

# *ADAMS FIRE DISTRICT*

## *ADAMS, MASSACHUSETTS*

# 2022

## *ANNUAL DRINKING WATER QUALITY REPORT*



*MassDEP PWSID # 1004000*

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This report is a snapshot of drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with information because informed customers are our best allies.

## 1. PUBLIC WATER SYSTEM INFORMATION

Contact Person: **John Barrett, Adams Fire District Superintendent**

### Water System Improvements

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, the water system is operated by Massachusetts licensed Drinking Water Operators, who oversee the routine operation of the system. As part of our commitment to our valued customers in 2022, we continued our hydrant maintenance programs, bi-annual system leak detection, and meter replacement program (replacing 421 meters). We repaired a record number of 12 water breaks within the year; upgraded 10 services/corporations, installed 4 hydrants (with 2 requiring the installation of new isolation gates), and repaired 6 hydrants. The Adams Fire District Public Water Supply (PWS) is one of the few systems that is considered a fully contained PWS. We incorporate a backflow device at every water connection, regardless of whether the connection is for commercial, residential or fire suppression purposes. These devices protect all our customers from cross connection contamination. Our residential devices are tested by District Water Operators upon every meter installation; our commercial and industrial devices are tested once or twice a year, dependent on the contamination threat. This year, we spent a substantial amount of time conducting 240 sanitary surveys of commercial/industrial connections to determine cross connection threats within these facilities. This ensures protection to people within these buildings, while providing twice the protection to the distribution plumbing that provides water to everyone. For more information on cross connections, please see the Educational information in section 7.

### Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may attend the following meetings or educational events. The Prudential Committee meets monthly, typically on the last Monday of the month. Meetings are posted 48 hours in advance at the District Office and Town Hall. Please call the District Office for more information at (413) 743-0179.

## 2. YOUR DRINKING WATER SOURCE

### Where Does My Drinking Water Come From?

Your drinking water comes from three wells sunk about 80-100 feet into an underground source of water located in the Upper Hoosac River Valley in the Town of Cheshire. These wells are known as Cheshire Harbor Wells #2A, 3, and 4. These locations also serve as the District's Treatment Facilities. The District owns the land around them and restricts any activity that could contaminate them. The three wells are gravel-packed wells with a combined capacity of 3600 GPM. Your water is provided by the following sources listed below:

Source Name	MassDEP Source ID#	Source Type	Location of Source
Well 2A	1004000-02G	Groundwater	264 East View Drive, Cheshire, MA
Well 3	1004000-03G	Groundwater	264 East View Drive, Cheshire, MA
Well 4	1004000-04G	Groundwater	264 East View Drive, Cheshire, MA

### Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we treat it to remove contaminants.

- Chlorine (sodium hypochlorite), a disinfectant, is added to protect you against microbial contaminants.
- The water is treated with CalciQuest® to reduce corrosion

The water quality of our system is constantly monitored by our staff and MassDEP to determine the effectiveness of the existing water treatment and to determine if any additional treatment is required.

### How Are These Sources Protected?

The Adams Fire District continues to remind our water users of the importance of protecting our source water. Protecting our drinking water source is essential for maintaining and improving the quality of human health and the environment. MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies to contamination by summarizing information about the activities and land uses within the recharge area.

### What is My System's Ranking?

Our drinking water source, the Cheshire Harbor Wellfield, was given a susceptibility ranking of moderate to high using the information collected during the assessment by MassDEP. A "moderate to high" susceptibility ranking is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area.

### Where Can I See the SWAP Report?

The complete SWAP report is available at the Adams Board of Health at 8 Park Street and online at <https://www.mass.gov/doc/adams-fire-district-swap-report/download> For more information, call the Fire District Superintendent: John C. Barrett at (413) 743-0978, ext. 13.

### What Are the Key Issues for Our Water Supply?

The SWAP Report notes the key issues of following best management practices related to spill prevention and implementing a wellhead protection plan for the water supply protection area of Wells #2A, 3, and 4.

### What Can Be Done To Improve Protection?

The SWAP report recommends:

- That the Adams Fire District follows Best Management Practices (BMP's) focusing on spill prevention, and operational practices to reduce the use and release of hazardous materials.
- That the Adams Fire District and the Town of Cheshire work together to implement a Wellhead Protection Plan and establish wellhead protection controls for the Cheshire Harbor Wellfield.

