Annual Water Quality Report for 2020 Village of Schoharie Water System 300 Main Street Post Office Box 219 Schoharie, NY 12157 Public Water Supply ID# 4700098

INTRODUCTION

To comply with State regulations, Village of Schoharie Water System, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. In past years we conducted tests for over 130 contaminants. We detected 15 of those contaminants and each are described in the report. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact the Water Plant and System Operator at (518) 295-7252, 295-6140 or the Village Office at (518) 295-8500. For water problems, leaks, cloudy water or complaints contact the Village so the problem can be attended to as soon as possible by Village staff. We want you to be informed about your drinking water. If you want to learn more, please attend any of our regularly scheduled village board meetings, they are held on the second Tuesday of each month at the Village Office starting at 7:30 PM.

WHERE DOES OUR WATER COME FROM?

Our water system serves about 900 people through 440 service connections. Our water source is two springs, both of which are located on Barton Hill on the north side of Route 443. Both of these locations are quite a distance from any main road. One is called Young's Spring and the other is Dugan Hill Spring. Both of these springs are considered surface water supplies. Fox Creek, is our emergency source. The source water is filtered at this time by our water filtration plant and chlorinated for disinfection purposes. Corrosion control treatment was started in 2003 to reduce elevated copper levels in the water from the service lines to residences. We upgraded the treatment system, which included a water filtration plant to meet all State and Federal mandates at the time. A new holding pond was finished in the year 2000 to hold 40 million gallons of water and will afford us at least 6 months water supply during dry periods. Meters have been installed at each consumer's service connection. The rate for a household is \$ 84.66 per quarter for a minimum of 5000 gallons. An additional \$ 5.4318 per 1000 gallons is charged after 5000 gallons.

Total Production in 2020 was approximately 51,001,217 gallons, an average of 139,729 gallons per day. Total Production in 2019 was approximately 45,204,000 gallons, an average of 123,847 gallons per day. Total Production in 2018 was approximately 48,268,000 gallons, an average of 132,241 gallons per day. Total Production in 2017 was approximately 60,167,000 gallons, an average of 164,841 gallons per day. Total Production in 2016 was approximately 44,705,000 gallons, an average of 122,145 gallons per day. Total Production in 2015 was approximately 41,959,000 gallons, an average of 114,956 gallons per day.

The system is regulated by the Schoharie County Department of Health at 295-8382. Town of Schoharie Zoning regulations were revised in 2015 and law protects the watershed areas in the town. There are specific regulations concerning land use activities in the watershed and the Town enforces these. If you have a question about this please call the town zoning officer at 295-7672. In general, 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 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; volatile 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 State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER? As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform (at least one per month), turbidity (daily), inorganic compounds (every nine years), nitrate (yearly), nitrite, (every year in summer) lead and copper, volatile organic compounds (yearly), total trihalomethanes, haloacetic acids (every three months) synthetic organic compounds (herbicides and pesticides every three years) and radiological contaminants (3 to 9 years). The table presented on page 3 depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old. We must collect at least one sample for total coliform bacteria each month. Continuous monitoring equipment at the filtration plant measures chlorine residual, and filtered water turbidity. These measurements are also checked daily by the Superintendent to ensure the equipment is functioning properly.

It should be noted that all drinking water, including bottled drinking water, might be reasonably 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) or the Schoharie County Health Department at (518) 295-8382. The NYS DOH website is https://www.health.ny.gov/environmental/water/drinking/

Source Water Assessment Summary

The NYS DOH has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The state source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how easily contaminants can move through the subsurface to the springs. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See section "Are there contaminants in our drinking water?" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

While nitrates (and other inorganic contaminants) were detected in our water, it should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants from natural sources. The presence of contaminants does not necessarily indicate that the water poses a health risk. Normal background levels for nitrates in Schoharie County range between not detected to approximately 0.3 milligrams per liter. Organic contaminants were detected well below legal limits in our water in the last sample analyzed for them in 2016 (total trihalomethanes and haloacetic acids). Natural organic matter in the surface water affected this test. The sources have a medium susceptibility rating to the natural organic matter, which is referred to as disinfection by-product precursors. The water will be tested every quarter for total trihalomethanes and haloacetic acids beginning in 2004. Potassium permangante is an oxidant that is added to the water to help remove the natural organic matter before it becomes a problem in the system. As mentioned before, our water is derived from the Youngs' Spring.

