

Annual
WaterQualityReport

Water testing performed in 2010



Presented By



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Quality First

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2010. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.



Drinking Water Source Protection Plan

The Drinking Water Source Protection Plan for Kearns Improvement District is available for your review. It contains information about source protection zones, potential contamination sources, and management strategies to protect our drinking water. Potential contamination sources common in our protection areas include residents and industries that use chemicals, fuels, fertilizers, herbicides, and pesticides, and that use, store, manufacture, or dispose of, hazardous material. Major roadways where hazardous materials are transported also pose a risk. However, our wells have a low susceptibility to potential contamination, and we have developed management strategies to further protect our sources from contamination. Please contact us at (801) 968-1011 if you would like to review our source protection plan or if you have questions or concerns about it.

JVWCD also has a Drinking Water Source Protection Plan available for review. Please call (801) 565-4300 if you have any questions or would like to review the plan.

Lead and Drinking Water

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. Kearns Improvement District is responsible for providing high-quality drinking water but 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.

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>.

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, 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.

Radon

Radon is a radioactive gas that occurs naturally in some groundwater. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Radon is released into homes and groundwater from soil. Inhalation of radon gas has been linked to lung cancer; however, the effects of radon ingested in drinking water are not yet clear. In 2010, JVVCD sampled and detected radon at a concentration of -13.8 pCi/L. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on how to have your home tested, contact the Utah Department of Environmental Quality, Radon Hotline at (800) 458-0145, or (800) SOS-RADON or visit the Web site at www.radon.utah.gov.

Where Does My Water Come From?

The Kearns Improvement District purchases 90 percent of the water delivered to our customers from the Jordan Valley Water Conservancy District (JVVCD), our wholesale water provider. Water sources include water from Deer Creek Reservoir and local mountain springs and wells. The water is treated at the Jordan Valley Water Treatment Plant and the Southeast Regional Water Treatment Plant. The remaining 10 percent of the water is delivered through 12 wells located in the Kearns area. Kearns Improvement District staff operate and maintain these wells.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Pamela Gill, General Manager, at (801) 968-1011.

Community Participation

The Kearns Improvement District Board of Trustees holds a board meeting generally on the second Tuesday of each month, beginning at 6:30 p.m., at the District office, 5350 West 5400 South, Kearns, Utah. The public is invited to attend.

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. 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									
				Kearns Improvement District		Jordan Valley Water Conservancy District			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2009	15	0	6.9	4.2–6.9	20.2 ¹	ND–20.2 ¹	No	Erosion of natural deposits
Arsenic² (ppb)	2010	10	0	4.1	1.4–4.1	7.3	ND–7.3	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2009	2	2	0.206	0.055–0.206	0.147 ¹	ND–0.147 ¹	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters³ (pCi/L)	2009	50	0	9.3	6–9.3	47.6 ¹	ND–47.6 ¹	No	Decay of natural and man-made deposits
Cadmium (ppb)	2010	5	5	NA	NA	0.12	ND–0.12	No	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints
Chlorine (ppm)	2010	[4]	[4]	NA	NA	1.4	ND–1.4	No	Water additive used to control microbes
Chromium (ppb)	2009	100	100	4	2–4	4 ¹	ND–4 ¹	No	Discharge from steel and pulp mills; Erosion of natural deposits
Di(2-ethylhexyl) Adipate (ppb)	2007	400	400	NA	NA	1	ND–1	No	Discharge from chemical factories
Dissolved Organic Carbon (ppm)	2010	TT	NA	NA	NA	2.7	1.4–2.7	No	Naturally occurring
Fluoride (ppm)	2010	4	4	1.49	0.59–1.49	1.3	0.2–1.3	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2010	60	NA	45.6	45.6–45.6	54.2	ND–54.2	No	By-product of drinking water disinfection
Mercury [inorganic] (ppb)	2010	2	2	NA	NA	0.30	ND–0.30	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
Nitrate⁴ (ppm)	2010	10	10	5.76	0.211–5.76	3.7	0.1–3.7	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Radium 226 (pCi/L)	2009	5	0	0.24	0.06–0.24	2.00 ¹	ND–2.00 ¹	No	Erosion of naturally occurring deposits
Radium 228 (pCi/L)	2009	5	0	1.8	0.84–1.8	1.29 ¹	-0.06–1.29 ¹	No	Erosion of naturally occurring deposits
Selenium (ppb)	2009	50	50	6.5	1.8–6.5	7.3 ¹	ND–7.3 ¹	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes] (ppb)	2010	80	NA	61.7	61.7–61.7	74.3	ND–74.3	No	By-product of drinking water disinfection
Thallium (ppb)	2010	2	0.5	NA	NA	1.1	ND–1.1	No	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories
Total Coliform Bacteria (#/% positive samples)	2010	1 positive monthly sample	0	1	NA	0.65% ⁵	NA	No	Naturally present in the environment
Total Organic Carbon (ppm)	2010	TT	NA	NA	NA	2.4	ND–2.4	No	Naturally present in the environment
Turbidity⁶ (NTU)	2009	TT	NA	0.5	0.05–0.5	2.84 ¹	0.01–2.84 ¹	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2010	TT	NA	NA	NA	100	NA	No	Soil runoff
Uranium (ppb)	2010	30	0	NA	NA	14.7	ND–14.7	No	Erosion of natural deposits

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)	2010	1.3	1.3	0.162	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2010	15	0	1.2	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

				Kearns Improvement District		Jordan Valley Water Conservancy District				
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	EXCEEDANCE	TYPICAL SOURCE	
Chloride (ppm)	2010	250	NA	NA	NA	76	10–76	No	Runoff/leaching from natural deposits	
Iron (ppb)	2010	300	NA	NA	NA	200	ND–200	No	Leaching from natural deposits; Industrial wastes	
pH (Units)	2010	6.5–8.5	NA	NA	NA	8.5	6.84–8.50	No	Naturally occurring	
Sulfate (ppm)	2010	250	NA	100	26–100	103.5 ¹	3–103.5 ¹	No	Runoff/leaching from natural deposits; Industrial wastes	
Total Dissolved Solids [TDS] (ppm)	2009	500	NA	1,010	537–1,010	390 ¹	10–390 ¹	No ⁷	Runoff/leaching from natural deposits	

UNREGULATED SUBSTANCES

		Kearns Improvement District		Jordan Valley Water Conservancy District						
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE				
Nickel (ppb)	2010	NA	NA	3.5	ND–3.5	Erosion of naturally occurring deposits				
Sodium (ppm)	2009	102	32.5–102	27.6 ¹	3.2–27.6 ¹	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills				

¹ Sampled in 2010.
² While your drinking water meets the U.S. EPA's standard for arsenic, it does contain low levels of arsenic. The U.S. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects, such as skin damage and circulatory problems.
³ 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.
⁴ Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.
⁵ Reported as an annual percentage of positive samples. The MCL is 5% of monthly samples are positive.
⁶ 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.
⁷ We detected TDS at a level exceeding the established state secondary MCL (SMCL), which are set to protect against unpleasant aesthetic effects such as color, taste, odor, and staining of plumbing fixtures (for example, tubs or sinks) or clothing during laundering. There are no adverse health effects expected with this exceedance.

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. Secondary MCLs (SMCL) are set for the control of 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.