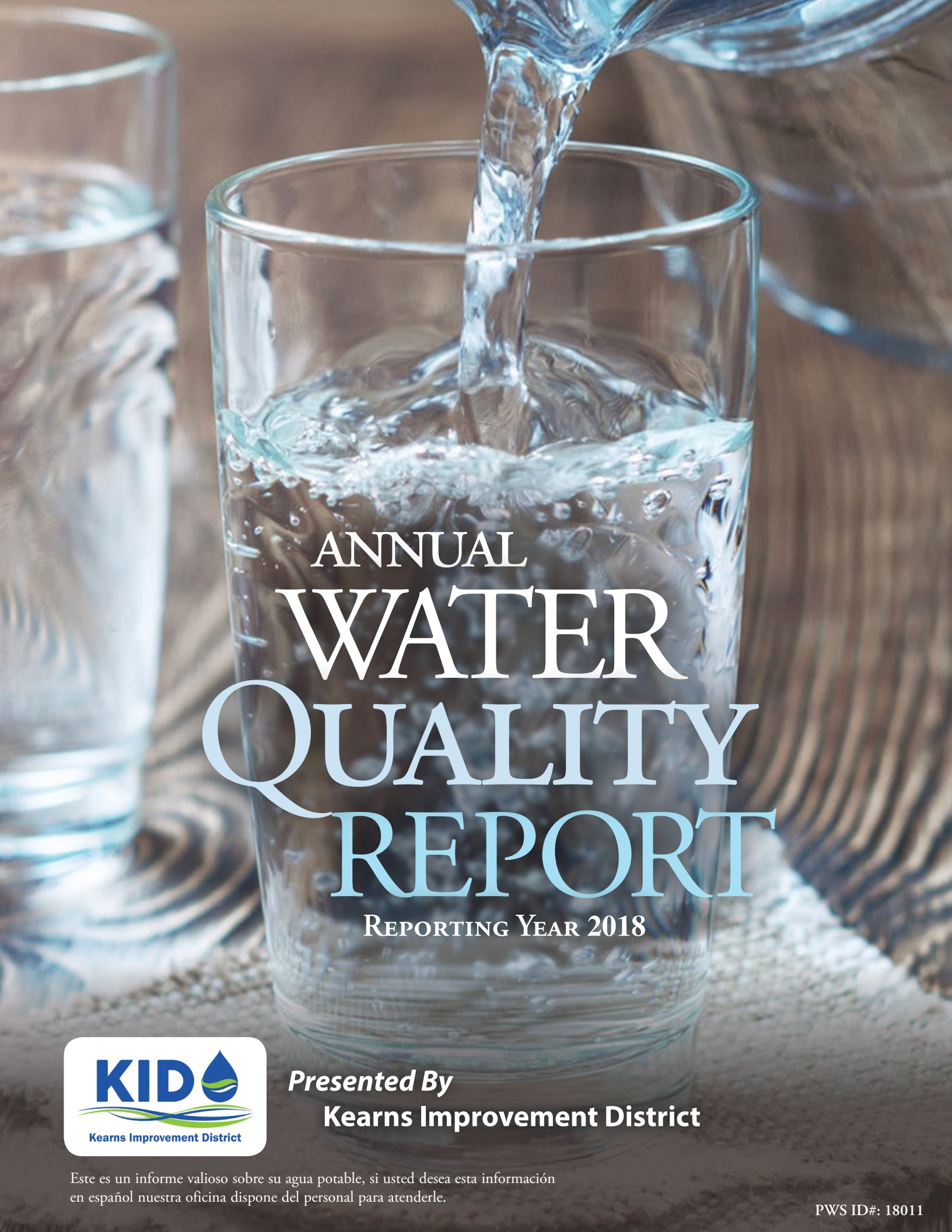


ANNUAL WATER QUALITY REPORT

Reporting Year 2018

KID
Kearns Improvement District

Presented By
Kearns Improvement District

Este es un informe valioso sobre su agua potable, si usted desea esta información en español nuestra oficina dispone del personal para atenderle.