The source water assessment has assigned a high natural sensitivity to halogenated solvents, petroleum products and other industrial organics. The source water assessment has assigned a medium natural sensitivity to pesticides, herbicides, nitrates, sediments, turbidity, disinfection by-product precursors (natural organic matter), protozoa, enteric bacteria and enteric viruses. The source water assessment has not given a susceptibility rating to halogenated solvents, petroleum products, other industrial organics, metals, nitrates, sediments, turbidity, cations/anions (salts, sulfate), phosphorus, enteric bacteria and enteric viruses because of negligible, or low contaminant prevalence in the watershed.

The source water assessment has given a medium susceptibility rating to pesticides and herbicides because of the presence of row crops in the watershed. The source water assessment has given a medium susceptibility rating to protozoa because of the presence of pasture in the watershed. The source water assessment has identified agricultural land cover as a potential source of contamination with a medium potential impact to the water source. The contaminants of concern are protozoa and pesticides/herbicides. While the source water assessment rates our spring as being susceptible to protozoa, please note that our water is filtered and disinfected to ensure that the finished water delivered into your home and business meets New York State's drinking water standards for microbial contamination.

The springs are protected from contamination by sewage treatment regulations of the Schoharie County Sanitary Code, and land use review by the Town Planning Board. A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted above.

Definitions for terms found in the table of detected contaminants on page 3:

<u>Maximum Contaminant Level (MCL)</u>: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

<u>Maximum Contaminant Level Goal (MCLG)</u>: 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.

<u>Action Level (AL)</u>: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

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

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

<u>Nephelometric Turbidity Unit (NTU)</u>: A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

<u>Milligrams per liter (mg/l)</u>: Corresponds to one part of liquid in one million parts of liquid (parts per million – ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion – ppb).

N/A: Not Applicable.

ND: Not Detected

<u>Picocuries per liter (pCi/L)</u>: A measure of the radioactivity in water.

<u>Maximum Residual Disinfectant Level (MRDL)</u>: The highest level of a disinfectant allowed in drinking water, based upon a running annual average of the samples. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

<u>Maximum Residual Disinfectant Level Goal (MRDLG):</u> 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.

Table of Detected Contaminants										
Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measurement	MCLG or MRDLG	Regulatory Limit (MCL, TT, AL, or MRDL)	Likely Source of Contamination			
Chloride	No	09/26/2001	6	mg/l	none	250	Naturally occurring.			
Sodium	No	02/20/2014	8.8	mg/l	none	See health effects below	Naturally occurring, road salt runoff, animal waste water softeners and addition of sodium hypochlorite disinfectant.			
Turbidity	No	Daily	0.02-0.3 see information below	NTU	0.3 or less	0.3 NTU in at least 95% of monthly samples	Soil Runoff.			
Sulfate	No	09/26/2001	21	mg/l	250	none	Naturally occurring.			
Copper 21 first draw tap samples between June 1 and September 30 same for lead	No	2020	1520 (highest level detected) see information below	mg/l	1.3	AL=1.3	Corrosion of household plumbing systems.			
Lead See report below	No	2020	9.9 highest level	ug/l	0	Al=15	Corrosion of household plumbing systems; Erosion of natural deposits.			
Nitrate (Nitrite not detected in 2020)	No	7/15/2020 07/17/2019 07/25/2018 07/05/2017 06/07/2017 06/22/2016 2015	2.1 1.8 0.86 2.5 1.4 3.08 1.85	mg/l	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.			
Free Chlorine residual	No	Daily	0.2-4	mg/l	4	4	By-product of drinking water chlorination.			

