



About this report

This annual report of water quality covers the calendar year of 2004. 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.

Water Distribution System

NJUS completed the replacement of the utilidor system in 2002 with a new, more reliable direct bury system. This project was 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). A significant reduction in water use has resulted with the replacement of leaking mains.

NJUS continues to regularly assess the water and sewer systems in the community and system improvements and expansions have been identified as required to insure the continued reliability and efficiency of the system. 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 "sclaircore" 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. The 2005 program is along East Front Street in advance of pavement replacement by DOT.

Projects that expand water and sewer service and fire

Our water source

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.



protection to areas not previously served by the distribution system are nearing completion. With the assistance of the FAA, ADEC, and USDA-RUS, services have been expanded to include the airport and port area which previously were dependent on trucked water and hauled sewage disposal systems.

In connection with the construction of the new power plant, the water distribution pump house will be relocated 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. A new water line will be completed in 2006, routed from the new power plant through the Sandspit to town, to provide an alternate route to town and reduce reliance on the 40 year old water distribution line located in Seppala Drive.

Water Treatment

Nome's potable water is chlorinated to kill disease-causing organisms and fluoridated to promote dental health. Inadequately treated water may contain disease causing organisms such as bacteria, viruses, and parasites, that 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.

Water Testing Results

NOME JOINT UTILITY SYSTEM – Public Water System ID #AK2340010

Contaminant	Date Tested	Unit	MCL	MCLG	Detected Level	Major Sources	Violation
Inorganics							
Barium	3/7/02	ppm	2.0	0	0.013	Erosion of natural deposits	NO
Lead – 2	10/25/02	ppb	AL=15	0	15.0	Corrosion of household plumbing systems and lead solder joints	NO
Nitrate–N	8/31/04	ppm	10	10	0.00	Erosion of natural deposits and decaying vegetation or Tundra	NO
Copper – 3	10/25/02	ppm	AL=1.3	1.3	0.001	Corrosion of household plumbing and copper tubing	NO
Fluoride	12/31/02	ppm	4.0	4.0	1.40	Water additive which promotes strong teeth	NO

How to read the table

This report is based on tests conducted by NJUS between 1996 and 2004. 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 (µg/L); **TT**=Treatment technique: a required process intended to reduce the level of a contaminant in drinking water.

Vulnerability

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 (800-426-4791).

Explanation of violations

NJUS chlorinates water in accordance with state regulations and local ordinance. Chlorine disinfection levels dropped below the state standard on three occasions in 2004 when equipment malfunctioned; these incidents are considered violations as chlorine levels dropped below specified standards.

If the chlorine level drops below specifications (0.2mg/l), operators immediately respond and collect water samples to check for Total Coliform Bacteria. On each occurrence a sample was collected. All samples results confirmed the water was free of bacteria and chlorine was restored to its optimum level in accordance with regulations.

NJUS' Annual Drinking Water Quality Report for 2003 (also called the "Consumer Confidence Report" (CCR)) was not distributed prior to June 30, 2004, which is considered a violation. Additional copies of the 2003 report, as well as previously published CCRs, may be obtained from NJUS or found at www.njus.org.



Nome Youth Hockey Association member Charlie Painter paints fire hydrants "fire engine red" for greater visibility in winter.

Our state certified water treatment operators monitor for contaminants in drinking water in accordance with federal and state drinking water regulations. 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. 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 the 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.



Most of Nome no longer relies on water truck delivery as a result of recent system improvements made by NJUS. Photo is of the late Nick Ezukameow delivering Moonlight water to a Nome residence. Photo circa 1965.

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 2002 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 are chlorinated or from contamination by petroleum and other products. Of the over 80 VOC's tested, TTHMs were the only VOC detected and were at levels much lower than the maximum contaminant level (MCL). They are not considered a health risk at these very low levels.

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 Contaminates have never been detected in Nome's water.

Questions

If you have any questions about this report or are interested in learning more about the drinking water system in Nome, you may contact the 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).

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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Water Quality Report

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Norton Sound Regional Hospital
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Some Tips for Saving Water

Nome is fortunate to have an abundant source of water flowing from Moonlight Springs. Each gallon, however, must be pumped, treated, heated, circulated and distributed, and the majority is then collected, pumped, treated and discharged through the wastewater system. This is why we encourage voluntary conservation.

NJUS has been doing its part to reduce water waste by maintaining and operating our system as efficiently as possible. By implementing tighter monitoring procedures, making timely repairs and installing new energy saving equipment, water use and electricity for pumping has been reduced.

Some ways to save water:

- Run the dishwasher and clothes washer only when they are fully loaded.
- Repair dripping faucets and leaky toilets. Dripping faucets can waste about 2,000 gallons of water each year. Leaky toilets can waste as much as 200 gallons each day.
- Don't leave the water running when you shave or brush your teeth – turn it on only when you are actually using it. A running tap shave used about 20 gallons.
- Keep a pitcher of drinking water in the refrigerator – running the faucet until cold can waste a gallon.
- Keep your water heater at an even setting – running water until hot is wasteful.

Studies show that water drips account for as much as 14% of all indoor water use, equivalent to 10 gallons per person of water lost per day. Toilets are the most common source. Check toilets for leaks by placing a few drops of food coloring in the tank. If after 15 minutes the dye shows up in the bowl, the toilet has a leak. Leaky toilets can usually be repaired inexpensively by replacing the flapper.