

▸ The Water Source

Aberdeen's water supply begins at the headwaters of the Elm and Maple Rivers south of Jamestown, North Dakota. Prompted by national concerns about the influence of agricultural practices on public water supplies, the City of Aberdeen became one of the first large public water systems in South Dakota to develop a source water protection program. Additionally, Aberdeen sponsors the Elm Lake Watershed Restoration project, which greatly improves the quality of the water in Elm Lake by reducing feedlot runoff, benefiting the citizens of Aberdeen, sportsmen who fish in our watershed area, and the fish and wildlife living in and around Elm Lake. Several feedlot improvement projects have been completed and others are planned that continue to enhance watershed agricultural practices. These changes will reduce the amount of nutrients entering the lake from the watershed, which ultimately improves the water quality of Elm Lake.

In 2002 the South Dakota Department of Environment and Natural Resources (SD DENR) prepared a Source Water Assessment of the Aberdeen Public Water Supply system and determined that the relative susceptibility rating for the city of Aberdeen public water supply system is moderate. This means the surface water prior to treatment is minimally influenced by agricultural practices within the watershed area. Copies of this report are available upon request from the City of Aberdeen Public Works Department by calling 626-7011.

Aberdeen's surface water supply is routinely supplemented by groundwater from six new wells in the Elm Aquifer near the water treatment plant and can be supplemented by water pumped from the Eystone Pit as well. Two additional wells are being developed in 2005 to draw still more groundwater from the same aquifer.

▸ The Water Treatment Plant

Historically referred to as the filtration plant, the Aberdeen Water Works was built in 1934 on the banks of the Elm River. When it was completed, the state-of-the-art lime softening plant produced water that was a marvelous improvement to a town used to drinking the bad tasting, mineral laden water from deep artesian wells drilled by the railroad.

In 2004 we served more than 25,000 private and commercial customers with an average production of 3,040,000 gallons of water per day. Although the existing water treatment plant continues to meet EPA drinking water standards, our pro-active city commission wisely chose to upgrade the plant with new technology to ensure water quality stays ahead of the continually more stringent drinking water standards. These up-upgrades not only will insure compliance with regulations but also should produce a consistently softer and more palatable product. The City of Aberdeen has received a State Revolving Loan and HUD grant, which will be used to fund the upgrades. The project is expected to be complete by January 2006.

▸ Drinking Water

Sources of drinking water (both tap water and bottle water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. Whenever water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and can pick up substances resulting from the presence of animals or from human activity.



In accordance with EPA and State of South Dakota regulations, our drinking water was tested for more than 80 possible contaminants. Results for this testing during 2004 are reported in this brochure. Items listed are those which were detected, no matter how tiny the concentration, while dozens of other substances were monitored but not detected. Monitoring for some substances is not required annually; if they were detected in previous years' testing, this date is listed in the table.

▸ Testing

State and independent laboratory testing looks for substances other than water which could be found in our drinking water (called contaminants) and could include:

Microbial, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agriculture, and wildlife.

Radioactive Contaminants, which can occur naturally or result from oil and gas production and mining.

Inorganic Contaminants, such as salts and metals, which can occur naturally or come from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from agriculture, urban stormwater runoff, and residential uses.

Organic 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.

The EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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 EPA's Safe Drinking Water Hotline at 800-426-4791.

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, and 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 at 800-426-4791.

For additional information regarding the results of the many tests conducted on our drinking water or for clarification of the information contained within this report, please call the Aberdeen Water Works at 605-626-7011. A summary of all the water test data is available from the water department and will be posted to our website at www.aberdeen.sd.us.

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City of Aberdeen Water Treatment
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ECRWSS

Residential Customer

CITY OF ABERDEEN CONSUMER
CONFIDENCE REPORT FOR 2004

**BE SURE TO READ THIS
REPORT TO SEE IF YOU'VE
WON \$50 TOWARDS YOUR
NEXT WATER BILL!**

For 6 lucky people, somewhere within the body of this report will be written the words "You've won \$50 towards your water bill." Simply bring the report to the finance office at the Municipal Building for redemption.

Since the depression, the citizens of Aberdeen have been drinking safe tap water produced at the Aberdeen Water Works 1 3/4 miles south of Ordway. This annual water quality report will provide you, the consumer, a summary of the results of the many stringent water quality tests required by the Environmental Protection Agency (EPA). These water quality tests are frequently performed on water samples taken from locations throughout the community to ensure the citizens of Aberdeen are receiving safe, quality water.

The 1996 amendments to the Safe Drinking Water Act contain extensive provisions for consumer involvement and right-to-know that herald a new era of public participation in drinking water protection. These provisions are founded on the principle that consumers have the right to know what is in their drinking water and where it comes from before they drink it, use it for cooking, or give it to their children.

If you have questions regarding your drinking water or the Aberdeen water system not answered by this report, please contact the Aberdeen Public Works Department at 626-7011.