Halo Acetic Acids Or HAA5	No	02/12/2020 05/13/2020 08/12/2020 11/5/2020 Done every quarter	22.9 21.8 15.0 20.4	ug/l	60	60	By-product of drinking water chlorination. Haloacetic acids are formed when the source water contains large amounts of organic matter.
TTHM which is known as Total Trihalomethanes	No	02/12/2020	19.9	ug/l	80	80	By-product of drinking water chlorination.
and is a combination of chloroform, bromodichloromethane, dibromochloromethane, and bromoform.		05/13/2020 08/12/2020 11/5/2020 Done every quarter	22.6 23.9 29.6				Chlorination is needed to kill harmful organisms. THMs are formed when the source water contains large amounts of organic matter.
Fluoride	No	2015 6/12/2017	0.088 ND	mg/l	2.2	2.2	Naturally occurring in Schoharie and promotes strong teeth when added
Barium	No	2015 6/12/2017	0.13 0.079	mg/l	2	2	Naturally occurring erosion of natural deposits
Beta particle and photon activity from manmade radionuclides	NO	06/11/2018	2.4	pCi/L	50	0	Decay of natural deposits and man-made emissions. The State Considers 50 pCi/l to be level of concern for beta particles.

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below the level allowed by the State. Below is an explanation of some of the contaminants and health effects when the MCL is exceeded. The MCLs are set at very stringent levels. In general a person would have to drink two liters of water every day at the MCL level for a lifetime to have one-in-a-million chance of having the described health effect.

LEAD and COPPER:

NO LEAD OR COPPER HAS BEEN DETECTED IN THE SOURCE WATER. In 1994 a corrosion control study was completed and treatment to reduce copper levels in the water system was designated. The lead and copper sampling done in 2003 confirmed that the treatment designated in the corrosion study was necessary. The Village started adding poly orthophosphate to the water in 2003 to prevent copper from leaching from the pipes into the water. Twenty Lead and Copper samples are due every three years as part of routine monitoring because of continuing copper problems. If you wish to have your water tested for lead and copper at that time contact the Village. Compliance is based on an action level where at least 90 % of sites tested are at or below that action level. No lead tests exceeded the action level of 15, three of 21 copper tests exceeded the action level of 1300 (or 1.3 mg/l) in the 2020 round of tests.

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight defects in attention span and learning abilities. Adults who drink water containing lead in excess of the action level could develop high blood pressure or kidney problems.

If you wish to have your water tested, the Village may use your home if the sample site is approved by the Health Department. Additional information is available from the Safe Drinking Water Hot Line (1-800-426-4791).

Copper: Copper is an essential nutrient to your health. Some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilsons Disease should consult their personal doctor. The 90 % action level for copper in a first draw tap sample is 1300 ug/l (or 1.3 mg/l). If you have a concern about the level of copper in the water flush your tap as stated in the lead information above to remove it from the drinking water. Approximately 25 feet of one-half inch copper pipe will have over one quart of water. Most service lines from the water main to the house are three-quarter inch pipe. Fifty feet of service line will have approximately 5 quarts of water. One or two flushes of the toilet will bring fresh water from the iron water main, flush your lines, and waste as little water as possible. Using the laundry machine first thing in the morning or after work will also accomplish this and no water will be wasted. Samples were collected during the required period between June 1 and September 30, 2020. The results from highest to lowest are as follows: 1520, 1400, 1390, 999, 992, 874, 774, 762, 746,710, 659, 555, 531, 465, 453, 440, 270, 130, 95.8, 61.5, 16.8. The 90 % level is less than 1300. The next round of lead and copper testing is from June 1, to September 30, 2023.

Chloride

Chloride is a naturally occurring substance and is abundant in nature. It has no health effects. The MCL for chloride is 250 mg/l and the last test done on the Village water was 6 mg/l. Water containing chloride above the MCL can cause objectionable tastes. The chloride is at a level where no taste problems can be observed.

Sodium

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 should not be used for drinking by people on moderately restricted sodium diets.

Turbidity

Regulations require that we have at least 95 % of our mixed filter water have 0.3 NTU or less. That standard was met. Regulations require that the filters never have turbidity above 1.0 NTU in two measurements taken 15 minutes apart. This regulation was met. Regulations also require that turbidity must always be below 5 NTU in the distribution system (this may be exceeded during flushing or firefighting; residents are notified of routine flushing and lines are flushed as soon as possible to clear them if firefighting causes a problem). The distribution system turbidity measurements reported were all below 5 NTU.

Sulfate

Sulfate is naturally occurring. Our sulfate level was measured at 21 mg/l. The MCL is 250 mg/l. Water with high concentrations of sulfate can have three effects: (1) water containing appreciable amounts of sulfate tends to form hard scales in boilers and heat exchangers; (2) sulfates can cause taste effects; and (3) sulfates can cause laxative effects with excessive intake. The laxative effect of sulfates is usually noted in transient users of a water supply because people who are accustomed to high sulfate levels have no adverse response. Diarrhea can be induced at sulfate levels greater than 500 mg/l but typically near 750 mg/l. Our sulfate level is quite low and probably will cause no taste or laxative effects.

