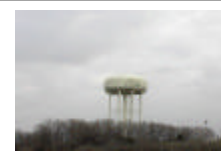
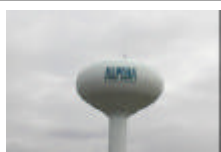


Annual Drinking Water Quality Report

City of Alpena Municipal Water

For: January 1, 1999 to December 31, 1999



We are pleased to provide you with our second 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 1999.

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, Dale Goupell checking water for proper chlorine content.

City of Alpena water system has 582 fire hydrants and 75 miles of water main with a capacity of 6 million gallons per day.

History of Alpena's Water

1905 – Steam pumping station is built at present site.

1915 – Gas chlorination was introduced.

1922 – Construction begins on a 3 million gallon per day water filtration plant.

1935 – 500,000 gallon finished water reservoir is added.

1953 – High service pumping station and Ninth St. elevated tank are built. Steam pumping station is decommissioned.

1965 – Water plant is expanded from 3.0 million gallons per day to 5.25.

1972 – North industrial water tower and pumping station are built.

1977 – Relined 1905 intake pipe with polyethylene plastic pipe.

1991 - Zebra mussel protection is installed.

1996 – Carbon is added to all filters for taste and odor control.

1999 – Chemical feed building is constructed. Gas chlorination is eliminated and replaced with bleach. A new backup generator is installed.

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. Future efforts to protect our fresh water source will include a formal "Source Water Assessment" to be conducted by the Michigan Department of Environmental Quality. The assessment will identify sources of pollution that may have a negative impact on the quality of our source water. The assessment has begun and should be completed within the next year. We will inform you on how to get a copy of the



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 be 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

The following table (page 4) lists all the drinking water contaminants that we detected during the 1999 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 – December 31, 1999. 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

In the following table are 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.

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.**

City of Alpena Test Results for 1999

<i>Regulated Contaminant</i>	<i>MCL</i>	<i>MCLG</i>	<i>Your Water</i>	<i>Range</i>	<i>Sample Date</i>	<i>Violation</i>	<i>Typical Sources</i>
<i>Turbidity</i> (ntu)	TT	N/A	0.21	.04-0.21	6/21/99	N	<i>Soil runoff</i>
<i>Fluoride</i> (ppm)	4	4	1.00	N/A	6/15/99	N	<i>Erosion of natural deposits and water</i>
<i>Alpha Emitters</i> (pCi/l)	15	0	1	N/A	10/26/98	N	<i>Erosion of natural deposits</i>

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

<i>Unregulated Contaminant</i>	<i>MCL</i>	<i>MCLG</i>	<i>Your Water</i>	<i>Sample Date</i>	<i>Violation</i>	<i>Typical Sources</i>
<i>Sodium</i> (ppm)	NA	NA	5	6/15/99	N	Erosion of natural deposits
<i>Sulfate</i> (ppm)	NA	NA	28	6/15/99	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.

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

* 90 percent of samples at or below this level.

Volatile Organic Contaminants

<i>Regulated Contaminant</i>	<i>MCL</i>	<i>MCLG</i>	<i>Your Water</i>	<i>Range</i>	<i>Sample Date</i>	<i>Violation</i>	<i>Typical Sources</i>
TTHM's (Total) (ppb)	100	N/A	13.1 average	3.7 – 24.6	8/23/99	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)	N/A	N/A	9.9	2.2 - 19.1	8/23/99	N/A	By-product of drinking water chlorination
Debromochloro methane(ppb)	N/A	N/A	2.8	0.9 – 4.6	8/23/99	N/A	By-product of drinking water chlorination
Bromodichloro methane(ppb)	N/A	N/A	0.7	0.4 – 1.4	8/23/99	N/A	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 at 8pm. Utility correspondence may be directed to the following personnel:



Chemical feed building was built in 1999 and houses a backup generator, bulk storage tanks for bleach, carbon feed room and supply storage garage.

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alb@alpena.mi.us

The following **INORGANIC CHEMISTRY** contaminants were tested for in 1999 but were **NOT DETECTED**.
Iron Nitrate Nitrite Cyanide

The following **METALS CHEMISTRY** contaminants were tested for in 1999 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 1999 but were **NOT DETECTED**:

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