2017 Annual Drinking Water Quality Report

Emigration Improvement District (Public Water System)

We're very pleased to provide you with this year's Annual Water Quality Report. We want to keep you informed about the excellent water and services that have been delivered to you over the past year. Our goal is, and always has been, to provide canyon residences a safe and dependable supply of drinking water.

WATER SOURCES

Emigration Improvement District's (EID) water source is from four wells. Freeze Creek well is an 8" diameter deep well that produces about 60 gallons per minute. Well #2, is an 8" diameter deep well that produces about 250 gallons per minute. Brigham Fork well is an 8" diameter deep well that historically produces up to 300 gallons per minute, but due to mechanical issues is currently offline. This source is currently rated as "inactive" and no water from this source was pumped into EID's distribution system during 2017. EID is diligently working to make this source functional again. Upper Freeze Creek is a deep well that produces about 250 gallons per minute. The District has two water storage tanks totaling about one million three hundred thousand gallons of capacity.

SOURCE PROTECTION

The EID has a Drinking Water Source Protection Plan available for review. It contains information about source protection zones, potential contamination sources, and management strategies to protect the drinking water. The wells have been determined to have a **low susceptibility level** to potential contaminants. The potential contamination sources that could affect the production wells include: roads, and residential areas. The District has also developed management strategies to further protect its water resources from possible contamination. If you have any questions or concerns regarding source protection, contact the District manager Mr. Eric Hawkes at 801-243-5741, or Mr. Larry Hall of Aqua Environmental Services Inc. at 801-209-6382.

QUESTIONS

Currently, the District is operated by a three-member board of trustees and a manager. The water system operations are contracted to Aqua Environmental Services Inc. If you have any questions regarding this report or concerns with the water, please contact Mr. Eric Hawkes, District Manager at 801- 243-5741, or Larry Hall of Aqua Environmental Services Inc at 801-209-6382**.** We want our valued customers to be informed about their water utility. The Emigration Improvement District has a web site at www.ECID.org there you will find the most up-to-date information and most recent District activities. The public is encouraged to attend the Trustee Meetings which are generally held on the second Thursday of each month, 7:00 PM at the fire station (5025 E Emigration Canyon Rd).

MONITORING PERIOD

The EID public water system is routinely monitored for constituents in accordance with the Federal and State laws. The following table shows the results of our monitoring for the period prior to December 31, 2017.

DEFINITIONS

In the following 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:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

ND/Low - High - For water systems that have multiple sources of water, the Utah Division of Drinking Water has given water systems the option of listing the test results of the constituents in one table, instead of multiple tables. To accomplish this, the lowest and highest values detected in the multiple sources are recorded in the same space in the report table.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter (ug/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.

Picocuries per liter (pCi/L) - picocuries/ per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

Maximum Contaminant Level (MCL) - (mandatory language) The “Maximum Allowed” (MCL) 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) - (mandatory language) The "Goal"(MCLG) 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.

Waivers (W) - Because some chemicals are not used or stored in areas around drinking water sources, some water systems have been given waivers that exempt them from having to take certain chemical samples, these waivers are also tied to Drinking Water Source Protection Plans.

2017 OR PRIOR RESULTS							
Contaminant	Violation Y/N	Level Detected ND/Low-High	Unit Measurement	MCLG	MCL	Date Sampled	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform Bacteria	N	0	N/A	0	Presence of coliform bacteria in 5% of monthly samples	2017	Naturally present in the environment
Fecal coliform and *E.coli*	N	0	N/A	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive	2017	Human and animal fecal waste
Radioactive Contaminants							
Gross Alpha	N	-2.6 – 1.6	pCi/l		15	2010 – 2016	Erosion of natural deposits
Radium 228	N	.16-1.8	pCi/1	0	5	2015 - 2016	Erosion of natural deposits
Inorganic Contaminants							
Antimony	N	ND	ppb	6	6	2015 & 2016	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	N	ND-500	ppt	N/A	10000	2015 & 2016	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Asbestos	N	W	MFL	7	7		Decay of asbestos cement water mains; erosion of natural deposits
Barium	N	33-64	ppb	2000	2000	2015 & 2016	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	N	ND	ppb	4	4	2015 & 2016	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries

