

ANNUAL WATER QUALITY REPORT

Village of Brewster Water Supply

Public Water System Identification Number - 3903639

Village of Brewster (owner)

50 Main Street

Brewster, New York 10509

845-279-3760

www.brewstervillage-ny.gov

Reporting for January 2016 through December 2016

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Village of Brewster
April 2017

This report contains important information about your drinking water.

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

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Terms and Abbreviations

1. AL = Action Level
2. MCL = Maximum Contaminant Level
3. MCLG = Maximum Contaminant Level Goal
4. MG/L = Milligrams Per Liter or ppm
5. PPM = Parts Per Million or Milligrams Per Liter
6. UG/L = Micrograms Per Liter or ppb
7. PPB = Parts Per Billion or Micrograms Per Liter
8. TT = Treatment Technique

1. Action Level –

The concentration of a contaminant, which if exceeded, triggers treatment or other requirements, which a water system must follow.

2. Maximum Contaminant Level –

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 possible.

3. Maximum Contaminant Level Goal –

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.

4. Milligrams Per Liter (MG/L) –

Corresponds to one part of liquid in one million parts of liquid (parts per million – ppm).

5. Parts per million = ppm = mg/l = Milligrams per liter

1 PPM is equivalent to:

One part of liquid in one million parts of liquid

1 inch in 16 miles

1 minute in two years

1cent in \$10,000.

6. Micrograms Per Liter (UG/L) –

Corresponds to one part of liquid in one billion parts of liquid (parts per billion – ppb).

7. Parts per billion = ppb = ug/l = Micrograms per liter

One part of liquid in one billion parts of liquid

8. Treatment Technique –

A required process intended to reduce the level of a contaminant in drinking water.

Introduction – Annual Water Quality Report

Drinking water in the United States is among the most regulated and safest in the world. **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 activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems.**

The primary legislation governing drinking water quality is the Safe Drinking Water Act (SDWA) passed by Congress in 1974, amended in 1986 and further strengthened in 1996. This legislation resulted in the development of national standards for drinking water quality.

Testing and monitoring results are reported regularly to the state health department and by law each state must meet the federal standards. An important new element of the 1996 reauthorization of the SDWA is the requirement for annual “Consumer Confidence Reports”. As of 1999 each water supplier is to provide customers with an Annual Water Quality Report identifying the source of their drinking water, contaminant levels, and notice of any violation and health risks posed from any violation.

While reviewing this report it is important to remember that 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.** It is true however that **some people may be more vulnerable to disease causing microorganisms or pathogens than the general population. This would include 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. More information about contaminants, potential health effects and EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Environmental Protection Agency’s Safe Drinking Water Hotline at 1-800-426-4791.**

I am pleased to report that the water supplied to you by the Village of Brewster meets or exceeds all Federal and State requirements for safe drinking water. If you have any questions regarding this report please feel free to contact the Village Office. Those interested in decisions that may affect the quality of their water are invited to attend Village Board meetings at 50 Main Street. All Village Board meetings are scheduled on Wednesdays and start at 7:30 P.M. Information on scheduled meetings is available upon request from the Village Office or visit <http://www.brewstervillage-ny.gov>.

Overview - Village of Brewster Water System

Source – Treatment – Production – Storage – System Improvements

Source* & Treatment

The Village of Brewster supply source is ground water drawn from five sand and gravel wells*. Before the water enters the pump station it is treated by means of an air stripping packed column in order to remove any Volatile Organic Compounds that may be present (Refer to page 5 - #2 organics – Refer to page 8, source water contaminants). The distribution system is supplied from the pump station by two vertical turbine booster pumps located over a clearwell (an in ground holding tank within the pump house). Disinfection is provided to the clearwell by a direct feed of chlorine gas.

Production

Between 2004 and 2007 all of the Villages four production wells were redeveloped or reconstructed to maximize production capabilities. In 2008 a suitable location for a fifth well was determined, construction was completed in 2009 and the new well was put into service in 2010. In 2016 the Village upgraded its well pumps with new high pressure water ends to increase production capabilities. The Village Board has now reached its objective to be able to meet peak demand with its largest producing well off line. The Village water supply serves a population of approximately 2500 people and average water production is approximately 200,000 gallons per day. In summer months peak demand can climb to 250,000 gallons per day. In 2016 the Village well field produced approx.71 million gallons of water.

