

Annual Drinking Water Quality Report-2007

City of Hillsboro, North Dakota

The City of Hillsboro, as required by the federal Safe Drinking Water Act (SDWA), has prepared and is distributing to our customers this year's Annual Drinking Water Quality Report. This report is designed to inform you about the safe clean water we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Our water source is groundwater taken 90 feet deep from the Hillsboro Aquifer. We draw from 3 wells located west of Hillsboro. The water is processed through an iron and manganese removal plant, and then stored in a 500,000-gallon clearwell. From there it is pumped to town into the distribution system, which includes a 90,000-gallon overhead storage tank.

The City of Hillsboro is a participant in the State Wellhead Protection Program. It contains information on our well site, delineation, and our source water assessment. The protection report along with other relevant information is available at our city offices.

If you have any questions about this report or concerning your water utility, please contact Jim Anderson at 636-4860. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held at 7 p.m. on the first and third Mondays of each month at City Hall. If you are aware of non-English speaking individuals who need help with the appropriate language translation, please call Jim Anderson at the number listed above.

The City of Hillsboro would appreciate it if large volume water customers, such as apartment complexes, hospitals, schools, or business', post copies of the CCR in conspicuous locations or distribute them to tenants, residents, patients, students, and/or employees, so individuals who consume the water, but do not receive a water bill can learn about our water system.

The sources of drinking water (both tap 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.

Contaminants that may be present in source water include:

(A) *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

(B) *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban stormwater, industrial or domestic wastewater discharges, oil production, mining or farming.

(C) *Pesticides and herbicides*, which come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

(D) *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.

(E) *Radioactive contaminants*, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The 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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

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 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 microbiological contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

We are pleased to report that our drinking water is safe and meets federal and state requirements.

The City of Hillsboro routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table shows the results of our monitoring for the period of January 1st to December 31st, 2007. The data presented is for 2007 or the most recent year in accordance with state and federal regulations.

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

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

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

Maximum Contaminant Level (MCL) - The "Maximum Allowed" is 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 "Goal" is 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.

Range of Detections - The lowest to the highest value recorded during the monitoring timeframe.

MFL-million fibers per liter

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

NTU- Nephelometric Turbidity Units

pCi/l-picocuries per liter (a measure of radioactivity)

ppm- parts per million, or milligrams per liter (mg/l)

ppb- parts per billion, or micrograms per liter (g/l)

ppt- parts per trillion, or nanograms per liter

ppq-parts per quadrillion, or picograms per liter

N/D- non detect

N/A- non applicable

Table of Detected Regulated Contaminants

Contaminant (Units)	MCLG	MCL	Level	Range of Detections	Year/Date Obtained	Other Information	Likely Source of Contamination
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Inorganic Contaminants

Arsenic (ppb)	NA	50	4.2	NA	10/9/07	No Violation	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Copper (ppm)	1.3	AL= 1.3	0.792 90 th %tile	NA	8/7/07	No Violation	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb)	0	AL=15	3.31 90 th %tile	NA	8/7/07	No Violation	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate+Nitrite as N (ppm)	10	10	1.14	NA	2/21/07	No Violation	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Microbiological Contaminants

Total Coliform Bacteria	0	1 positive monthly sample	1	NA	1/07	Violation though repeat samples all negative	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
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The city of Hillsboro exceeded the Maximum Containment Level of positive Coliform bacteria samples during the month of January. Subsequent samples tested negative for Coliform bacteria. We feel that the positive samples were due to the water main replacement project that took place the summer of 2006.

Table of Detected Regulated Contaminants

Contaminant (Units)	MCLG	MCL	Level	Range of Detections	Year/Date Obtained	Other Information	Likely Source of Contamination
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Radioactive Contaminants

Radium 226,228 Combined (pCi/l)	0	5	1.44	NA	8/25/03	No Violation	Erosion of natural deposits
Uranium Combined (ppb)	0	30	2.09	NA	8/25/03	No Violation	Erosion of natural deposits

Disinfection Byproducts (Samples were taken during 2005-2007 monitoring period.)

