



# 2017 WATER QUALITY REPORT

## Brownell

Public Water Supply ID# PA2359001

## Fallbrook

Public Water Supply ID# PA2359006



Este informe contiene información importante acerca de su agua potable. Haga que traduzca para usted, ó hable con alguien que lo entienda. (This report contains important information about your drinking water. Have someone translate it for you if needed.)

## A Message from the Pennsylvania American Water President

Dear Valued Customer:

On behalf of all Pennsylvania American Water employees, I am pleased to report very good news about the quality of your drinking water. This annual Water Quality Report provides the results of local water testing between January and December 2017, and as you will see, we continue to supply your community with water that meets or surpasses all regulatory standards.

Water service from Pennsylvania American Water is an exceptional value. To deliver quality water to your tap, we employ a great deal of science, expertise, technology and infrastructure to bring water from the source, treat it and ensure it is clean and safe. In addition, our plant operators, water quality experts, engineers and maintenance crews work around the clock to make sure reliable water service is always there when you need it.

Delivering high-quality water service also requires significant investment to replace and upgrade aging pipe, equipment and facilities. **In 2017 alone, we invested nearly \$300 million in system improvements across the Commonwealth.**

Water is essential for public health, fire protection, economic development and our overall quality of life. Every Pennsylvania American Water employee takes this responsibility very seriously and works hard to keep water flowing not only today but for the next generation. Please take the time to read this report and learn more about the source and quality of your drinking water.



Sincerely,

Jeffrey L. McIntyre  
President, Pennsylvania American Water



**QUALITY. ONE MORE WAY WE KEEP LIFE FLOWING.**

## Our Mark of Excellence

With a history dating back to 1886, American Water is the largest and most geographically diverse U.S. publicly traded water and wastewater utility company. The company employs more than 6,900 dedicated professionals who provide regulated and market-based drinking water, wastewater and other related services to an estimated 15 million people in 46 states and Ontario, Canada. American Water provides safe, clean, affordable and reliable water services to our customers to make sure we keep their lives flowing. For more information, visit [amwater.com](http://amwater.com) and follow American Water on [Twitter](#), [Facebook](#) and [LinkedIn](#).

Pennsylvania American Water, a subsidiary of American Water, is the largest investor-owned water utility in the state, providing high-quality and reliable water and/or wastewater services to approximately 2.4 million people.

We are once again proud to present our annual water quality report. This edition covers all testing completed from January through December 2017. Over the years, we have dedicated ourselves to producing drinking water that meets or surpasses all state and federal drinking water standards. We continually strive to adopt new and better methods of delivering the best quality drinking water to you. As regulations and drinking water standards become more stringent, it is our commitment to you to ensure compliance with these standards in an expeditious and cost-effective manner, while maintaining our objective of providing quality drinking water at an affordable price. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

For more information about this report, or for any questions relating to your drinking water, please feel free to call our Customer Service Department at 1-800-565-7292.

## Source Water Information

Two main surface sources supply the Brownell and Fallbrook service areas. Pennsylvania American Water maintains a treatment facility on the Brownell Reservoir capable of processing a maximum of 4 million gallons of water per day (MGD). The Brownell Reservoir is supplemented by Carbondale #4 Reservoir. Another treatment facility on the Fallbrook Reservoir is capable of processing a maximum of 1.6 million gallons of water per day (MGD). The Fallbrook Reservoir is supplemented by Crystal Lake. The water supply is distributed for residential, commercial, and industrial use.

## Protecting Your Water Source

The Pennsylvania Department of Environmental Protection (DEP) and PAW completed an assessment of the drinking water sources for the Brownell and Fallbrook surface water supplies in 2002. Although no man-made contaminants were detected, the water sources were considered most vulnerable to the following potential impacts: roadways, past mining activities, junkyards, auto storage facilities, boating activities, and storm water runoff associated with farms and golf courses.

A summary of the completed Source Water Assessment may be viewed by following the link at the end of this paragraph. Additional information can also be obtained by calling the local office of the DEP at (570) 826-2511. PAW encourages you to take an active part in protecting your water supply by participating in local watershed activities as they occur in your area.

[Brownell Source Water Assessment Program](#)

## Other Water Quality Parameters of Interest

### Is there lead in your 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. Pennsylvania American Water 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:

[U.S. Environmental Protection Agency Web Page on Lead](#)



### **Does your water contain nitrates?**

PAW's normal range of nitrate levels is well below the MCL of 10 ppm. Nitrates enter the water supply from fertilizers used on farms and natural erosion of deposits in the watershed.

