



Proudly Presented By:
CITY OF
HILLSBORO

ANNUAL
WATER
QUALITY
REPORT

Water testing performed in 2006



PWS ID#s: 4100379, 4100985

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

Reservoir Site Scouting Underway

Hillsboro built its first water storage tank at 24th Street in the late 1960s. It held six million gallons (MG), which was an ample emergency supply for the 12,000 people who lived in Hillsboro at that time. However, as Hillsboro grew and the population increased, so did the need for a greater in-town emergency supply. In 2004, the 15 MG Evergreen Reservoir was added as a second storage tank for burgeoning north Hillsboro. The Hillsboro Water Department (HWD) strives to maintain a finished water storage supply that can meet the needs of its customers for three days of average use in an emergency situation. Currently, HWD serves around 63,000 customers and on a normal day supplies local residents, businesses, and industries with about 12 MG of water.

But Hillsboro continues to grow and suitable land for reservoir siting is becoming scarce and more expensive. In anticipation of future increased water demands, HWD has contracted with CH2MHill to conduct a site selection study for the location of up to three additional reservoir locations. These additional water tanks will most likely be in the 10 MG to 15 MG range each and the combined volume will adequately ensure that HWD customers will have an ample supply of stored finished water on hand in the future. Until HWD is able to build this new in-town storage, it is able to rely on the recently finished Fern Hill Reservoir, which is owned by the Joint Water Commission, to help meet its total storage requirements.

Continuing Our Commitment

Once again we proudly present our annual water quality report. This edition covers all testing completed from January 1, 2006 through December 31, 2006. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, we are committed to delivering the best-quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

For more information about this report, or for any questions relating to your drinking water, please call Tacy Steele, Water Programs Coordinator, at (503) 615-6732.



Community Participation

You are invited to attend a Utilities Commission meeting to voice comments about your drinking water. The commission meets at 12:45 p.m. on the second Tuesday of each month at 150 East Main Street, Room 207. Agendas are listed on our Web site (www.ci.hillsboro.or.us), or call (503) 615-6702 for more information.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The

U.S. EPA/CDC (Centers for Disease Control and Prevention) 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.



Is There Fluoride In My Water?

Fluoride is not naturally present or added to the water by the City of Hillsboro. Check with your dentist to see if supplemental fluoride is recommended for your family.



Source Water Assessment

The Department of Environmental Quality (DEQ) and the Oregon Department of Human Services (DHS) completed a source water assessment to identify the surface areas that supply water to the Joint Water Commission (JWC) and the Cherry Grove public water system intakes. They also inventoried the potential contaminant sources that may affect the water supply. A total of 306 potential contaminant sources were identified in the JWC-Cherry Grove drinking water protection area, and 295 of those sources are located in sensitive areas. Sensitive areas include places with high soil permeability, high soil erosion potential, high runoff potential, and areas within 1,000 feet of a river or stream. Potential sources of watershed contamination include the following: agricultural/forest management applications, commercial land uses, residential/municipal land uses, and landslide and clear-cut forest areas. These are the existing potential sources of contamination that could, if improperly managed or released, affect the water quality in the watershed.

The JWC-Cherry Grove Source Water Assessment Report provides additional details on the methodology and results of this assessment. The full report is available for review at the Hillsboro Water Department, 150 East Main Street, Hillsboro, or call (503) 615-6702 for more information.

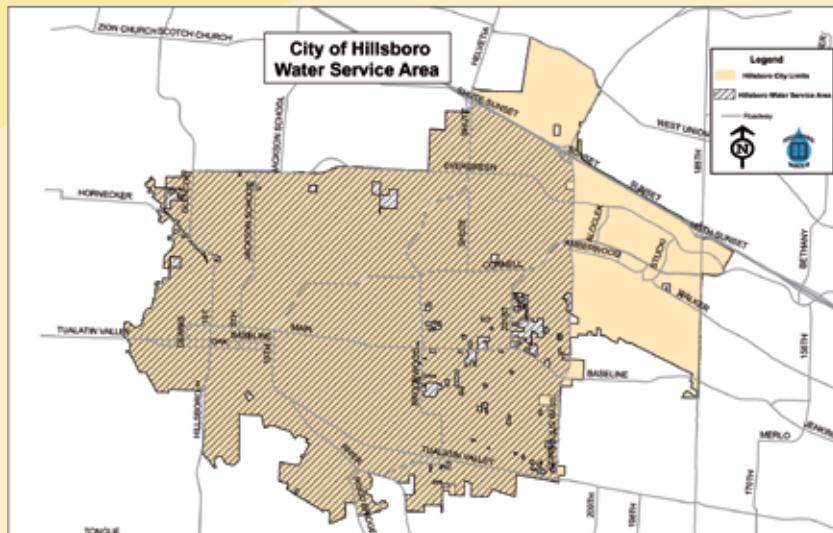
Where Does My Water Come From?