Storage*

The Village storage tank has a capacity of one million gallons. Disinfection is maintained by injection of liquid chlorine and operation of a recirculation pump to maintain water movement within the tank. A chlorine analyzer monitors the tank water on a 24-hour basis to insure that proper chlorine disinfection is maintained.

System Improvements -

In 1999 the Village began addressing its aging infrastructure with the construction of a new one million gallon storage tank. In 2006 the Village completed a six million dollar project to replace its aging distribution system. In 2011 the Village installed a new well field control panel to maintain trouble free operation of its well pumps. In August of 2013 the Village replaced the packings in its air stripping column in order to insure the highest efficiency possible in removal of any contamination that may be present in its source water. In February of 2014 the Village installed a new pump house control panel to maintain problem free operation of its booster pumps. In August of 2015 the Village replaced one of its two booster pumps and replaced a major portion of the connecting piping. The Village Board will continue to address system improvements on an ongoing basis in order to protect the health, safety and welfare of Village water users.

* Per New York State Public Health Law Code 5-1.33 paragraph (h)

Information may be exempt from public disclosure if it is determined the information will pose a security risk to the operation of the community water system.

Specific information related to source and storage locations has been omitted from this report. Any individual, group or organization requiring this information must make proper application and show just cause as to the need for acquiring said information.

Village of Brewster Water Rate Schedule

October 1, 2015 and forward - Effective with the January, 2016 billing

- Bills must be paid or postmarked within 30 days of bill date to avoid a late penalty of 10%.
- Our water rate structure is designed to promote conservation. The more you use the more you pay.

Rates inside the Village of Brewster:

Metered service; add A. + B. + C. (if applicable) + D. (if applicable) + E. (if applicable)

Unmetered service; add A. + F.

- A. A basic charge of \$8.00 per month per unit (currently designated for fund deficit reduction)
- B. 2500 gallon minimum usage charge equivalent to \$36.00 per quarter per unit during the billing period (on or about every three months). 2500 gallons per quarter is equivalent to 27 gallons per day. \$0.0144 per gallon for 82 gallons per day per-unit during the quarterly billing period (on or about every three months). [Equivalent to an additional 10,000 gallons per quarter per unit]
- C. \$0.02 per gallon for the next 328 gallons per day per-unit during the quarterly billing period (on or about every three months). [Equivalent to an additional 30,000 gallons per quarter per unit]
- D. \$0.028 per gallon for all consumption over 438 gallons per day per-unit during the quarterly billing period (on or about every three months). [Equivalent to all usage over 40,000 gallons per quarter per unit]
- E. No meter: \$920.00 per unit billed quarterly (on or about every three months).

Broken meter, bad reading, short reading: prorated based on average metered usage determined solely by the Village.

The Village of Brewster solely determines incremental (pro-rating) billing if any, and may from time to time adjust the billing period.

Rates outside the Village of Brewster:

Metered service; add A. + B. Unmetered service; add A. + B. + C.

A. Effective with the January 2016 billing a surcharge of \$200.00 per quarter will be added to each bill for the 2016 calendar year to offset the cost incurred for outside village water line repairs. The surcharge will be reevaluated by the Board of Trustees at their discretion.

B. A basic charge of \$5.00 per month per unit (currently designated for fund deficit reduction.)

C. All metered customers are billed at a rate of \$0.023 per gallon billed quarterly (on or about every three months).

D. No meter: \$1,380.00 per unit billed quarterly (on or about every three months).

- Broken meter, bad reading, short reading: prorated based on average metered usage determined solely by the Village. The Village of Brewster solely determines incremental (pro-rating) billing if any, and may from time to time adjust the billing period.

Village of Brewster Monitoring Requirements

(Detected contaminants are reported on pages 6 - 8)

1. Microbiological (Coliform Bacteria) – Monthly

No detects for the reporting period – Jan. 2016 through Dec. 2016

Microbiological Contaminants

Coliform Bacteria – Coliform are bacteria that are naturally present in the environment. Fecal Coliform and E. Coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes.

