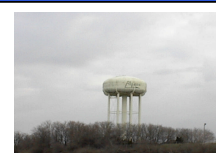


Annual Drinking Water Quality Report

City of Alpena Municipal Water

For: January 1, 2000 to December 31, 2000



We are pleased to provide you with our third Annual Water Quality Report. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. The utility welcomes this annual reporting requirement and views it as an opportunity to inform our customers about the high quality drinking water being supplied to them. The sample results presented in the following report are technical in nature, and our goal is to help you understand the data.

Alpena's water meets, or is better than, state and federal standards. We have had no violations of water quality standards during 2000.

If you have any questions about the contents of this report or have suggestions on making it more understandable, please contact **Jerry Plume (Water Plant Superintendent) at 356-0757**.



Shift operator, Terry Gougeon conducting a plankton count of Lake Huron water.

Alpena's water use during the year 2000:

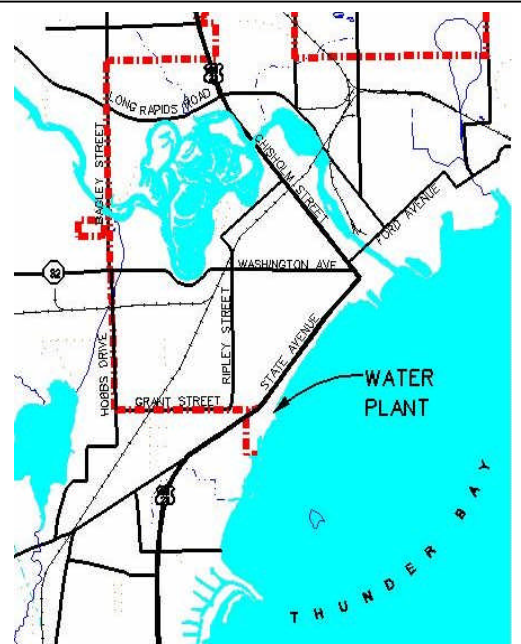
- 826.93 million gallons, yearly total.
- 2.26 million gallons, average day.
- 3.91 million gallons, maximum day.

History of Alpena's Water

The birth of the Alpena water system took place in 1879. William H. Potter, lumberman and president of the Water Company, was also mayor of the city, and in 1879 founded the Alpena Water Company. It was a private concern financed by a score of prominent businessmen that contracted to supply the city with water for the sum of \$5,500 per year. The first source of water had no treatment and was drawn from the river at the Richardson Dam (9th ave). To prevent minnows and large particles of sawdust from coming out of the faucet, residents would place mesh bags on the end of the faucet. Filters consisting of small metal containers with a replaceable cotton filter material were available and these had to be changed daily. A Saginaw newspaper reporter, George F. Lewis, described the first waterworks in the following way, "At the waterworks the superintendent sits in a chair with his feet on a box, the water is six inches deep all over the floor, and drinks 'alf and 'alf-half lake water and half river water. The previous spring there was a variation whereby there was more water, and the ice cold fluid from up river stood three feet deep on the main deck and was rushing in and out both windows and doors. Under this water could be heard the piston engine running in utter submergence". The pumps were water powered from the water pressure created from the dam. The water was not metered but each user paid a flat rate of \$1.00 per quarter. In 1880, in order to better the quality of water, a pipe was laid from a point in the bay, near what is now the Huron docks, to the Ninth Street Dam. The population of Alpena in 1880 was 6,000.

Where does our water come from?

Our fresh water source is **surface water from Thunder Bay (Lake Huron)**. This source has been utilized in Alpena since 1905, and sample data shows that it is of high quality. Over the last 25 years, state and federal environmental regulations have become progressively more stringent resulting in significant improvements in Great Lakes water quality. Efforts to protect our fresh water source include a formal "Source Water Assessment" conducted by the Michigan Department of Environmental Quality. The assessment identifies sources of pollution that may have a negative impact on the quality of our source water. The assessment is in the preliminary stage and copies are available upon request. Customer comment on the information found in the assessment is welcome. Contact your water production plant for information of how to receive your copy (356-0757).