Cadmium	N	ND	ppb	5	5	2015 & 2016	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chromium	N	ND	ppb	100	100	2015 & 2016	Discharge from steel and pulp mills; erosion of natural deposits
Copper a. 90% results b. # of sites that exceed the **AL**	N	a. 316 b. 0	ppb	1300	AL=1300	2016	Corrosion of household plumbing systems; erosion of natural deposits
Cyanide	N	ND-9	ppb	200	200	2015 & 2016	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	N	ND-600	ppb	4000	4000	2015 & 2016	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead a. 90% results b. # of sites that exceed the **AL**	N	a. 15 b. 0	ppb	0	AL=15	2016	Corrosion of household plumbing systems, erosion of natural deposits
Mercury (inorganic)	N	ND	ppb	2	2	2015 & 2016	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nitrate (as Nitrogen)	N	ND-200	ppb	10000	10000	2016	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	N	ND-1.3	ppb	50	50	2015 & 2016	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium	N	15.4-139	ppm	None set by EPA	None set by EPA	2015 & 2016	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills.
Sulfate	N	83-322	ppm	1000*	1000*	2015 & 2016	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland
Thallium	N	ND	ppb	1	2	2015 & 2016	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
Turbidity for Ground Water	N	.14-4.9	NTU	N/A	5	2015 & 2016	Soil runoff
Turbidity for Surface Water	N	N/A	NTU	N/A	0.5 in at least 95% of the samples and must		Soil Runoff
TDS (Total Dissolved Solids	N	508-880	ppm	1000**	2000**	2015 & 2016	Erosion of natural deposits

*If the sulfate level of a public water system is greater than 500 ppm, the supplier must satisfactorily demonstrate that: a) no better water is available, and b) the water shall not be available for human consumption from commercial establishments. In no case shall water having a level above 1000 ppm be used.

**If TDS is greater than 1000 ppm the supplier shall demonstrate to the Utah Drinking Water Board that no better water is available. The Board shall not allow the use of an inferior source of water if a better source is available.

Synthetic Organic Contaminants including Pesticides and Herbicides

2,4-D	N	ND	ppb	70	70	2014 & 2016	Runoff from herbicide used on row crops
2,4,5-TP (Silvex)	N	ND	ppb	50	50	2014 & 2016	Residue of banned herbicide
Acrylamide	TT	N/A	N/A		TT	2014 & 2016	Added to water during sewage/wastewater treatment
Alachlor	N	ND	ppb	0	2	2014 & 2016	Runoff from herbicide used on row crops
Atrazine	N	ND	ppb	3	3	2014 & 2016	Runoff from herbicide used on row crops
Benzo(a)pyrene (PAH)	N	ND	ppt	0	200	2014 & 2016	Leaching from linings of water storage tanks and distribution lines
Carbofuran	N	ND	ppb	40	40	2014 & 2016	Leaching of soil fumigant used on rice and alfalfa
Chlordane	N	ND	ppb	0	2	2014 & 2016	Residue of banned termiticide
Dalapon	N	ND	ppb	200	200	2014 & 2016	Runoff from herbicide used on rights of way
Di(2-ethylhexyl) adipate	N	ND	ppb	400	400	2014 & 2016	Discharge from chemical factories
Di(2-ethylhexyl) phthalate	N	ND	ppb	0	6	2014 & 2016	Discharge from rubber and chemical factories
Dibromochloropropane	N	ND	ppt	0	200	2014 & 2016	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb	N	ND	ppb	7	7	2014 & 2016	Runoff from herbicide used on soybeans and vegetables
Diquat	N	ND	ppb	20	20	2014 & 2016	Runoff from herbicide use
Dioxin [2,3,7,8-TCDD]	N	ND	ppq	0	30	2014 & 2016	Emissions from waste incineration and other combustion; discharge from chemical factories
Endothall	N		ppb	100	100	2014 & 2016	Runoff from herbicide use
Endrin	N	ND	ppb	2	2	2014 & 2016	Residue of banned insecticide
Epichlorohydrin	TT	N/A	N/A	0	TT	2014 & 2016	Discharge from industrial chemical factories; an impurity of some water treatment chemicals
Ethylene dibromide	N	ND	ppt	0	50	2014 & 2016	Discharge from petroleum refineries
Glyphosate	N	ND	ppb	700	700	2014 & 2016	Runoff from herbicide use
Heptachlor	N	ND	ppt	0	400	2014 & 2016	Residue of banned termiticide
Heptachlor epoxide	N	ND	ppt	0	200	2014 & 2016	Breakdown of heptachlor
Hexachlorobenzene	N	ND	ppb	0	1	2014 & 2016	Discharge from metal refineries and agricultural chemical factories

