

# JAMESTOWN TOWN OF 2016 Drinking Water Quality Report For Calendar Year 2015

*Public Water System ID: CO0107401*

**Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.**

We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water. Please contact TARA SCHOEDINGER at 303-449-1806 with any questions about the Drinking Consumer Confidence Rule (CCR) or for public participation opportunities that may affect the water quality.

## **General Information**

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 (1-800-426-4791) or by visiting <http://water.epa.gov/drink/contaminants>.

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 can be particularly at risk of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants call the EPA Safe Drinking Water Hotline at (1-800-426-4791).

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 and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants:** viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants:** salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides:** may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses.
- Radioactive contaminants:** can be naturally occurring or be the result of oil and gas production and mining activities.
- Organic chemical contaminants:** including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and also may come from gas stations, urban storm water runoff, and septic systems.

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

## **Lead in Drinking Water**

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you may wish to have your water tested. 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. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

## **Source Water Assessment and Protection (SWAP)**

The Colorado Department of Public Health and Environment has provided us with a Source Water Assessment Report for our water supply. For general information or to obtain a copy of the report please visit <http://wqcdcompliance.com/ccr>. The report is located under "Source Water Assessment Reports", and then "Assessment Report by County". Select BOULDER County and find 107401; JAMESTOWN TOWN OF or by contacting TARA SCHOEDINGER at 303-544-1361. The Source Water Assessment Report provides a screening-level evaluation of potential contamination that *could* occur. It *does not* mean that the contamination *has or will* occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan. Potential sources of contamination in our source water area are listed on the next page.

Please contact us to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Consumer Confidence Report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

## Our Water Sources

<u>Source</u>	<u>Source Type</u>	<u>Water Type</u>	<u>Potential Source(s) of Contamination</u>
INF GAL	Intake	Surface Water	
JAMES CREEK	Intake	Surface Water	

## Terms and Abbreviations

- **Maximum Contaminant Level (MCL)** – The highest level of a contaminant allowed in drinking water.
- **Treatment Technique (TT)** – A required process intended to reduce the level of a contaminant in drinking water.
- **Action Level (AL)** – The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements.
- **Maximum Residual Disinfectant Level (MRDL)** – 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.
- **Maximum Contaminant Level Goal (MCLG)** – 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.
- **Maximum Residual Disinfectant Level Goal (MRDLG)** – 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.
- **Violation (No Abbreviation)** – Failure to meet a Colorado Primary Drinking Water Regulation.
- **Formal Enforcement Action (No Abbreviation)** – Escalated action taken by the State (due to the risk to public health, or number or severity of violations) to bring a non-compliant water system back into compliance.
- **Variance and Exemptions (V/E)** – Department permission not to meet a MCL or treatment technique under certain conditions.
- **Gross Alpha (No Abbreviation)** – Gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222, and uranium.
- **Picocuries per liter (pCi/L)** – Measure of the radioactivity in water.
- **Nephelometric Turbidity Unit (NTU)** – Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical person.
- **Compliance Value (No Abbreviation)** – Single or calculated value used to determine if regulatory contaminant level (e.g. MCL) is met. Examples of calculated values are the 90<sup>th</sup> Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).
- **Average (x-bar)** – Typical value.
- **Range (R)** – Lowest value to the highest value.
- **Sample Size (n)** – Number or count of values (i.e. number of water samples collected).
- **Parts per million = Milligrams per liter (ppm = mg/L)** – One part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion = Micrograms per liter (ppb = ug/L)** – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Not Applicable (N/A)** – Does not apply or not available.

## Detected Contaminants

JAMESTOWN TOWN OF routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table(s) show all detections found in the period of January 1 to December 31, 2015 unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one year old. Violations and Formal Enforcement Actions, if any, are reported in the next section of this report.

**Note:** Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section then no contaminants were detected in the last round of monitoring.

Lead and Copper Sampled in the Distribution System								
Contaminant Name	Time Period	90 <sup>th</sup> Percentile	Sample Size	Unit of Measure	90 <sup>th</sup> Percentile AL	Sample Sites Above AL	90 <sup>th</sup> Percentile AL Exceedance	Typical Sources
Copper	06/24/2015 to 06/24/2015	1.27	10	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	12/10/2015 to 12/16/2015	6	10	ppb	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Copper	12/10/2015 to 12/16/2015	0.81	10	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	06/24/2015 to 06/24/2015	15	10	ppb	15	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Disinfection Byproducts Sampled in the Distribution System										
Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	Highest Compliance Value	MCL Violation	Typical Sources
Total Haloacetic Acids (HAA5)	2015	36.2	36.2 to 36.2	1	ppb	60	N/A		No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2015	27.4	27.4 to 27.4	1	ppb	80	N/A		No	Byproduct of drinking water disinfection

**Summary of Turbidity Sampled at the Entry Point to the Distribution System**

Contaminant Name	Sample Date	Level Found	TT Requirement	TT Violation	Typical Sources
Turbidity	Date/Month: Jul	Highest single measurement: 4.717 NTU	Maximum 5 NTU for any single measurement	No	Soil Runoff
Turbidity	Month: June	Lowest monthly percentage of samples meeting TT requirement for our technology: 90 %	In any month, at least 95% of samples must be less than 1 NTU	Yes	Soil Runoff

**Radionuclides Sampled at the Entry Point to the Distribution System**

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Gross Alpha	2015	0.36	0 to 1.17	4	pCi/L	15	0	No	Erosion of natural deposits
Combined Radium	2015	0.27	0.1 to 0.5	4	pCi/L	5	0	No	Erosion of natural deposits
Combined Uranium	2015	0.22	0 to 0.7	4	ppb	30	0	No	Erosion of natural deposits
Gross Beta Particle Activity	2015	1	1 to 1	4	pCi/L*	50	0	No	Decay of natural and man-made deposits

\*The MCL for Gross Beta Particle Activity is 4 mrem/year. Since there is no simple conversion between mrem/year and pCi/L EPA considers 50 pCi/L to be the level of concern for Gross Beta Particle Activity.