Levels above 10 ppm are a health risk for infants under six months of age and can cause blue baby syndrome. Check with your physician if you have questions.

### **How hard is your water?**

Hardness is a measure of the concentration of two minerals naturally present in water – calcium and magnesium – and will vary seasonally. High hardness levels cause soap not to foam as easily as it would at lower levels and may cause spotting on glassware. The hardness of the water presents no health issues. The hardness levels leaving the treatment facilities range from 14 ppm to 66 ppm, or 0.8 to 3.9 grains per gallon of water.

### **How much sodium is in your water?**

The sodium level in the distribution system ranges from approximately 9 - 13 ppm.

### **What is the pH (acidity) range of your water?**

Water in the distribution system averages 7.2 pH units. A pH of 7.0 is considered neutral, neither acidic nor basic.

### **Is there fluoride in your water?**

PAW does not add fluoride to the water in the Brownell and Fallbrook system.

## **Partnership for Safe Drinking Water Program**

In 2000 the Brownell and Fallbrook water treatment facilities were awarded the prestigious Director's Award under the Partnership for Safe Water program. The program is administered by the U.S. Environmental Protection Agency, the Pennsylvania Department of Environmental Protection, and other water-related organizations. The award honors utilities for achieving operational excellence by voluntarily optimizing their treatment facility operations and adopting more stringent performance goals than those required by federal and state drinking water standards. We are proud to report that the Brownell and Fallbrook water treatment facilities have met the voluntary goals of the program for 17 continuous years. In 2015, the Brownell Water Treatment Plant application for the Partnership for Safe Water President's Award successfully met all criteria and was approved for Presidents Award status. The President's Award recognizes treatment plants that have achieved the highest possible levels of individual filter turbidity performance goals. We are proud to report the Brownell Water Treatment Plant has met the goals of the President's Award for 3 consecutive years.



## **How to Contact Us**

Additional copies of this report can be printed directly from this site at [www.amwater.com/ccr/brownellfallbrook.pdf](http://www.amwater.com/ccr/brownellfallbrook.pdf). Additional information can be gathered by calling our Customer Service Department at 1-800-565-7292 or by viewing the following information on the Internet:

[Pennsylvania American Water Web Page](#)

[Pa. Department of Environmental Protection Web Page](#)

[United States Environmental Protection Agency Web Page](#)

**Safe Drinking Water Hotline:** (800) 426-4791

[Center for Disease Control and Prevention Web Page](#)

[American Water Works Association Web Page](#)

## **Substances Expected to be in Drinking Water**

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit 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. Pennsylvania American Water's treatment processes are designed to reduce any such substances to levels well below any health concern and the processes are controlled to provide maximum protection against microbial and viral pathogens which could be naturally present in surface and groundwater. 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 U.S. Environmental Protection Agency's Safe Drinking Water Hotline at (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 infants may 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 microbial contaminants are available from the EPA's Safe Drinking Water Hotline at (800) 426-4791.**

The source of drinking water (both tap water and bottled water) includes 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 may result from urban storm water 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 storm water 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 storm water runoff, and septic systems.

**Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

## **Cryptosporidium (Measured on Raw Source Water Prior to Treatment) – Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) Round 2 Cryptosporidium Monitoring Results**

Beginning in October of 2016, monthly cryptosporidium monitoring has been conducted on the raw source water for the Brownell and Fallbrook Water Treatment Plants. There have been no detections in the Brownell Reservoir for cryptosporidium. Two monthly samples had detections in the Fallbrook Reservoir. The concentration of the results were 0.093 and 0.19 oocysts/L. Monitoring will continue through September of 2018 for these sources. The final results will be used to determine if additional treatment is required.

Monitoring for Cryptosporidium, a microbial parasite commonly found in surface water, was conducted as part of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). Current test methods do not allow us to determine if the organisms detected are dead or if they are capable of causing disease. Typical sources would be fecal material from wildlife such as deer, other mammals, and warm blooded animals that are present in the watershed. Cryptosporidium must be ingested for it to cause disease, and may be transmitted through means other than drinking water. Symptoms of infection include nausea, diarrhea, and abdominal cramps. These symptoms can also be the result of different food related organisms, flu or ingesting untreated water such as while swimming in lakes or reservoirs. Most healthy individuals are able to overcome the disease within a few weeks. However, some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people living with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk. These people should seek advice from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).