All of the water running out your tap is treated surface water, which means it comes out of a river or reservoir. Hillsboro's winter water source is the upper Tualatin River. In summer, the river level drops too low for municipal use, so Hillsboro relies upon water stored in the Barney Reservoir and Hagg Lake to meet customer needs. Hillsboro's water is drawn out of the upper Tualatin River for filtration and treatment at either the Cherry Grove Slow Sand Filter (SSF) Plant or the Joint Water Commission (JWC) Treatment Plant. Both plants operate 24 hours a day, 365 days a year.

The SSF Plant can treat up to three million gallons per day (MGD), providing water to Cherry Grove, the City of Gaston, the L.A. Water Co-op, Scoggins Valley, and Dilley. After treatment, SSF water flows through an 18-inch line to Dilley; along the way water is fed to Hillsboro's county and wholesale customers.

The JWC Plant is the largest water treatment plant in Oregon and is capable of treating up to 75 MGD. It provides water to Hillsboro, Forest Grove, Beaverton, Tigard and the Tualatin Valley Water District. The City of Hillsboro typically uses 11 MGD of combined JWC and SSF plant capacities to meet customer needs, but summertime usage can push that demand up to almost 25 MGD, primarily due to outdoor watering habits.

The water is delivered to Hillsboro and beyond via two large transmission lines. There are approximately 250 miles of distribution lines in the city of Hillsboro that are fed by the transmission lines. These lines provide water to 23,479 business and residential Hillsboro customers who live to the west of Cornelius Pass Road. The Tualatin Valley Water District serves Hillsboro residents living to the east of Cornelius Pass Road.



Substances That Might Be in Drinking Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;
- **Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may 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, urban stormwater runoff, and residential uses;
- **Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;
- **Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.



For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Cryptosporidium in Drinking Water

Cryptosporidium is a microbial parasite found in surface water throughout the United States, including the Tualatin River. Hillsboro monitors its source water for the presence of these organisms and all water coming into the plant is treated and filtered to make it safe for drinking. This process does remove *Cryptosporidium* fairly

well, but filtration cannot guarantee 100% removal. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. *Cryptosporidium* must be ingested to cause disease, and it can also be spread through means other than drinking water. Because of the filtration process, the chances of contracting *Cryptosporidium* through Hillsboro water are almost nil; however, it is important to be aware that immunocompromised people are at greater risk of developing a life-threatening illness if infected. We encourage immunocompromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection.





How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is drawn from the Tualatin River intake and pumped directly to a mixing tank, where chlorine and alum are added. The chlorine serves as a disinfectant and the addition of alum causes small particles to adhere to one another (called floc), making them heavy enough to settle into a basin from which sediment is removed. After settling, polymer is added for turbidity removal. (Turbidity is caused by particles suspended in the water and is measured using a light deflection technique.) The water is then filtered through layers of anthracite coal and silicate sand. As suspended particles are removed, turbidity disappears and clear water emerges. Chlorine is added again as a precaution against any bacteria that may still be present. (We carefully monitor the amount of chlorine, adding the smallest quantity necessary to protect the safety of your water without compromising taste.) Finally, caustic soda (used to adjust the final pH and alkalinity) is added and the finished water is pumped from the clear well to one of two, 20-million-gallon reservoir tanks on Fern Hill. From there it is gravity-fed to Hillsboro either for immediate use by the community or for in-town reservoir emergency storage.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES				Slow Sand Filter Plant		City of Hillsboro		VIOLATION	TYPICAL SOURCE
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Chlorine (ppm)	2006	[4]	[4]	1.77	0.157–1.77	1.41	0.83–1.41	No	Water additive used to control microbes
Haloacetic Acids [HAA] (ppb)	2006	60	NA	20.6	14–31	36	28.6–47.9	No	By-product of drinking water disinfection
Nitrate [as Nitrogen] (ppm)	2006	10	10	0.7	ND–0.7	1	ND–1.0	No	Runoff from fertilizer use; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2006	80	NA	17.9	11.4–25.9	31.3	23.2–41	No	By-product of drinking water chlorination
Total Coliform Bacteria (% positive samples)	2006	5% of monthly samples are positive	0	NA	NA	0.8	NA	No	Naturally present in the environment
Total Organic Carbon (ppm)	2006	TT	NA	0.8	0.505–0.8	0.88	0.54–0.88	No	Naturally present in the environment
Turbidity (NTU)	2006	TT	NA	1.15 ¹	0.05–1.15	0.07	0.03–0.07	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2006	TT	NA	100 ¹	NA	100	NA	No	Soil runoff

Tap water samples were collected from sample sites throughout the community.

				Slow Sand Filter Plant		City of Hillsboro		VIOLATION	TYPICAL SOURCE
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90th% TILE)	SITES ABOVE ACTION LEVEL	AMOUNT DETECTED (90th% TILE)	SITES ABOVE ACTION LEVEL		
Copper (ppm)	2005	1.3	1.3	0.04	0	0.21	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2005	15	0	1.3	0	4.0	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

¹ Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

Table 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.

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.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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