Contaminants and their presence in 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **EPA's Safe Drinking Water Hotline (800-426-4791)**.

Vulnerability of sub-populations:

*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 systems 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 (800-426-4791).*

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, residential uses and urban stormwater runoff.
- **Radioactive contaminants**, which are naturally occurring or are the result of oil and gas production and mining activities.
- **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.

Sources of 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.

Water Quality Data

Table 1, on page 4, lists all the drinking water contaminants that we detected during the 2000 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in the following table (page 4) is from testing done from January 1, 2000 – December 31, 2000. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All of the data is representative of the water quality, but some are more than one year old.

Important Definitions

Table 1 contains many terms and abbreviations you might not be familiar with. To help you better understand these terms, we've provided the following definitions:

AL (Action Level) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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.

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.

MG - Million gallons.

NA - Not Applicable.

NTU (Nephelometric Turbidity Unit) – Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Pci/L (Picocuries per liter) – Picocuries per liter is a measure of the radioactivity in water.

Ppb (Parts per billion) or Micrograms per liter (ug/l) – One part per billion is about one dissolved aspirin tablet (325 mg) in a typical 25-meter swimming pool (about 100,000 gallons).

Ppm (Parts per million) or Milligrams per liter (mg/l) – One part per million is about ½ of a dissolved aspirin tablet (162.5 mg) in a full bathtub of water (about 50 gallons).

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

Lead and Copper test results on the following table are samples collected in high-risk homes and demonstrate levels found in the plumbing of the household. This EPA-mandated “Lead and Copper Program” was started in 1992, and at that time 42 high-risk homes were placed on the program. A high-risk home is one containing lead solder joints on copper plumbing installed after 1982, homes with lead pipes, and homes with lead service lines. **The tap water being produced at the Alpena Water Plant contains no detectable lead or copper.**

Table 1**City of Alpena Test Results for 2000**

Regulated Contaminant	MCL	MCLG	Your Water	Range	Sample Date	Violation	Typical Sources
Turbidity (ntu)	TT	NA	0.21 maximum	.04-0.21	5/19/00	N	Soil runoff
Fluoride (ppm)	4	4	1.00	NA	6/01/00	N	Erosion of natural deposits and water additive
Alpha Emitters (pCi/l)	15	0	1	NA	10/26/98	N	Erosion of natural deposits

Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants.

Unregulated Contaminant	MCL	MCLG	Your Water	Sample Date	Violation	Typical Sources
Sodium (ppm)	NA	NA	9	5/30/00	N	Erosion of natural deposits
Sulfate (ppm)	NA	NA	36	5/30/00	N	Erosion of natural deposits

Distribution System Contaminants: Lead and copper samples were collected from taps at 30 high-risk homes. These levels found are not found in the City's water.

Regulated Contaminant	Action level	Your Water *	Number of Samples over Action Level	Likely Source of Contamination
Lead (ppb)	15	4	0	Corrosion of Household Plumbing
Copper (ppm)	1.3	0.287	0	Corrosion of Household Plumbing

* 90 percent of samples at or below this level.

Volatile Organic Contaminants

Regulated Contaminant	MCL	MCLG	Your Water	Range	Sample Date's	Violation	Typical Sources
TTHM's (Total) (ppb)	100	NA	22.9 average	9.6 – 40.4	2/24 5/30 8/21 10/23	N	By-product of drinking water chlorination

The following contaminants are Not Regulated as individual compounds but, combined with bromoform, comprise the Regulated TTHM category above.