## Important Information About Your Drinking Water

**Availability of Monitoring Data for Unregulated Contaminants for Pennsylvania American Water – Brownell.** Our water system conducted monitoring for several unregulated contaminants in 2014. Unregulated contaminants are those that do not yet have a drinking water standard set by the EPA. The purpose of monitoring for these contaminants is to help the EPA decide whether the contaminants should be regulated. As our customers, you have a right to know that these data are available. If you are interested in discussing the results please contact Emery Yurko at 570-457-1550.

### How to Read This Table

Starting with a **Substance**, read across. **Year Sampled** is usually in 2017 or year prior. **MCL** shows the highest level of substance (contaminant) allowed. **MCLG** is the goal level for that substance (goal may be set lower than what is allowed). **Highest Amount Detected** represents the measured amount (less is better). **Range** tells the highest and lowest amounts measured. A **Yes** under **Compliance Achieved** means the amount of the substance met government requirements. **Typical Source** tells where the substance usually originates.

Non-regulated substances are measured, but maximum allowed contaminant levels have not been established by the government. These contaminants are shown for your information.

### Definitions of Terms Used in This Report

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

**MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**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 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 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 contamination.

**NA:** Not applicable

**ND:** Not detected

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of the water.

**pCi/L (picocuries per liter):** Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).

**ppm (parts per million):** One part substance per million parts water, or milligrams per liter.

**ppb (parts per billion):** One part substance per billion parts water, or micrograms per liter.

**SS:** Single sample

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

**%:** means percent. **>:** means greater than.

**<:** means less than.

**≤:** means less than or equal to.

**≥:** means greater than or equal to.

**90th Percentile:** The highest concentration of lead or copper in tap water that is exceeded by 10 percent of the sites sampled during a monitoring period. This value is compared to the lead and copper action level (AL) to determine whether an AL has been exceeded.

### Water Quality Statement

We are pleased to report that during calendar year 2017, the water delivered to your home or business complied with all state and federal drinking water requirements. For your information, we have compiled a list in the table below showing what substances were detected in your drinking water during 2017. The Pennsylvania DEP allows us to monitor for some contaminants less than once per year because the concentration of the contaminants does not change frequently. Some of our data, though representative, are more than one year old. Although all of the substances listed below are under the Maximum Contaminant Levels (MCL) set by the U.S. Environmental Protection Agency and the Pennsylvania DEP, we feel it is important that you know exactly what was detected and how much of each substance was present in the water.



## Water Quality Results

### Turbidity – A Measure of the Clarity of the Water at the Treatment Facilities

| Substance (units)            | Year Sampled | MCLG | MCL   | Highest Single Measurement or Lowest Monthly % of Samples $\leq$ 0.3 NTU | Compliance Achieved | Typical Source |
|------------------------------|--------------|------|---|--|---------------------|----------------|
| Turbidity (NTU) <sup>1</sup> | 2017         | NA   | TT = 1 NTU for a single measurement                 | 0.09 (Highest Measurement) (Fallbrook)                                   | Yes                 | Soil runoff    |
|                              |              |      |   | 0.07 (Highest Measurement) (Brownell)                                    |                     |                |
|                              |              | NA   | TT = at least 95% of monthly samples $\leq$ 0.3 NTU | 100% (Fallbrook)   | Yes                 | Soil runoff    |
|                              |              |      |   | 100% (Brownell)  |                     |                |

<sup>1</sup> All turbidity readings were below the treatment technique requirement of 0.3 NTU in 95% of all samples taken for compliance on a monthly basis. Turbidity serves as an indicator of the effectiveness of the filtration process.

### Total Organic Carbon (TOC) – Measured at the Fallbrook Treatment Facility

| Plant     | Substance (units)          | Year Sampled | MCL | MCLG | Range of Removal Required (%) | Range of Removal Achieved (%) | Number of Quarters Out of Compliance | Compliance Achieved | Typical Source                       |
|-----------|----------------------------|--------------|-----|------|-------------------------------|-------------------------------|--------------------------------------|---------------------|--------------------------------------|
| Fallbrook | TOC Removal Efficiency (%) | 2017         | TT  | NA   | $\geq$ 35                     | 46 - 57                       | 0                                    | Yes                 | Naturally present in the environment |

### Disinfectant Residual - Measured on the Water Leaving the Treatment Facility

| Substance (units)                       | Year Sampled | Minimum Residual Disinfectant Level | Lowest Amount Detected | Range Low - High      | Compliance Achieved | Typical Source                          |
|---|--------------|-------------------------------------|------------------------|-----------------------|---------------------|---|
| Entry Point Chlorine (ppm) <sup>2</sup> | 2017         | 0.2                                 | 1.7 (Fallbrook)        | 1.7 - 2.9 (Fallbrook) | Yes                 | Water additive used to control microbes |
|   |              |                                     | 1.6 (Brownell)         | 1.6 - 2.4 (Brownell)  |                     |   |

<sup>2</sup> All chlorine readings were above the treatment technique requirement of not less than 0.2 ppm for more than 4 hours.