PWS ID#: 18011

Our Mission Continues

We are once again pleased to present our annual water quality report covering all testing performed between January 1 and December 31, 2018. 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.

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

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.

Source Water Assessment

A Water Source Protection Plan is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area and a determination of the water supply's susceptibility to contamination by the identified potential sources.

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.

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.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call John Lawson, Operations Specialist, at (801) 968 1011.

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 at (800) 426-4791 or at www.epa.gov/safewater/lead.

> "We remain vigilant in delivering the best-quality drinking water"

Water Conservation Tips

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.

- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 59,840 gallons, twice the global per capita average. With water use increasing sixfold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

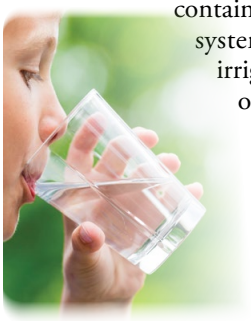
To check out your own water footprint, go to http://goo.gl/QMoIXT.

Where Does My Water Come From?

The Kearns Improvement District buys 94 percent of the water delivered to our customers from the Jordan Valley Water Conservancy District (JVWCD), our wholesale water provider. Water sources include Deer Creek Reservoir and local mountain springs and wells. The water is treated at the Jordan Valley Water Treatment Plant, the Southeast Regional Water Treatment Plant, and the Southwest Groundwater Treatment Plant. The remaining 6 percent of the water is delivered through 12 wells located in the Kearns area. Kearns Improvement District staff operate and maintain these wells.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (back pressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (back siphonage).



Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

Community Participation

You are invited to attend out monthly Board of Trustees meetings. We generally meet the second Tuesday of each month at 5:30 p.m. at the Kearns Improvement District office, 5350 West 5400 South, Kearns, Utah.

How Long Can I Store Drinking Water?

The disinfectant in drinking water will eventually dissipate even in a closed container. If that container housed bacteria prior to filling up with the tap water, the bacteria may continue to grow once the disinfectant has dissipated. Some experts believe that water could be stored up to six months before needing to be replaced. Refrigeration will help slow the bacterial growth.

Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Maintaining optimal water chemistry;
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here, we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. We are pleased to report that your drinking water meets or exceeds all federal and state requirements.

The state recommends monitoring 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)	2016	15	0	5.5	0.1–5.5	9.4[1]	1.2–9.4[1]	No	Erosion of natural deposits
Arsenic (ppb)	2018	10	0	2.5	0.7–2.5	2.7	ND–2.7	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppb)	2016	2	2	0.115	0.047–0.115	0.116[1]	ND–0.116[1]	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beta/Photon Emitters[2] (pCi/L)	2016	50	0	8.5	0.5–8.5	8.9[1]	1.1–8.9[1]	No	Decay of natural and man-made deposits
Bis (2ethylhexyl) phthalate (ppb)	2018	6.0	0.0	NA	NA	0.8	ND–0.8	No	Discharge from rubber and chemical factories
Chlorine Dioxide (ppb)	2018	[800]	[800]	NA	NA	0.07	ND–0.07	No	Water additive used to control microbes
Chlorine (ppm)	2018	[4]	[4]	0.97	0.02–0.97	1.0	0.30–1.0	No	Water additive used to control microbes
Chlorite (ppm)	2017	1	0.8	NA	NA	0.75[1]	0.37–0.75[1]	No	By-product of drinking water disinfection
Combined Radium (pCi/L)	2016	5	0	1.4	0.12–1.4	3.11[1]	0.29–3.11[1]	No	Decay of natural and man made deposits
Cyanide (ppb)	2016	200	200	0.002	NA	2.00[1]	ND–2.00[1]	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Dissolved Organic Carbon (ppm)	2018	TT	NA	NA	NA	2.4	0.9–2.4	No	Naturally occurring
Fluoride (ppm)	2018	4	4	0.779	0.372–0.779	0.8	0.2–0.8	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Giardia	2017	TT	0.00	NA	NA	7.00	ND–7.00	No	Sewage and animal waste
Haloacetic Acids [HAA] (ppb)	2018	60	NA	32.10	ND–32.10	37.2	ND–37.2	No	By-product of drinking water disinfection
Nitrate (ppm)	2018	10	10	3.82	0.369–3.82	2.9	0.10–2.9	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	2016	50	50	0.9	0.0013–0.9	4.1[1]	NA[1]	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
TTHMs [Total Trihalomethanes] (ppb)	2018	80	NA	62.30	13.59–62.30	62.5	ND–62.5	No	By-product of drinking water disinfection
Tetrachloroethylene (ppb)	2016	5	0	1.0	NA	NA	NA	No	Discharge from factories and dry cleaners
Total Organic Carbon[3] (ppm)	2018	TT	NA	NA	NA	3.1	ND–3.1	No	Naturally present in the environment
Turbidity[4] (NTU)	2016	TT	NA	0.55	0.08–0.55	0.03[1]	0.01–0.58[1]	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2018	TT = 95% of samples meet the limit	NA	NA	NA	100	NA	No	Soil runoff

