources	Violation
Barium	3/7/02	ppm	2.0	0	0.13	Erosion of natural deposits	NO
Lead	2/11/05	ppb	AL=15	0	3.9	Corrosion of household plumbing systems; Erosion of natural deposits	NO
Copper-3	11/05	ppm	1.3	1.3	0.132	Corrosion of household plumbing systems and lead solder joints	NO
Nitrate-N	11/05	ppm	10	10	0.00	Erosion of natural deposits and decaying vegetation or tundra	NO
Fluoride	12/05	ppm	4.0	4.0	1.4	Water additive which promotes strong teeth	NO

How to read the table

This report is based on tests conducted by NJUS between 1996 and 2005.

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;

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

ppb = parts per billion, or micrograms per liter ($\mu\text{g/L}$);

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



East Front Street Construction

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 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 our test result sites have been 90% 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 disinfections residual byproducts 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 2005.

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.

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).

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 - 443-6330 or
the Utility Manager's Office - 443-NJUS.

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).

Explanation of violation

A requirement known as the Total Coliform Rule (TCR) requires 5 TCB samples be collected on a monthly basis.

In December 2005 we only collected 4 valid samples which resulted in a violation of the TCR.

Disinfectant levels never dropped below regulated levels on the day the TCB sample was to have been collected; a residual chlorine sample was not collected concurrently with the TCB sample which resulted in ADEC registering a disinfection violation for our water system.

NOME JOINT UTILITY SYSTEM 443-6587

John K. Handeland
General Manager/Chief Operating Officer

Toby M. Schield
Water & Sewer Superintendent

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

Testing Laboratories:
Norton Sound Regional Hospital
Analytica, Inc.

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



Hmm... could it be something in the *bottled* water?!

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

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Nome, AK 99762

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2005 Annual
Water Quality Report

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NOME JOINT UTILITY SYSTEM
P.O. Box 70 · Nome, Alaska 99762



Do you have a problem?



Call the Utility before you call the plumber. Customers experiencing problems with service line should *always* call the utility first. We can tell you if there is a problem in your area that may be affecting your service.



TO CONTACT THE UTILITY: Customer Service 443-6310
After hours, weekends and holidays: Power Plant 443-6321

NJUS will exercise reasonable diligence to furnish and deliver regular and continuous water and sewer service, but will not be liable for damages caused by interruptions, shortages, irregularities or failure due to accidents, interference by third parties, or conditions beyond the control of the Utility.

If it is determined that the actions of NJUS or its representatives result in needed repairs to a customer water and/or sewer service, NJUS will, at its discretion, financially assist customers in effecting repairs.

THE UTILITY WILL NOT BE RESPONSIBLE FOR ANY COSTS OF REPAIR WHICH HAVE NOT BEEN SPECIFICALLY APPROVED BY THE UTILITY PRIOR TO THE REPAIRS BEING MADE.

Any repairs required as a result of Utility actions must be accomplished by qualified, properly licensed and insured contractors. Repairs made by contractors not meeting all city, state and utility permit and licensing requirements will not be considered for reimbursement by the Utility.

Additional information may be obtained by calling the NJUS Water and Sewer Department at 443-6330.