Hexachlorocyclo-pentadiene	N	ND	ppb	50	50	2014 & 2016	Discharge from chemical factories
Lindane	N	ND	ppt	200	200	2014 & 2016	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor	N	ND	ppb	40	40	2014 & 2016	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate]	N	ND	ppb	200	200	2014 & 2016	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
PCBs [Polychlorinated biphenyls]	N	ND	ppt	0	500	2014 & 2016	Runoff from landfills; discharge of waste chemicals
Pentachlorophenol	N	ND	ppb	0	1	2014 & 2016	Discharge from wood preserving factories
Picloram	N	ND	ppb	500	500	2014 & 2016	Herbicide runoff
Simazine	N	ND	ppb	4	4	2014 & 2016	Herbicide runoff
Toxaphene	N	ND	Ppb	0	3	2014 & 2016	Runoff/leaching from insecticide used on cotton and cattle
Volatile Organic Contaminants							
Benzene	N	ND	Ppb	0	5	2013 – 2017	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride	N	ND	Ppb	0	5	2013 – 2017	Discharge from chemical plants and other industrial activities
Chlorobenzene	N	ND	Ppb	100	100	2013 – 2017	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene	N	ND	Ppb	600	600	2013 – 2017	Discharge from industrial chemical factories
p-Dichlorobenzene	N	ND	Ppb	75	75	2013 – 2017	Discharge from industrial chemical factories
1,2 - Dichloroethane	N	ND	Ppb	0	5	2013 – 2017	Discharge from industrial chemical factories
1,1 - Dichloroethylene	N	ND	Ppb	7	7	2013 – 2017	Discharge from industrial chemical factories
cis-1,2-ichloroethylene	N	ND	Ppb	70	70	2013 – 2017	Discharge from industrial chemical factories
trans - 1,2 - Dichloroethylene	N	ND	Ppb	100	100	2013 – 2017	Discharge from industrial chemical factories
Dichloromethane	N	ND	Ppb	0	5	2013 – 2017	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane	N	ND	Ppb	0	5	2013 – 2017	Discharge from industrial chemical factories
Ethylbenzene	N	ND	Ppb	700	700	2013 – 2017	Discharge from petroleum refineries
Styrene	N	ND	Ppb	100	100	2013 – 2017	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene	N	ND	Ppb	0	5	2013 – 2017	Leaching from PVC pipes; discharge from factories and dry cleaners
1,2,4 -Trichlorobenzene	N	ND	Ppb	70	70	2013 – 2017	Discharge from textile-finishing factories

1,1,1 - Trichloroethane	N	ND	Ppb	200	200	2013 – 2017	Discharge from metal degreasing sites and other factories
1,1,2 -Trichloroethane	N	ND	Ppb	3	5	2013 – 2017	Discharge from industrial chemical factories
Trichloroethylene	N	ND	Ppb	0	5	2013 – 2017	Discharge from metal degreasing sites and other factories
Toluene	N	ND	Ppb	1000	1000	2013 – 2017	Discharge from petroleum factories
Vinyl Chloride	N	ND	Ppb	0	2	2013 – 2017	Leaching from PVC piping; discharge from plastics factories
Xylenes	N	ND	Ppb	10000	10000	2013 – 2017	Discharge from petroleum factories; discharge from chemical factories
Disinfection By-products							
TTHM [Total trihalomethanes]	N	13.4	ppb	80	80	2017	By-product of drinking water disinfection
Haloacetic Acids	N	2.4	ppb	60	60	2017	By-product of drinking water disinfection
Chlorine	N	100 - 2100	ppb	4000	4000	2017	Water additive used to control microbes

Unregulated Contaminants

These are contaminants that some systems are required to monitor for but which EPA has not set MCLs.