REGULATED SUBSTANCES (CONT)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	Kearns Improvement District AMOUNT DETECTED	Kearns Improvement District RANGE LOW-HIGH	Jordan Valley Water Conservancy District AMOUNT DETECTED	Jordan Valley Water Conservancy District RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Uranium (ppb)	2018	30	0	NA	NA	10.0	ND–10.0	No	Erosion of natural deposits
UV-254	2018	TT	NA	NA	NA	0.046	0.011–0.046	No	Naturally occurring organic compounds

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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	Kearns Improvement District AMOUNT DETECTED (90TH %ILE)	Kearns Improvement District SITES ABOVE AL/ TOTAL SITES	Jordan Valley Water Conservancy District AMOUNT DETECTED (90TH %ILE)	Jordan Valley Water Conservancy District SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2016	1.3	1.3	0.2130	0/30	0.235[1]	0/30[1]	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2016	15	0	0.0019	0/30	0.0021[1]	1/30[1]	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	Kearns Improvement District AMOUNT DETECTED	Kearns Improvement District RANGE LOW-HIGH	Jordan Valley Water Conservancy District AMOUNT DETECTED	Jordan Valley Water Conservancy District RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2018	200	NA	NA	NA	32.80	ND–32.80	No	Erosion of natural deposits; Residual from some surface water treatment processes
Chloride (ppm)	2014	250	NA	270[5]	NA	76[1]	10–76[1]	No	Runoff/leaching from natural deposits
Color (Units)	2018	15	NA	NA	NA	1.0	ND–1.0	No	Naturally occurring organic materials
Iron (ppb)	2014	300	NA	110	NA	172[1]	ND–172[1]	No	Leaching from natural deposits; Industrial wastes
Manganese (ppb)	2018	50	NA	NA	NA	5.0	ND–5.0	No	Leaching from natural deposits
pH (Units)	2014	6.5–8.5	NA	7.5	NA	9.55[1]	6.90–9.55[1]	No	Naturally occurring
Sulfate (ppm)	2016	250	NA	56	42–56	NA	NA	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2014	1,000	NA	864	220–864	381[1]	52–381[1]	No	Runoff/leaching from natural deposits

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Kearns Improvement District AMOUNT DETECTED	Kearns Improvement District RANGE LOW-HIGH	Jordan Valley Water Conservancy District AMOUNT DETECTED	Jordan Valley Water Conservancy District RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2018	13.80	3.64–13.80	7.9	ND–7.9	Disinfection by-products
Bromoform (ppb)	2018	23.40	ND–23.40	NA	NA	Disinfection by-products
Chloroform (ppb)	2018	46.40	6.01–46.40	28.0	ND–28.0	Disinfection by-products
Dibromochloromethane (ppb)	2018	6.51	1.95–6.51	2.0	ND–2.0	Disinfection by-products
Nickel (ppb)	2018	NA	NA	3.5	ND–3.5	Naturally occurring element
Sodium (ppm)	2016	73.4	17.0–73.4	34.5[1]	9.5–34.5[1]	Erosion of natural deposits
Sulfate (ppm)	2014	NA	NA	119[1]	3–119[1]	Dissolved minerals