2. Organics – Annually & Quarterly

Quarterly and annual sampling of organics can detect over 60 types of contaminants.

Organic Chemical Contaminants

Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production and can also come from gas stations, dry cleaners, storm water runoff and septic systems.

SOC's – (Synthetic Organic Contaminants, including Pesticides - PCB's) Tested every 3 years. No detects for the reporting year 2014. Next sampling in 2017

VOC's – Volatile Organic Contaminants - Quarterly

Dry cleaning chemicals were found to be present in the Villages source water (well field aquifer) back in 1978. A brief history of contamination is provided on page 8.

Refer to page 8 for detection levels before and after treatment

MTBE (gasoline additive) – Twice Annually

No detect for the reporting period – Jan. 2016 through Dec. 2016

3. Inorganics

Inorganic Contaminants

Inorganic contaminants, such as salts and metals, can be naturally occurring or result from storm water runoff or wastewater discharges.

Nitrate – Annually - Refer to page 6 for detection level

Metals Group 1 & 2 & Fluoride –

Every 3 years (Tested in 2015 – Next Sampling in 2018) Refer to page 6.

Metals – Group 1 – Arsenic, Barium, Cadmium, Chromium, Mercury, Selenium.

Metals – Group 2 – Antimony, Beryllium, Cyanide, Nickel, Sulfate, Thallium.

***Sodium – Quarterly** – Refer to page 6 for detection level

*Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used by people on moderately restricted sodium diets.

Lead & Copper - Every 3 years

(Tested in 2015 - Next sample in 2018) Refer to page 7 for detection levels

4. Disinfection by-products – Tested Annually

During disinfection (chlorination), certain by-products form as a result of chlorine reacting with naturally occurring organic matter.

Haloacetic Acids – (Tested in 2016) Refer to page 6 for detection level

Trihalomethanes – (Tested in 2016) Refer to page 6 for detection level

5. Radiological - Every 9 years - No detects for the reporting year 2008 (next 2017)

Radioactive Contaminants can come from decay and erosion of natural deposits.

6. Asbestos - No detects for the reporting year 2004

Asbestos Contamination can come from decay of asbestos cement pipe.

(No further testing required at this time for asbestos (next - 2021))

Refer to page 1, Terms & Abbreviations for assistance in understanding this chart. Contamination definitions are provided on page 5.
 Dates & results of testing presented in this report are from the most recent testing done in accordance with Health Dept. requirements.

Table of Detected Contaminants Village of Brewster Water Distribution System

Contaminant	Violation Yes / No	Date of Sample	Contaminant Level Detected	Unit Measurement	MCLG	Regulatory Limit MCL	Likely Source of Contaminant
Inorganic Compounds – (Refer to page 5 - #3)							
Barium	No	7/15	.099 PPM	PPM	2 PPM	2 PPM	Well Drilling Operations Erosion of Natural Deposits
Chromium	No	7/15	Undetected	PPM	1 PPM	1PPM	Erosion of Natural Deposits
Nickel	No	7/15	.0013 PPM	PPM	.01 PPM	.01 PPM	Erosion of Natural Deposits
Nitrate	No	2/16	.46 PPM	PPM	10 PPM	10 PPM	Erosion of Natural Deposits
Sulfate	No	7/15	23 PPM	PPM	None Available	250 PPM	Erosion of Natural Deposits
* Sodium	No	Quarterly 2016	Average 85.75 MG/L Range 76. – 97.	MG/L	None Available	No Designated Limit	Naturally Occurring & Storm Water Runoff

* **Sodium** – Water containing more than 20 MG/L of sodium should not be used for drinking by people on severely restricted sodium diets. (See page 5 - #3)

Disinfection By-products – By-Products resulting from chlorination. (Refer to page 5 - #4)

Trihalomethanes	No	7-16	71. PPB	PPB	None Available	80 PPB (MCL)	By-product of drinking water chlorination
Haloacetic Acids	No	7-16	37.4 UG/L (PPB)	UG/L	None Available	60 UG/L (MCL)	By-product of drinking water chlorination