Contaminant	Level Detected	Unit Measurement	Date Sampled	Contaminant	Level Detected	Unit Measurement	Date Sampled
Chloroform	ND	Ppb	2013 – 2017	Aldrin	ND	ppb	2013 – 2017
Bromodichloromethane	ND	Ppb	2013 – 2017	Butachlor	ND	ppb	2013 – 2017
Chlorodibromomethane	ND	Ppb	2013 – 2017	Carbaryl	ND	ppb	2013 – 2017
Bromoform	ND	Ppb	2013 – 2017	Dicamba	ND	ppb	2013 – 2017
m-Dichlorobenzene	ND	Ppb	2013 – 2017	Dieldrin	ND	ppb	2013 – 2017
1,1-Dichloropropene	ND	Ppb	2013 – 2017	3-Hydroxycarbofuran	ND	ppb	2013 – 2017
1,1-Dichloroethane	ND	Ppb	2013 – 2017	Methomyl	ND	ppb	2013 – 2017
1,1,2,2-Tetrachloroethane	ND	Ppb	2013 – 2017	Metolachlor	ND	ppb	2013 – 2017
1,3-Dichloropropane	ND	Ppb	2013 – 2017	Metribuzin	ND	ppb	2013 – 2017
Chloromethane	ND	Ppb	2013 – 2017	Propachlor	ND	ppb	2013 – 2017
Bromomethane	ND	Ppb	2013 – 2017	1,2,4-Trimethylbenzene	ND	ppb	2013 – 2017
1,2,3-Trichloropropane	ND	Ppb	2013 – 2017	1,2,3-Trichlorobenzene	ND	ppb	2013 – 2017
1,1,1,2-Tetrachloroethane	ND	Ppb	2013 – 2017	n-Propylbenzene	ND	ppb	2013 – 2017
Chloroethane	ND	Ppb	2013 – 2017	n-Butylbenzene	ND	ppb	2013 – 2017
2,2-Dichloropropane	ND	Ppb	2013 – 2017	Napthalene	ND	ppb	2013 – 2017

o-Chlorotoluene	ND	Ppb	2013 – 2017	Hexachlorobutadiene	ND	ppb	2013 – 2017
p-Chlorotoluene	ND	Ppb	2013 – 2017	1,3,5-Trimethylbenzene	ND	ppb	2013 – 2017
Bromobenzene	ND	Ppb	2013 – 2017	p-Isopropyltoluene	ND	ppb	2013 – 2017
1,3 -Dichloropropene	ND	Ppb	2013 – 2017	Isopropylbenzene	ND	ppb	2013 – 2017
			2013 – 2017	Tert-butylbenzene	ND	ppb	2013 – 2017
Nickel	ND	Ppb	2015 - 2017	Sec-butylbenzene	ND	ppb	2013 – 2017
				Fluorotrichloromethane	ND	ppb	2013 – 2017
				Dichlorodifluoromethane	ND	ppb	2013 – 2017
				Bromochloromethane	ND	ppb	2013 – 2017

During the 2017 year, the District received a violation from DDW (Division of Drinking Water) for not submitting a Total Coliform Sample Site Plan (TCSS Plan) by September 30, 2017. We are currently working on a comprehensive plan and expect to have it submitted to DDW before July 31st 2018 for their review and subsequent approval.

The District also received a notice of violation for not taking and reporting disinfectant residual results to the DDW (Division of Drinking Water) for the July 1, 2017 – September 30, 2017 compliance period. These samples WERE taken and once compliance was verified, DDW removed this violation.

INFORMATION ON LEAD IN 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. Emigration 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 http://www.epa.gov/safewater/lead.

TEST SUMMARY

As you can see by the above tables, our system had **NO VIOLATIONS OF ANY CONTAMINANTS**, and we are happy to report that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

"I DRINK BOTTLED WATER BECAUSE IT'S SAFER"

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or are man-made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All 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 at 1-800-426-4791.

WHAT ABOUT FLUORIDE?

Our water contains very little natural fluoride and there is NO fluoride added to the water.

WHAT ABOUT HOME TREATMENT?

As can be seen from this report, your water is safe from your tap. If you decide to install a treatment device on your service, you must take the responsibility for the maintenance of it. It is possible to make your water unsafe by not taking proper care of your personal treatment devices. The District's public water is hard and you may want to install a water softener. Water is usually softened by ion exchange systems. Sodium and potassium exchange systems are the most common methods shown to work effectively. Magnetic systems have not proven to be effective.

SPECIAL HEALTH ALERT

Some people may be more vulnerable to contaminants in drinking water. 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 (800-426-4791)

WHAT DETERMINES THE MCL LEVEL?

Maximum Contaminant Levels or MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in- a-million chance of having the described health effect.

Thank you for allowing us to continue providing you with clean quality water. We are pleased to keep you informed and educated on all water matters within our service area. We continue to present you with this report every year. Please contact us if you have any questions or concerns.

Prepared **By:**

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