Residents can help protect sources by:

- Practicing good septic system maintenance,
- Supporting water supply protection initiatives at District meetings,
- Taking hazardous household chemicals to hazardous materials collection days,
- Volunteering for education outreach programs at schools,
- Limiting pesticide and fertilizer use, etc.

## 3. SUBSTANCES FOUND IN TAP WATER

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** – such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

**Inorganic contaminants** – such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and 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 can also come from gas stations, urban stormwater runoff, and septic systems.

**Radioactive contaminants** – which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. 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 some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. The Adams Fire 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>.

#### **4. IMPORTANT DEFINITIONS**

**90th Percentile** – Out of every 10 homes sampled, 9 were at or below this level.

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

**Level 1 Assessment** – A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

**Level 2 Assessment** – A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

**Massachusetts Office of Research and Standards Guideline (ORSG)** – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

**Maximum Contaminant Level (MCL)** – 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)** – 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 (MRDL)** – The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)** – The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known or expected risk to health.

MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Non-Detect (ND)** – The laboratory did not detect the contaminant in the sample.

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

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

**Unregulated Contaminants** - Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

**Abbreviations**

- ppm = parts per million, or milligrams per liter (mg/l)
- ppb = parts per billion, or micrograms per liter (ug/l)
- ppt = parts per trillion, or nanograms per liter (ng/l)
- pCi/L = picocuries per liter (a measure of radioactivity)
- NTU = Nephelometric Turbidity Units
- ND = Not Detected
- N/A = Not Applicable
- mrem/year = millirems per year (a measure of radiation absorbed by the body)

**5. WATER QUALITY TESTING RESULTS**

**What Does This Data Represent?**

The water quality information presented in the table(s) is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table(s).

MassDEP has reduced the District monitoring requirements for all volatile organic compound (VOC's), all synthetic organic compounds (SOC's), and barium and fluoride, which are inorganic compounds (IOC's) because the source is not at risk of contamination. The last sample collected for these contaminants was taken in 2020. All samples were found to meet all applicable US EPA and MassDEP standards.

	Date(s) Collected	90 <sup>TH</sup> percentile	Action Level	MCLG	# of sites sampled	# of sites above Action Level	Possible Source of Contamination
Lead (ppb)	08-2-2022 - 08-16-2022	0.0020	15	0	20	0	Corrosion of household plumbing systems; Erosion of natural deposits
Copper (ppm)	08-2-2022 - 08-16-2022	0.39	1.3	1.3	20	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

Lead and copper compliance is based on the 90<sup>th</sup> percentile value, which is the highest level found in 9 out of every 10 homes sampled or the average of the 2 highest levels if fewer than 10 homes are sampled. When the 90<sup>th</sup> percentile value is above the action level (AL), a public water system must implement corrosion control treatment.

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
<b>Disinfectants and Disinfection By-Products</b>							
Total Trihalomethanes (TTHMs) (ppb)	08-08-22	4.41	<0.500 – 4.41	80	N/A	N	Byproduct of drinking water chlorination
Halo acetic Acids (HAA5) (ppb)	08-08-22	<1.00	-	60	N/A	N	Byproduct of drinking water disinfection

Regulated Contaminant	Date(s) Collected	Highest Result or Highest Running Average Detected	Range Detected	MCL or MRDL	MCLG or MRDLG	Violation (Y/N)	Possible Source(s) of Contamination
<b>Inorganic Contaminants</b>							
Nitrate (ppm)	04-04-22	0.552	-	10	10	N	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Perchlorate (ppb)	07-05-22	0.45	-	2	N/A	N	Rocket propellants, fireworks, munitions, flares, blasting agents
PFAS-6 (ppt)	01-07-22 - 04-04-22	ND	-	20	N/A	N	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams.

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG	Possible Source
<b>Secondary Contaminants</b>						
Iron (ppb)	04-04-22	ND	-	300	N/A	Naturally occurring, corrosion of cast iron pipes
Hardness (CaCO <sub>3</sub> ) Total	11-01-21 11-15-21	118 -162	-	None	N/A	Naturally occurring
Manganese* (ppb)	04-04-22	ND	-	50	Health Advisory of 300 ppb	Erosion of natural deposits
* EPA has established a lifetime Health Advisory (HA) for manganese of 0.3 mg/L and an acute HA at 1.0 mg/L						

## 6. COMPLIANCE WITH DRINKING WATER REGS

### Does My Drinking Water Meet Current Health Standards?

We are committed to providing you with the best water quality available. We are proud to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

### Do I Need To Be Concerned About Certain Contaminants Detected In My 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. Adams Fire 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>.