2015 Test Results – Village of Brewster – Lead & Copper – (Next required round of sampling will be in 2018)

Contaminant	Violation Yes / No	Date of Sample	Contaminant Level Detected	Unit Measurement	MCLG	Regulatory Limit MCL / AL	Likely Source of Contaminant
– 90 th Percentile Reportable Value = (10 sites tested – the level that falls in the 90% high range of samples)							
Copper	No	6/15	.38 MG/L (PPM)	MG/L	1.3 MG/L	1.3 MG/L Action Level	Copper Pipe Household Plumbing & Service Connections
– 90 th Percentile Reportable Value = (10 sites tested – the level that falls in the 90% high range of samples)							
Lead	No	6/15	2.0 UG/L (PPB)	UG/L	0	15 UG/L Action Level	Lead Pipes & Lead Solder Household Plumbing & Service Connections

90th Percentile Value = The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution system that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected in your water system.

Lead Reportable value for lead is 2.0 ug/l = (10 sites tested – the level that falls in the 90% high range of samples)

Test Results	1	2	3	4	5	6	7	8	9	10
	Undetected	Undetected	Undetected	Undetected	Undetected	1.5 ppb	1.9 ppb	1.9 ppb	2.0 ppb	2.3 ppb

Reportable Value

Copper Reportable value for copper is 0.38 mg/l = (10 sites tested – the level that falls in the 90% high range of samples)

Test Results	1	2	3	4	5	6	7	8	9	10
	.05 ppm	.12 ppm	.16 ppm	.20 ppm	.22 ppm	.25 ppm	.25 ppm	.32 ppm	.38ppm	.49 ppm

Reportable Value

Note: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your homes plumbing. In most cases lead gets into water after it leaves the utility, through household plumbing. If you are concerned about elevated lead levels in your homes water you can minimize risks. Whenever plumbing has not been used for 6 or more hours flush stagnant water by running your cold-water tap from 30 seconds to 2 minutes prior to using tap water for drinking or cooking. For additional information you may contact the Safe Drinking Water Hotline at: 800-426-4791.

Most suspect to lead contamination:

Any home with lead pipes or with a lead service connection. Any home with copper pipes with lead solder installed between 1982 and 1986. (In 1986 new regulations banned the use of lead in new plumbing). (Older homes should have built up a protective coating within the pipe to act as a barrier against lead solder). If you think your home is suspect, you may wish to have your water tested by an environmental laboratory.

Contaminant	Violation Yes / No	Date of Sample	Contaminant Level Detected	Unit Measurement	MCLG	Regulatory Limit MCL	Likely Source of Contaminant
VOC's – Test results from quarterly samples taken after treatment							
Dichloroethene	NO	Quarterly 2016	Annual Ave. 0 ppb 0-0-0-0	PPB	70 ppb	70 ppb	Discharge from dry cleaners
Trichloroethene	NO	Quarterly 2016	Annual Ave. 0 ppb 0-0-0-0	PPB	0 ppb	5 ppb	Discharge from dry cleaners
Tetrachloroethene	NO	Quarterly 2016	Annual Ave. 0 ppb 0-0-0-0	PPB	0 ppb	5 ppb	Discharge from dry cleaners

Source Water Contaminants Listed Below: Test Results before treatment and distribution (well field).

These test results provided below are levels of source water contaminants before treatment and distribution of your water. Raw water quality data is not used for compliance monitoring, these test results are provided for additional information purposes only, violation regulations do not apply. I would like to point out it is encouraging to see that source water test results have fallen below EPA Maximum Contaminate Levels for safe drinking water.

History: In 1978 routine water sampling revealed traces of VOC's in the well field water. Present were Dichloroethene, Trichloroethene, and Tetrachloroethene. These compounds are generally derived from light industry cleaning processes such as dry cleaning. Soil and water samples were collected and subsequent analysis confirmed the source of contamination as a drywell adjacent to a dry cleaner. The U.S. Environmental Protection Agency (EPA) conducted a Remedial Action at the Brewster Wellfield site to address contamination and implement a cleanup operation. The Village in association with the EPA installed an on-site packed-column air stripping unit to treat groundwater and provide a safe source of water. The contaminated soil was excavated and removed. Operation of the air stripping unit has been successful in contamination removal and all state and federal requirements have been met on a consistent basis. The Village of Brewster samples quarterly before and after treatment in order to insure proper removal of remaining contaminants from your drinking water.

