We are pleased to report that during the past year, the water delivered to your home or business complied with, or was better than, all state and federal drinking water requirements. Each year we analyze over 50,000 water samples for bacteria, turbidity, lead, copper, other metals, nitrates, volatile organic contaminants, total trihalomethanes, and synthetic inorganic contaminants. For your information, we have compiled a list in the table below showing which substances were detected in our drinking water. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by U.S. EPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water. None of the other contaminants regulated by EPA were detected in our water.

**REGULATED CONTAMINANTS:** 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 could be more than one year old.

**UNREGULATED CONTAMINANTS:** Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where these contaminants occur and whether it needs to regulate these contaminants.

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**TABLE ABBREVIATIONS**

MCL - Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG 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. MCLG’s allow for a margin of safety.

* ppm-Parts per million: One part per million (or micrograms per liter) is equivalent to one penny in $10,000.

ppb-Parts per billion: One part per billion (or nanograms per liter) is equivalent to one penny in $10,000,000.

Turbidity: Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. It is measured in NTU’s.

NTU - Nephelometric Turbidity Units: Measurement of the clarity, or turbidity, of water.

TT-Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

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

RAA - Running Annual Average.

NA - Not Applicable.

TTMHS—Total Trihalomethanes: Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer.

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**Substances Expected to be in 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. 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S.EPA’s Safe Drinking Water Hotline (1-800-426-4791) or at [www.epa.gov/safewater](http://www.epa.gov/safewater).

**Drinking Water Improvement Projects**

In order to provide exceptional service to our customers, we continuously strive to maintain our existing facilities. Equipment and structural upgrade needs are routinely evaluated and budgeted as required. Examples of these projects appear in the pictures that follow:

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**Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; **Total Organic Carbon (TOC) removal ratio** is calculated as the ratio between the tap A TOC and the source B TOC as (1-A/B) -25% removal requirement. The ratio shown is the average of the ratio and the range is of monthly ratios for the 12 months covered by this report. TOC provides a medium for the formation of disinfection byproducts.

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**Drinking Water and People with Weakened Immune Systems**

Some people may be more vulnerable to contaminants in drinking water that general population. Immune-compromised persons such as persons 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 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 microorganisms are available from the Safe Drinking Water Hotline (800-426-4791).

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**Information on the Internet**

Water quality reports going back to 1998 can be found on the City of Alpena web site (www.alpena.mi.us). In addition, the EPA Office of Water ([www.epa.gov/watrhome](http://www.epa.gov/watrhome)) web site provides a substantial amount of information on many issues relating to water resources, water conservation and public health.

I hope you found this report both meaningful and informative.

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**What’s In My Water?**

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**The twenty year old Fluoride Feeder was replaced**, through a grant from the Michigan Dept. of Community Health
Water Conservation Tips

Water conservation measures are an important first step in protecting our water supply. Such measures not only reduce your water usage, but can also save you money by reducing your water and sewer bills. Here are a few suggestions:

- Fix leaking faucets, toilets, shower heads, etc.
- Install water-saving devices in faucets, toilets and appliances.
- Replace old fixtures (could reduce water consumption by nearly one-half).
- Wash only full loads of laundry.
- Do not use the toilet for a trash disposal.
- Take shorter showers.
- Water your lawn and garden in the early morning or evening.

Water Conservation Measures

Conservation measures you can use inside your home include:

- Fix leaking faucets, toilets shower heads, etc.
- Install water-saving devices in faucets, toilets and appliances.
- Replace old fixtures (could reduce water consumption by nearly one-half).
- Wash only full loads of laundry.
- Do not use the toilet for a trash disposal.
- Take shorter showers.
- Water your lawn and garden in the early morning or evening.

WHERE DOES OUR DRINKING 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. State and federal environmental regulations have progressively become more stringent resulting in significant improvements in Great Lakes water quality. Efforts to protect our fresh water source include a “Source Water Assessment” conducted by the Michigan Department of Environmental Quality. Copies are available upon request. (356-0757) The assessment identifies sources of pollution that may have a negative impact on the quality of our source water. The City of Alpena in cooperation with United Water embarked on a project, in Oct. 2010, to label all street catch basins, to bring awareness of the direct connection of storm water runoff and these basins, to Lake Huron, our source of drinking water. You can volunteer for this continuing project in 2011.

HOW IS MY WATER TREATED AND PURIFIED?

The treatment process consists of a series of steps. Raw water is drawn from Thunder Bay (Lake Huron) and pumped to a mixing tank where chloride, alum and polymer are added. The addition of these chemicals causes small particles to adhere to one another until they are heavy enough to settle in a basin from which sediment is removed. After settling, filter aid is added, if necessary, for turbidity removal (turbidity is a common measure of the clarity of water). Also added at this point are fluoride (which helps prevent tooth decay) and phosphate (which helps prevent corrosion in the water system). The water is then filtered through a layer of granular activated carbon and sand. As smaller, suspended particles are removed, turbidity decreases and clear water emerges. Chlorine is added again at this point as a final disinfectant. Chlorine is carefully monitored to maintain the required minimal dosage of 0.20ppm throughout the distribution system, the lowest quantity necessary to maintain the microbial safety of your water. The water is then pumped through the distribution piping to water towers, and your home or business.