## 7. EDUCATIONAL INFORMATION

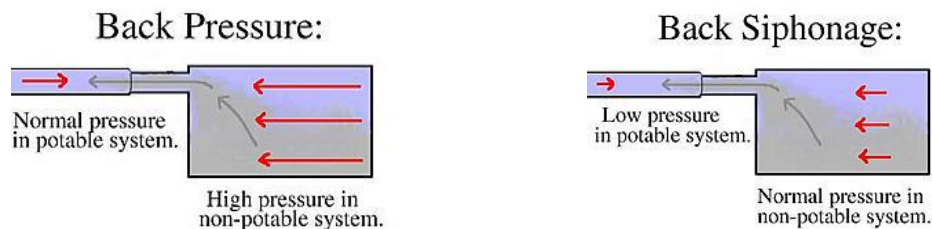
The Adams Fire District makes every effort to ensure that the water delivered to your home and business is clean, safe, and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by cross-connection? If so, how?

### What is a Cross Connection and What Can I do about it?

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of fire hydrant use in the area) when the hose is connected to the fertilizer, the fertilizer may be pulled back into the drinking water pipes through the hose. Using an attachment on your hose called a backflow-prevention device can prevent this problem.

### What is a backflow?

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.



### What can I do to help prevent a cross-connection?

Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact, over half of the country's cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

- **NEVER** submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains or chemicals.
- **NEVER** attach a hose to a garden sprayer without the proper backflow preventer.
- Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
- Identify and be aware of potential cross-connections to your water line.
- Buy appliances and equipment with a backflow preventer.
- Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

If you are the owner or manager of a property that is being used as a commercial, industrial, or institutional facility you must have your property's plumbing system surveyed for cross-connection by your water purveyor. If your property has NOT been surveyed for cross-connection contact your water department to schedule a cross-connection survey.

### What is a Cross Connection and what can I do about it?



A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops at the same time you turn on the hose, the fertilizer may be sucked back into the drinking water pipes through the hose. This problem can be prevented by using an attachment on your hose called a backflow-prevention device.

The Adams Fire District recommends the installation of backflow prevention devices, such as a **low-cost** hose bibb vacuum breaker, for all inside and outside hose connections. This is a great way for you to help protect the water in your home while our check valve installed at our meter set protects the drinking water to other customers. For additional information on cross connections and on the status of your water system's cross connection program, please call Adams Fire District Superintendent John C. Barrett at (413) 743-0978, ext. 13.

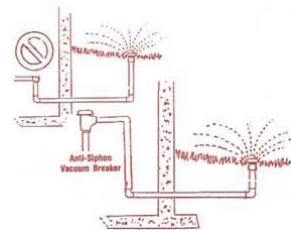
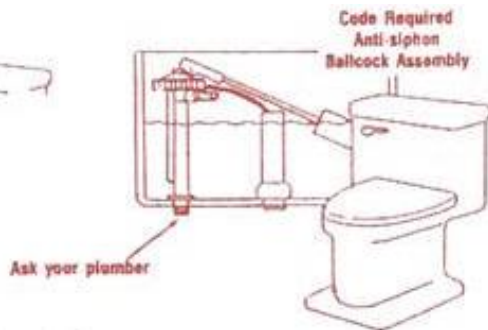
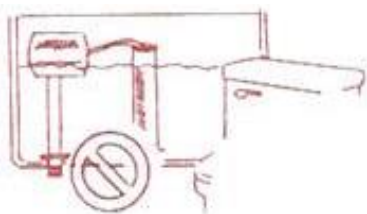
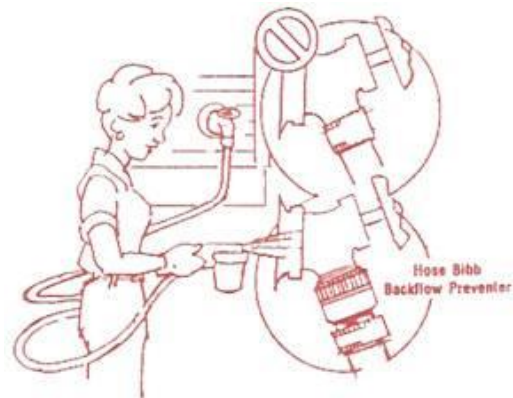
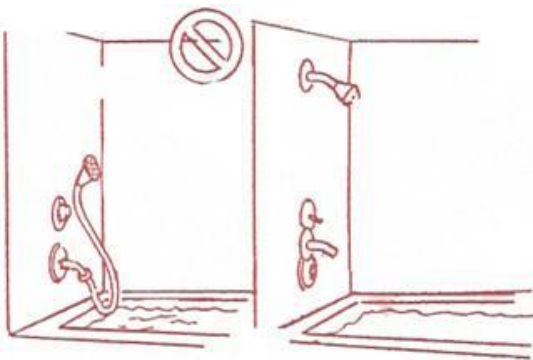


Some Examples Where Cross-connections occur.