Total Trihalomethanes [TTHM]	0	60	6	ND to 5.88	12/31/07	No Violation	By-product of drinking water chlorination
Total Haloacetic Acids [TTHM]	0	80	37	11.04 to 37	12/31/07	No Violation	By-product of drinking water chlorination

Disinfectants

Chlorine	MRDLG =4	MRDL =4	0.6	0.09-1.05	11/30/07	No Violations	Water additive used to control microbes
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[**MRDLG**] Maximum Residual Disinfectant Level Goal: The level of a drinking water disinfectant below which there is known or expected risk to health.

MRDLGs do not reflect the benefits of the use of disinfectants to control of microbial contaminants.

[**MRDL**] Maximum Residual Disinfectant Level: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Table of Detected Unregulated Contaminants

Contaminant (Units)	SMCL	Level	Year/ Date Obtained	Noticeable Affect	Likely Source of Contamination
Total Dissolved Solids (ppm)	500	986	3/26/02	Hardness, deposits, colored water, staining, and salty taste.	Naturally occurring. Highly mineralized water.
Hardness (ppm/grains) CaCO3		548/32	7/18/00	Scaling of water heaters, plumbing and appliances. Water spots on dishes and other surfaces. Increased use of soap and detergents.	Naturally occurring. High levels of calcium and magnesium.
Manganese (ppm)	0.05	0.186	7/18/00	Black or brown color, black staining, bitter metallic taste to water	Naturally occurring.
Sulfate (ppm)	250	379	7/18/00	Salty taste, diarrhea (transients, babies, elderly, and immuno-deficient)	Occurs in the environment as a result of both natural and human activities. Soil sediments and rocks are the primary sources. Sulfate salts such as sodium, potassium, and magnesium, are very water-soluble and are often found in natural waters.

Secondary Maximum Containment Level (SMCL)- Highest level of a non-health threatening contaminant that is allowed in drinking water that primarily affect the aesthetic qualities.

Classification for Water Hardness (Hardness as CaCO3)

Classification	Mg/L or PPM	Grains per Gallon
Soft	0-60	0-3.5
Moderate	61-120	3.5-7
Hard	121-180	7-10.5
Very Hard	>180	>10.5

We're proud that your drinking water meets or exceeds all Federal and State Primary Drinking Water Standards.

Our public water system, in cooperation with the North Dakota Dept. of Health, has completed the delineation and contaminant/land use inventory elements of the North Dakota Protection Program. Based on the information from these elements, the North Dakota Dept. of Health has determined that our source water is moderately susceptible to potential contaminants.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements to our water system. Hillsboro's Water Treatment Plant over 40 years old and its watermains and water tower are even older. During those years only minor maintenance has been addressed. No long-term plan, for any major improvements, was set up.

Over the last ten years we have been involved in a study to address these problems and deficiencies. Each area of the water system, whether it is supply, treatment or distribution, needs some type of renovation. If not now, some time in the near future. Even though our water rates have always been very attractive, adjustments may be necessary to pay for the costs of these improvements.

Included in this year's report is a list of Unregulated Contaminants in our system that are not health related but do affect the aesthetic quality of our water. These contaminants included Total Dissolved Solids (TDS), Hardness, Manganese, and Sulfates. The noticeable effects of these contaminants are included in the table and primarily included Taste, Color, Staining, Deposits, and Diarrhea to those not acclimated to the water.

When modifications and upgrades are made to the Treatment System the City may choose to reduce these aesthetic related Unregulated Contaminants.

This is our water system. The longer we wait the higher these adjustments and costs will be. We as residents and taxpayers need to decide on and address these issues. Whether the changes come about now or in the future, we need to voice our opinions.

Thank you for allowing us to provide your family with clean, quality water this year. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our future.

Please call our offices if you have questions.
Public Works Shop 636-4860
City Hall 636-4620

Thank you,
City of Hillsboro

Commissioners

Kevin Burg
Lorraine Tibert
Mike Lessard
Jeff Nelson
Kyle Stern

Auditor

Lesley Connelly

Superintendent

Jim Anderson