Chloroform (ppb)	NA	NA	16.3	6.3 - 32.1	2/24 5/30 8/21 10/23	NA	By-product of drinking water chlorination
Dibromochloromethane(ppb)	NA	NA	1.3	0.6 – 1.9	2/24 5/30 8/21 10/23	NA	By-product of drinking water chlorination
Bromodichloromethane(ppb)	NA	NA	5.6	2.7 – 7.2	2/24 5/30 8/21 10/23	NA	By-product of drinking water chlorination

Our water utility customers should consider themselves to be investor-owners of the system. The utility is managed as an enterprise fund and all operation, maintenance, and replacement expenditures are financed entirely by user fees. Consequently, all customer inquiries, requests, or suggestions are welcome and encouraged by the utility.

The Alpena Municipal Council is responsible for overseeing the Alpena Water Utility. The City Council meets on the first and third Monday of every month. Utility correspondence may be directed to the following personnel:



1000 horsepower diesel generator will keep the Water Plant in production during any length power outage. This generator was added to the plant during the chemical building construction in 1999.

Mike Glowinski
Utility Manager
Earth Tech
Phone: 354-4891
Fax: 354-8472

Email: mglowinski@earthtech.com

Jerry Plume
Filtration Plant Manager
Earth Tech
Phone: 356-0757
Fax: 356-5862

Email: jerryplume@earthtech.com

Alan L. Bakalarski
City Manager
City of Alpena
Phone: 354-4158
Fax: 354-4585

Email: alb@alpena.mi.us

The following **INORGANIC CHEMISTRY** contaminants were tested for in 2000 but were **NOT DETECTED**.

Iron Nitrate Nitrite

The following **METALS CHEMISTRY** contaminants were tested for in 2000 but were **NOT DETECTED**.

Antimony	Arsenic	Barium	Beryllium	Cadmium
Chromium	Lead	Mercury	Nickel	Selenium
Thallium				

The following **VOLATILE ORGANIC CHEMISTRY** contaminants were tested for in 2000 but were **NOT DETECTED**:

Benzene	Bromobenzene	Bromochloromethane	Bromoform
Bromomethane	Butylbenzene, Normal	Butylbenzene, Sec-Chloroethane	Butylbenzene, tert-Chloromethane
Carbon Tetrachloride	Chlorobenzene	Dibromoethane 1,2-(EDB)	Dibromomethane
Chlorotoluene (combined)	Dibromo-3-Chloropropane, 1,2-	Dichlorobenzene, 1,4-	Dichlorobromomethane
Dichlorobenzene, 1,2-	Dichlorobenzene, 1,3-	Dichloroethane, 1,1-	Dichloroethane, 1,2-
Dichlorobutane, 1,4-	Dichlorodifluoromethane	Dichloroethylene, 1,2-trans	Dichloropropane, 1,2-
Dichloroethylene, 1,1-	Dichloroethylene, 1,2-cis	Dichloropropene, 1,1-	Dichloropropene, 1,3-cis
Dichloropropane, 1,3-	Dichloropropane, 2,2-	Fluorotrichloromethane	Hexachlorobutadiene
Dichloropropene, 1,3-trans	Ethylbenzene	Isopropyl Toluene, para	Methyl Ethyl Ketone
Hexachloroethane	Isopropyl Benzene	Methylene Chloride	Naphthalene
Methyl Isobutyl Ketone	Methyl Tert-Butyl Ether	Tetrachloroethane, 1,1,1,2-	Tetrachloroethane, 1,1,2,2-
Propylbenzene, normal-	Styrene	Toluene	Trichlorobenzene, 1,2,3-
Tetrachloroethylene	Tetrahydrofuran	Trichloroethane, 1,1,2-	Trichloroethylene
Trichlorobenzene, 1,2,4-	Trichloroethane, 1,1,1-	Trimethylbenzene, 1,3,5-	Vinyl Chloride
Trichloropropane, 1,2,3-	Trimethylbenzene, 1,2,4-	Xylenes (total)	
Xylene, ortho	Xylene, meta-¶		