**Inorganic Contaminants Sampled at the Entry Point to the Distribution System**

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Barium	2015	0.01	0.01 to 0.02	4	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2015	0.31	0 to 0.69	4	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2015	0.08	0 to 0.2	4	ppm	10	10	No	Runoff from fertilizer use; leaching from

**Inorganic Contaminants Sampled at the Entry Point to the Distribution System**

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
									septic tanks, sewage; erosion of natural deposits

**Secondary Contaminants\*\***

\*\*Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic effects (such as skin, or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	Secondary Standard
DICHLOROACETIC ACID	2015	14.49	14.49 to 14.49	1	N/A	
MONOBROMOACETIC ACID	2015	3.22	3.22 to 3.22	1	N/A	
TRICHLOROACETIC ACID	2015	18.49	18.49 to 18.49	1	N/A	

**Unregulated Contaminants\*\*\***

EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Third Unregulated Contaminant Monitoring Rule (UCMR3). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (<http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod>) Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR3 sampling and the corresponding analytical results are provided below.

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure

### Unregulated Contaminants\*\*\*

EPA has implemented the Unregulated Contaminant Monitoring Rule (UCMR) to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. EPA uses the results of UCMR monitoring to learn about the occurrence of unregulated contaminants in drinking water and to decide whether or not these contaminants will be regulated in the future. We performed monitoring and reported the analytical results of the monitoring to EPA in accordance with its Third Unregulated Contaminant Monitoring Rule (UCMR3). Once EPA reviews the submitted results, the results are made available in the EPA's National Contaminant Occurrence Database (NCOD) (<http://www.epa.gov/dwucmr/national-contaminant-occurrence-database-ncod>) Consumers can review UCMR results by accessing the NCOD. Contaminants that were detected during our UCMR3 sampling and the corresponding analytical results are provided below.

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure

\*\*\*More information about the contaminants that were included in UCMR3 monitoring can be found at: <http://www.drinktap.org/water-info/whats-in-my-water/unregulated-contaminant-monitoring-rule.aspx>. Learn more about the EPA UCMR at: <http://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule> or contact the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/contact.cfm>.

### Violations, Significant Deficiencies, and Formal Enforcement Actions

Violations					
Name	Category	Time Period	Health Effects	Compliance Value	TT Level or MCL
TURBIDITY	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1) - TREATMENT TECHNIQUE	07/01/2015 - 07/31/2015	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.	0 N/A	N/A
TURBIDITY	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1) - TREATMENT TECHNIQUE	06/01/2015 - 06/30/2015	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for	0 N/A	N/A

			<p>microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.</p>		
TURBIDITY	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1) - TREATMENT TECHNIQUE	05/01/2015 - 05/31/2015	<p>Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.</p>	0 N/A	N/A
TURBIDITY	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1) - TREATMENT TECHNIQUE	04/01/2015 - 04/30/2015	<p>Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.</p>	0 N/A	N/A

**Additional Violation Information**

**Note:** If any violation relates to failing to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or processes then the water may be inadequately treated. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Explanation of the violation(s) and the steps taken to resolve them:

As part of a recent Sanitary Survey conducted in June 2016 the following three violations occurred and reported here as public notice.

**R510 - Monitoring, Recordkeeping and Data Verification:**

*General Monitoring Plan (T3):* Supplier lacked a monitoring plan, the plan did not include the required content, the plan had not been updated for facility changes or the plan had not been submitted. This is a violation of Regulation 11, Section 11.5.

Explanation and resolution: Since September 2013 there have been many changes to both the water treatment plant and the distribution system. These changes need to be reflected in the "Public Water System Monitoring Plan". An updated plan will be completed and submitted to the State before the end of the year 2016.

**R540 - Monitoring, Recordkeeping and Data Verification:**

*Design Approval (T3):* Supplier had not received plans and specifications approval by the Department prior to construction of renovations to the water system, including the addition of new sources, modifications of treatment or addition of storage tanks. This is a violation of Regulation 11, Section 11.4(1).

Explanation and resolution: NSF 61 approved Harmsco Cartridge Filters were placed between the south and north filter where they remove particles from the water and reduce turbidity of the effluent (finish water). This practice is only done when turbidity values exceed 1ntu (out of compliance), typically during spring run-off. This location is not an approved location by CDPHE. The water department has proposed a solution whereby the cartridge filters will be located after the last sand filter; State approval will be a part of this solution.

**R532 - Monitoring, Recordkeeping and Data Verification:**

*Turbidimeter Monitoring Equipment Calibration (T3):* Supplier did not maintain calibration logs, was not calibrating, verifying or operating turbidity monitoring analytical equipment in accordance with manufacturer requirements. This is a violation of the Regulation 11, Section 11.46.

Explanation and resolution: The Water Treatment Plant uses the Hach 1720C turbidity meter to record and report drinking water turbidity levels. Obtaining a good calibration on this old equipment is difficult to perform (especially for low value - drinking water - turbidity levels). To compensate for this difficulty, we calibrate the 1720C once a year and compare daily results with a desk top turbidity meter (that is much easier to calibrate). The manufacturer, Hach, requires the unit to be calibrated every 4 months; this is in violation of Section 11.46. The Water plant will look at options to purchase a new and updated turbidity meter, and in the meantime perform calibrations per manufacturer instructions.