OTHER 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
Alkalinity [Bicarbonate, HCO3] (ppm)	2014	242	NA	182[1]	53–182[1]	Naturally occurring
Alkalinity [CO2] (ppm)	2014	180	NA	132[1]	59–132[1]	Naturally occurring
Alkalinity [Total, as CaCO3] (ppm)	2014	198	NA	148[1]	20–148[1]	Naturally occurring
Alkalinity [Carbonate] (ppm)	2018	NA	NA	4.0	NA	Naturally occurring
Ammonia (ppm)	2018	NA	NA	0.30	NA	Runoff from fertilizer; Naturally occurring
Boron (ppm)	2014	0.09	NA	NA	NA	Naturally occurring
Bromide (ppb)	2018	NA	NA	12.90	NA	Naturally occurring
Calcium [Total] (ppb)	2014	127	NA	52[1]	23–52[1]	Erosion of natural deposits
Chemical Oxygen Demand (ppm)	2018	NA	NA	11	NA	Naturally occurring
Chlorate (ppb)	2014	138.225	<20–138.225	NA	NA	By-product of drinking water disinfection
Chromium–Total (ppb)	2014	8.4	0.223–8.4	15.60[1]	ND–15.60[1]	Discharge from steel and pulp mills; Erosion of natural deposits
Chromium-6 (ppb)	2014	2.912	0.222–2.912	NA	NA	Leaching from natural deposits; Industrial wastes
Conductivity (µmho/cm)	2014	1,330	NA	618[1]	49–618[1]	Naturally occurring
Geosmin (ppt)	2018	NA	NA	4.2	ND–4.2	Naturally occurring organic compound
HAA6Br (ppb)	2018	NA	NA	37.2	ND–37.2	By-product of drinking water disinfection
Hardness [Total, as CaCO3] (ppm)	2014	478	NA	1,217[1]	69–1,217[1]	Erosion of natural deposits
Magnesium [Total] (ppm)	2014	39.0	NA	17.9[1]	9.5–17.9[1]	Erosion of natural deposits
Molybdenum (ppb)	2014	2.713	<1–2.713	3.5[1]	ND–3.5[1]	By-product of copper and tungsten mining
Orthophosphates (ppb)	2018	NA	NA	10.0	ND–10.0	Erosion of natural deposits
Phosphate [ortho as P] (ppm)	2014	0.03	NA	NA	NA	Erosion of natural deposits
Potassium [Total] (ppm)	2014	6.1	NA	2.8[1]	ND–2.8[1]	Erosion of natural deposits
Radium 226 (pCi/L)	2018	NA	NA	1.30	0.54–1.30	Decay of natural and man-made deposits
Radium 228 (pCi/L)	2018	NA	NA	3.00	0.30–3.00	Decay of natural and man-made deposits
Radon (pCi/L)	2018	NA	NA	1.0	0.9–1.0	Naturally occurring in soil
Silica [Total, as SiO2] (ppm)	2014	39.8	NA	NA	NA	Naturally occurring
Strontium (ppb)	2014	643.658	277.538–643.658	NA	NA	Naturally occurring
Vanadium (ppb)	2014	12.357	0.69–12.357	5.01[1]	ND–5.01[1]	Naturally occurring

[1] Sampled in 2018.
[2] The MCL for beta particles is 4 mrem/year. U.S. EPA considers 50 pCi.L to be the level of concern for beta particles.
[3] The value reported under Amount Detected for TOC is the lowest ratio of percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than 1 indicates that the water system is in compliance with TOC removal requirements. A value of less than 1 indicates a violation of the TOC removal requirements.
[4] 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.
[5] High result is not a violation; sample was taken at source before blending with treated water from JVWCD.

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90% of our lead and copper detections.

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

µmho/cm (micromhos per centimeter): A unit expressing the amount of electrical conductivity of a solution.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

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.

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).

ppt (parts per trillion): One part substance per trillion parts water (or nanograms per liter).

SMCL (Secondary Maximum Contaminant Level): These standards are developed to protect aesthetic qualities of drinking water and are not health based.

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