### Regulated Substances - Measured on the Water Leaving the Treatment Facility

| Substance (units) | Year Sampled | MCLG | MCL | Highest Amount Detected | Range Low - High | Compliance Achieved | Typical Source  |
|-------------------|--------------|------|-----|-------------------------|------------------|---------------------|---|
| Nitrate (ppm)     | 2017         | 10   | 10  | 0.07 (Fallbrook)        | SS               | Yes                 | Runoff from fertilizer use; Leaching from septic tanks; Sewage; Erosion of natural deposits |



## Disinfectant Residual – Measured in the Brownell and Fallbrook Distribution Systems

| Substance (units)                        | Year Sampled | MRDL | MRDLG | Highest Amount Detected | Range Low - High        | Compliance Achieved | Typical Source                          |
|--|--------------|------|-------|-------------------------|-------------------------|---------------------|---|
| Distribution Chlorine (ppm) <sup>3</sup> | 2017         | 4    | 4     | 2.06 (Fallbrook)        | 1.67 – 2.06 (Fallbrook) | Yes                 | Water additive used to control microbes |
|  |              |      |       | 2.04 (Brownell)         | 1.40 – 2.04 (Brownell)  |                     |   |

<sup>3</sup> Range represents the calculated monthly averages of the results for the routine individual sample locations.

## Regulated Compounds (Measured in the Distribution Systems)

| Substance (units)                               | Year Sampled | MCLG | MCL | Results        | Range Low - High    | Compliance Achieved | Typical Source                            |
|---|--------------|------|-----|----------------|---------------------|---------------------|---|
| Total Trihalomethanes (TTHM) (ppb) <sup>4</sup> | 2017         | NA   | 80  | 39 (Fallbrook) | 19 - 73 (Fallbrook) | Yes                 | By-product of drinking water chlorination |
|   |              |      |     | 66 (Brownell)  | 19 - 89 (Brownell)  |                     |   |
| Haloacetic Acids (HAA5) (ppb) <sup>4</sup>      | 2017         | NA   | 60  | 36 (Fallbrook) | 22 - 50 (Fallbrook) | Yes                 | By-product of drinking water chlorination |
|   |              |      |     | 30 (Brownell)  | 16 - 36 (Brownell)  |                     |   |

<sup>4</sup> Stage 2 Disinfection By-Product Rule: The Range represents the sampling results of all distribution system locations in 2017. The results are the highest quarterly running annual average of the individual locations which is used to determine compliance with the MCL.

## Tap Water Samples: Lead and Copper Results

| Substance (units) | Year Sampled | Action Level | MCLG | Number of Samples | 90th Percentile | Number of Samples Above Action Level | Compliance Achieved | Typical Source   |
|-------------------|--------------|--------------|------|-------------------|-----------------|--------------------------------------|---------------------|--|
| Lead (ppb)        | 2016         | 15           | 0    | 10 (Fallbrook)    | <1 (Fallbrook)  | 0 (Fallbrook)                        | Yes                 | Corrosion of household plumbing systems; Erosion of natural deposits                                   |
|                   |              |              |      | 30 (Brownell)     | 8 (Brownell)    | 2 (Brownell)                         |                     |  |
| Copper (ppm)      | 2016         | 1.3          | 1.3  | 10 (Fallbrook)    | 0.1 (Fallbrook) | 0 (Fallbrook)                        | Yes                 | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives |
|                   |              |              |      | 30 (Brownell)     | 0.07 (Brownell) | 0 (Brownell)                         |                     |  |

## Unregulated Compounds (UCMR3) (Measured on the water leaving the treatment facility and in the distribution system)<sup>5</sup> - Brownell

| Substance (units) | Year Sampled | Average       | Range Low - High | Typical Source   |
|-------------------|--------------|---------------|------------------|--|
| Strontium (ppb)   | 2014         | 15 (Brownell) | 14 - 17          | Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions. |

<sup>5</sup> Substances were monitored under the Unregulated Contaminant Monitoring Rule 3 (UCMR3). MCLs and MCLGs are not established for these compounds.

