

Annual
WATER
QUALITY
REPORT

Reporting Year 2013



Presented By
Provo City Water Resources

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

There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2013. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal standards. We continually strive to adopt new methods for delivering the best-quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users. We at Provo City Water Resources work around the clock to provide the highest quality drinking water to every tap.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

Community Participation

You may wish to direct questions regarding your water utility to the Provo City Municipal Council. They meet at 5:30 p.m. on the first and third Tuesdays of each month. Exceptions: In November, they meet only on the second Tuesday; and in December, they meet only on the first Tuesday.

Where Does My Water Come From?

The City of Provo has excellent groundwater sources in our wells and springs. They include 15 deep wells located within Provo City: North well, Edgemont, Rock Canyon well, Brough, BYU well, 5600, 4800, 3700, 88, Utilities, Slate, Thorn, Timpview, Canyon road, and Riverwoods. A new well is currently being drilled at Lions Park and is anticipated to be online in July 2014. Provo also has 12 spring developments located in Provo Canyon, South Fork, and Rock Canyon. A small overall percentage of Provo's water is obtained from the Provo River and treated at the Central Utah Water Conservancy District Treatment Plant prior to delivery to our customers.

Substances That Could Be in 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 that 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.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Could You Be Contaminating Your Water?

Provo City Water Resources Division has a Cross-connection Control Program, which is required by Utah State Drinking Water Regulations and has specific requirements for the protection of Provo's water from backflow. A cross-connection is any connection or structural arrangement of pipe between a public water system and anything else where a backflow can occur. Backflow is simply the reverse flow of contaminated water or other substances from a consumer's water system back into the public drinking water system.

An example of a backflow possibility is when a vacuum is formed in the water system due to the service being shut off for repairs, or during peak usage such as fighting a fire. When this happens, it may be possible for contaminated water to be drawn back into the drinking water system.

Backflow prevention devices and assemblies provide protection from pollution or contamination of the drinking water system. The proper installation, use, and maintenance of this protection is required by Provo City Code and will help ensure the water is clean and safe for our community. Please feel free to contact Tracy Hill, Cross-connection Control Coordinator, at (801) 852-6788, with any questions regarding this program.

Source Water Assessment

Groundwater tapped by the City's wells is stored in unconsolidated deposits of sand and gravel that underlie the City, and our springs store groundwater found in Paleozoic limestone and quartzites. Provo City has a Drinking Water Source Protection Plan (DWSP) that is designed to protect the integrity of our drinking water supplies and is available for review by our customers at our office.

The general types of potential contamination sources that exist within our DWSP zones for Provo's wells and springs include sewer lines, golf courses, improved and unimproved roads, residential properties, and commercial/industrial areas. These potential contamination sources are adequately controlled by our commitment to an aggressive watershed protection program, which we consider our first line of defense in assuring the quality of your drinking water.

Based on the hydro-geologic setting, the integrity of the source collection systems, the types of potential contamination sources present, and the strict requirements of our Drinking Water Source Protection Program, we consider the Provo wellfield and springs mildly susceptible to contamination.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Ryan York, Water Sources Section Manager, at (801) 852-7789. Visit our Web site at www.provo.org.

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 or <http://water.epa.gov/drink/hotline>.

TipTopTap

The most common signs that your faucet or sink is affecting the quality of your drinking water are discolored water, sink or faucet stains, a buildup of particles, unusual odors or tastes, and a reduced flow of water. The solutions to these problems may be in your hands.

Kitchen sink and drain

Hand washing, soap scum buildup, and the handling of raw meats and vegetables can contaminate your sink. Clogged drains can lead to unclean sinks and backed up water in which bacteria (i.e., pink and black colored slime growth) can grow and contaminate the sink area and faucet, causing a rotten egg odor. Disinfect and clean the sink and drain area regularly. Also, flush regularly with hot water.

Faucets, screens, and aerators

Chemicals and bacteria can splash and accumulate on the faucet screen and aerator, which are located on the tip of faucets and can collect particles like sediment and minerals resulting in a decreased flow from the faucet. Clean and disinfect the aerators or screens on a regular basis.