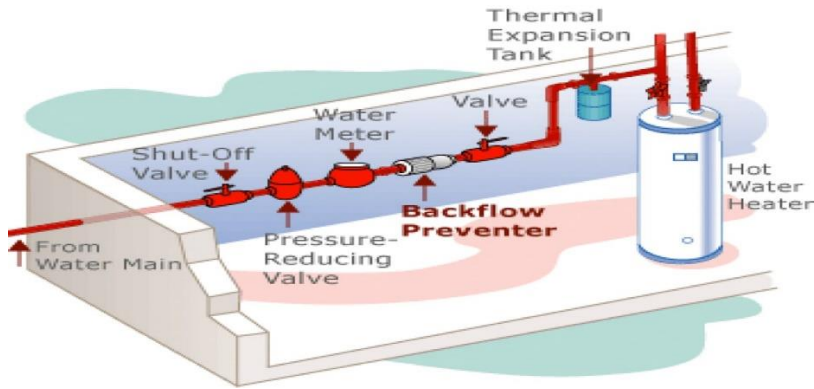
**WHEN A DROP IN WATER PRESSURE TAKES PLACE, CHEMICALS OR DIRTY WATER CAN BE SUCKED BACKWARDS INTO YOUR HOUSEHOLD PLUMBING SYSTEM.**

**EXAMPLE**

**GARDEN HOSE CONNECTED TO A HOME FERTILIZER SPRAYER, A HOSE CONNECTED TO A SLOP SINK AND A GARDEN HOSE USED TO FILL A SWIMMING POOL**



Typical connection within residential dwellings protecting our Public Water Supply.



## 8. ADDITIONAL INFORMATION

The Adams Fire District licensed Operators’ mission is to deliver clean and reliable water and fire protection services to our friends, family, and residents alike. We are continually monitoring emerging contaminants and best management practices, as we educate ourselves on how to better stay on the forefront of our profession while simultaneously operating our pumping, treatment, and distribution systems.

This year, we pumped 266,138,000 gallons, an average of 729,145 gallons per day. During the year, we collected 192 Total Coliform samples (with negative results), in addition to what has been listed within this report. A new contaminant this year is PFAS6. Please take note of the new ppt reporting, as it is the smallest measurement in this report. To bring that measurement in to a better perspective, 1 ppt is equivalent to a single eye droplet of water in 20 Olympic sized swimming pools! Per- and polyfluoroalkyl substances (PFAS) are a group of human-made chemicals now regulated in Massachusetts. MassDEP established a Maximum Contaminant Level (MCL) of 20 parts per trillion (ppt) for the **sum of six** PFAS compounds (**PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA**), prior to the United States Environmental Protection Agency (EPA) setting a standard. Prior to the MassDEP standard, the District tested for this emerging contaminant (that was prominent in our news from nearby Hoosick Falls, NY) with the assistance of MassDEP funding. Recently, the United States Environmental Protection Agency (EPA) issued a draft federal drinking water rule which sets the limit for certain PFAS.

Every month, we also completed 4 samples to assist in evaluating the success of our corrosion control injection program. Calciquest, as listed in section 2, is simply a blend of Phosphates we utilize at a minimal amount due to our raw water quality, to decrease iron tuberculation, minimize microbial-influenced corrosion, and protect the distribution system; in addition to your plumbing from leaching metals, primarily lead and copper listed in section 5. It also assists with minimizing calcium scale deposits within your hot water tanks, as our water comes from an underground aquifer comprised of Dolomite. While this Dolomite attributes to our waters “moderately hard” condition, it conversely raises and buffers pH change, as our raw water to your faucet maintains an average pH of 8.15.



Please see our 146th Annual Report, which may be obtained at our office for more District information. Please visit our website, [www.adamsfiredistrict.com](http://www.adamsfiredistrict.com) and follow us on Facebook for more current information.

Adams Fire District Superintendent

John C. Barrett