**LARGE COPIES OF THIS REPORT
ARE AVAILABLE AT THE MUNICIPAL
BUILDING AT 123 S. LINCOLN**

City of Aberdeen Drinking Water Report 2005

Water Conservation

In 2004 the City of Aberdeen required Level 1 watering restrictions primarily for the reduced yield caused by the water treatment plant construction. In 2005 the plant construction continues to limit the water treatment capacity, and we must ask your continued conservation by observing the city's watering times during the hours of 4:00 am to 9:30 am and also 6:00 pm to 10:00 pm.

Following are 14 good water conservation practices that will save you the most on your water bill and help the community meet its water stewardship goals:

1. Water your lawn only when it needs it. Step on your grass. If it springs back, when you lift your foot, it doesn't need water. **Saves 750-1,500 gallons** per month. Better yet, especially in times of drought, water with a hose.
2. Leaky Faucets waste water and energy. One drop per second wastes 720 gallons per month. Fix that leak and **Save 20 gallons** per day.
3. Don't run the hose while washing your car. Use a bucket of water and a quick hose rinse at the end. **Saves 150 gallons** each time. For a two-car family that's **up to 1,200 gallons** a month.
4. Install water-saving shower heads or flow restrictors. **Saves 500 to 800 gallons** per month.
5. Run only full loads in the washing machine and dishwasher. **Saves 300 to 800 gallons** per month.
6. Shorten your showers. Even a one or two minute reduction can **save up to 700 gallons** per month.
7. Use a broom instead of a hose to clean driveways and sidewalks. **Saves 150 gallons** or more each time. At once a week, that's **more than 600 gallons** a month.
8. Don't use your toilet as an ashtray or wastebasket. **Saves 400 to 600 gallons** per month.
9. Capture tap water. While you wait for hot water to come down the pipes, catch the flow in a watering can to use later on house plants or your garden. **Saves 200 to 300 gallons** per month.
10. Don't water the sidewalks, driveway or gutter. Adjust your sprinklers so that water lands on your lawn or garden where it belongs—and only there. **Saves 500 gallons** per month.
11. Turn off the water while brushing your teeth or shaving. **Saves 3 gallons** each event.
12. Set lawn mower blades one notch higher. Longer grass means less evaporation. **Saves 500 to 1,500 gallons** each month.
13. Put mulch around trees and plants to slow evaporation. **Saves 750 to 1,500 gallons** per month.
14. Don't water on windy days. **Wastes 300 gallons** in one watering.



2004 Water Quality Data

2004 Table of Detected Contaminants for City of Aberdeen



Definitions of Terms Used:

- ▶ **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.
- ▶ **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.
- ▶ **AL** - *Action Level*: the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- ▶ **TT** - *Treatment Technique*: a required process intended to reduce the level of a contaminant in drinking water.

Units Used:

ppm: parts per million, or milligrams per liter (mg/l)
ppb: parts per billion, or micrograms per liter (ug/l)
pspm: positive samples per month
MFL: million fibers per liter

NTU: Nephelometric Turbidity Units
pCi/l: picocuries per liter (a measure of radioactivity)
ppt: parts per trillion, or nanograms per liter
ppq: parts per quadrillion, or picograms per liter

mrem/year: millirems per year (a measure of radiation absorbed by the body)

Substance	Highest Level Detected	Range	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Units	Date 2004	Major Source of Contaminant
Barium	0.011		2	2	ppm	11/15/04	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	1.7		100	100	ppb	11/15/04	Discharge from steel and pulp mills; erosion of natural deposits.
Fluoride	1.18	0.79 - 1.18	4	4	ppm	7/20/04	Erosion of natural deposits; water additive, which promotes strong teeth; discharge from fertilizer and aluminium factories.
Selenium	2.2		50	50	ppb	11/15/04	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Copper	0.12	30 sites>1.3 AL - 0	AL = 1.3	0	ppm	8/26/02	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
Lead	9.4	30 sites>15 AL - 0	AL = 15	0	ppb	8/27/02	Corrosion of household plumbing systems, erosion of natural deposits.
Total Coliform Bacteria	1	Positive Samples	1	0	pspm		Naturally present in the environment
Turbidity		98% Samples < 0.3	TT=<0.3 NTU	NA	NTU	4/01/04	Soil runoff. Turbidity is measurement of the clarity of the water.
Combined Radium	0.40		5	0	pCi/l	4/08/02	Erosion of natural deposits.
Haloacetic Acids	25.4		60	0	ppb	9/13/04	By-product of drinking water chlorination.
Total Trihalomethanes	24.5	11- 24.5	80	0	ppb	9/13/04	By-product of drinking water chlorination.
Nickel	2.4		-	-	ppm		
Sulfate	404		-	-	ppm		Erosion of natural deposits.