Check with your plumber if you find particles in the faucet's screen as they could be pieces of plastic from the hot water heater's dip tube. Faucet gaskets can break down and cause black, oily slime. If you find this slime, replace the faucet's gasket with a higher-quality product. White scaling or hard deposits on faucets and shower heads may be caused by hard water or water with high levels of calcium carbonate. Clean these fixtures with vinegar or use water softening to reduce the calcium carbonate levels for the hot water system.

Water filtration/treatment devices

A smell of rotten eggs can be a sign of bacteria on the filters or in the treatment system. The system can also become clogged over time so regular filter replacement is important. (Remember to replace your refrigerator filters!)

Sampling Results

Provo City Water Resources Division routinely monitors for substances in our drinking water in accordance with state and federal laws. The following tables show the results of our monitoring for the period of January 1 to December 31, 2013. The state requires us to monitor certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data is included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	Provo City Water Resources		Central Utah Water Conservancy District		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Alpha Emitters (pCi/L)	2011	15	0	1.7	1.7–1.7	3.8 ¹	ND–3.8 ¹	No	Erosion of natural deposits
Arsenic (ppb)	2011	10	0	1	ND–2	2.3 ¹	ND–3.34 ¹	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2011	2	2	0.044	0.044–0.044	0.075 ¹	ND–0.075 ¹	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters ² (pCi/L)	2011	50	0	37.8	2.1–37.8	NA	NA	No	Decay of natural and man-made deposits
Chlorine (ppm)	2013	[4]	[4]	0.3	0.3–0.3	0.61	0.37–1.51	No	Water additive used to control microbes
Chromium (ppb)	2013	100	100	NA	NA	ND	ND–7.9	No	Discharge from steel and pulp mills; Erosion of natural deposits
Combined Radium (pCi/L)	2011	5	0	0.33	ND–0.65	0.34 ¹	ND–2.79 ¹	No	Erosion of natural deposits
Fluoride (ppm)	2011	4	4	0.2	0.2–0.2	0.2 ¹	ND–0.242 ¹	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAAs]–Stage 2 (ppb)	2013	60	NA	5	ND–6.6	24.6	13.7–40.3	No	By-product of drinking water disinfection
Nitrate (ppm)	2013	10	10	1	ND–0.8	0.2	ND–0.3	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2011	50	50	2.7	2.7–2.7	NA	NA	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2013	80	NA	7	1.2–24.4	41.2	16.8–74.9	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2013	5% of monthly samples are positive	0	0.9	NA	ND	NA	No	Naturally present in the environment
Turbidity ³ (NTU)	2013	TT	NA	NA	NA	0.034	0.020–0.034	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2013	TT=95% of samples <0.3 NTU	NA	NA	NA	100%	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2013	1.3	1.3	0.174	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2013	15	0	3.4	1/50	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	Provo City Water Resources		Central Utah Water Conservancy District		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Color (Units)	2013	15	NA	NA	NA	0.69	ND–8	No	Naturally occurring organic materials
pH (Units)	2011	6.5–8.5	NA	7.7	7.5–7.9	8.29 ¹	7.76–8.64 ¹	No	Naturally occurring
Total Dissolved Solids [TDS] (ppm)	2011	500	NA	288	206–428	289 ¹	95–308 ¹	No	Runoff/leaching from natural deposits

UNREGULATED SUBSTANCES (PROVO CITY WATER RESOURCES)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Hardness (grains/gal)	2013	13	10–15	Dissolved minerals in water

¹ Sampled in 2013.

² The MCL for beta particles is 4 mrem/year. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

³ Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality and the effectiveness of disinfectants.

Definitions

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

grains/gal (grains per gallon): Grains of compound per gallon of water.

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. Secondary MCLs (SMCLs) are established to regulate the aesthetics of drinking water (i.e., taste and odor).

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.

pCi/L (picocuries per liter): A measure of radioactivity.

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.