2016 - Quarterly Test Results BEFORE TREATMENT and distribution

Contaminant	Unit Measurement	MCLG	MCL	Likely Source of Contaminant	Level Detected	Violation
Dichloroethene (Dichlorethylene)	ppb	70 ppb	70 ppb	Discharge from dry cleaners	Annual High – 3.8 ppb Annual Low – .0 ppb Annual Ave. – 2.33 ppb	No (Does not apply)
Trichloroethene (Trichlorethylene)	ppb	0 ppb	5 ppb	Discharge from dry cleaners	Annual High – .86 ppb Annual Low – .0 ppb Annual Ave. – .60 ppb	No (Does not apply)
Tetrachloroethene (Tetrachloroethylene)	ppb	0 ppb	5 ppb	Discharge from dry cleaners	Annual High – 2.2 ppb Annual Low – .0 ppb Annual Ave. – 1.58 ppb	No (Does not apply)

Closing Remarks

The Mayor and Village Board hope you have found this report to be informative and easy to understand. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water. In closing we would like to leave you with the following thoughts about your water.

Water Conservation & Leak Detection: Please help conserve our valuable resource by using water saving devices, repairing any water leaks within your home and reporting suspected water leaks within our system. Just a slow drip can waste 20 gallons a day (over 7000 gallons a year). A toilet leak can waste up to 100 gallons a day (that's over 30,000 gallons a year). Check for toilet leaks by putting a few drops of food color in the tank and see if the color shows up in the bowl. The sound of running water through your pipes may be an indication of a leak on your incoming service line, notify your water department. Water your lawn sparingly in the early morning or late evening.

Contaminants & Backflow Prevention: Any building with a sprinkler system or that processes hazardous material or chemicals should be isolated from the potable water supply by the appropriate level of protection consistent with the degree of hazard posed by the service connection. Never use chemical spray attachments on garden hoses without a backflow prevention device. Never leave a hose in a contaminated source of water (such as a bucket or dirty pool of water). If water pressure drops on the incoming service line the contaminant could be sucked back into your homes pipes and water supply. You can help protect our local water supplies by properly disposing of chemicals or potentially harmful substances and by reporting any known violations or abuses.

Shutting your water off in an emergency: Your home should have a "master shutoff valve" inside and a curb valve outside. In case of emergency do you know where your valves are and how to shut your water off? Village residents may contact the Village if they would like to schedule an appointment to locate their outside shutoff.

Protect Your Water Line from Freezing: The harsh winter of 2014-2015 caused a number of water lines to freeze. If your water line is susceptible to freezing and has frozen in the past you may wish to keep your water running to avoid a reoccurrence during extended periods of extreme cold. Protect the water lines in your home from freezing temperatures and insulate them against drafts.

Reporting Water Emergencies: Business Hours – Contact the Village Office @ 279-3760 After hours a call to the Village Police Dept. @ 845-279-3618 will be forwarded to the N.Y. State Police or you may call the Putnam County Sheriff Department @ 845-808-4300 and ask them to contact the Village of Brewster Department of Public Works.

Agency Contact Numbers: If you require any further information please do not hesitate to contact any of the agencies listed below for assistance.

Village of Brewster @ 1-845-279-3760 – 8:30A.M. – 4:00P.M.

www.brewstervillage-ny.gov

Town Special Districts (Sewer & Water) @ 1-845-279-8206 – Town Residents

Town of Southeast (Town Hall) @ 1-845-279-2196 – Town Residents

Putnam County Department of Health Water Supply @ 845-808-1390

New York State Department of Health

Bureau of Public Water Supply Protection @ 1-518-402-7650

<http://www.health.state.ny.us>

EPA Safe Drinking Water Hotline @ 1-800-426-4791

<http://www.epa.gov/safewater>