Nitrate

Although nitrate has been detected below the MCL of 10 mg/l, we are presenting the following information on nitrate in drinking water:

"Nitrate in drinking water at levels above 10 mg/l is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. If you are caring for an infant, you may ask for advice from your health care provider."

Chlorine Residual

Sodium hypochlorite is added to the water to kill harmful organisms and is a mandatory treatment requirement for a water system with a surface water source. It must always be maintained in the drinking water. Chlorine residuals are less in the distribution system than the plant. The chlorine residual at the plant is normally maintained around 1.5 to 2 mg/l which is acceptable and required to get chlorine residual to all parts of the system. The range of chlorine residual was about 0.2 to 4.

Total Trihalomethanes and Haloacetic Acids Haloacetic Acids

Haloactic acids were detected at 20.0 below the MCL of 60 ug/l. Stage 2 Compliance is based on a running annual average of quarterly samples at 256 Main Street and the 2020 quarterly average was 20.0. Even though the haloacetic acids are far below the MCL we are presenting the following information on haloacetic acids in drinking water:

"Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer."

TTHM

Total Trihalomethanes were detected at 24 ug/l, which is below the current MCL of 80 ug/l. August is normally the highest month. Stage 2 Compliance is based on a running annual average of quarterly samples collected at Fort Road. The 2020 quarterly averag was: 24. ug/l. Even though the total trihalomethanes are far below the MCL we are presenting the following information on total trihalomethanes in drinking water:

"Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer."

Gross Alpha Particle Activity, beta particles and photon activity: Certain minerals are radioactive and may emit a form of radiation known as alpha radiation and beta radiation. Some people who drink water containing alpha emitters, beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer. This type of contaminant comes from the erosion of natural deposits. The gross alpha activity measured in the water is less than the MCL. They are below reporting levels in the springs which is the regular source and they are at a 9 year testing period (the longest allowed period) in springs because of the lack of contamination. The Health Department monitored the springs in June 2018.

INFORMATION ON GIARDIA

Giardia is a microbial pathogen present in varying concentrations in many surface waters and groundwater under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection. On September 25, 1995 The NYS Department of Health collected a water sample and analyzed for Giardia cysts. The sample was from the Fox Creek, which is our emergency source. The result indicated that 2 presumed cysts were found in 9 gallons of untreated water. They were presumed to be Giardia at the time because the analytical method used could not distinguish whether they were alive or dead or identified by their internal structures. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Giardia may cause giardiasis, an intestinal illness. People exposed to Giardia may experience mild or severe diarrhea, or in some instances no symptoms at all. Fever is rarely present. Occasionally, some individuals will have chronic diarrhea over several weeks or a month, with significant weight loss. Giardiasis can be treated with anti-parasitic medication. Individuals with weakened immune systems should consult with their health care providers about what steps would best reduce their risks of becoming infected with Giardiasis. Individuals who think that they may have been exposed to Giardiasis should contact their health care providers immediately. The Giardia parasite is passed in the feces of an infected person or animal and may contaminate water or food. Person to person transmission may also occur in day care centers or other settings where handwashing practices may be poor. The filtration plant is designed to remove Giardia from the water.

INFORMATION ON CRYPTOSPORIDIUM

Cryptosporidium is a microbial pathogen found in surface water and groundwater under the influence of surface water. Although filtration removes Cryptosporidium, the most commonly-used filtration methods cannot guarantee 100 percent removal. On September 25, 1995 The NYS Department of Health collected a water sample and analyzed for Cryptosporidium oocysts. The sample was collected from our emergency source, the Fox Creek. The result indicated that 1 presumed cyst was found in 9 gallons of untreated water. They were presumed to be Cryptosporidium at the time because the analytical method used could not distinguish whether they were alive or dead or identified by their internal structures. Therefore, the testing indicated the presence of Cryptosporidium in the Fox Creek. The Fox Creek intake has not been used since 2001. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their health care provider regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met most state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens 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 from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791). You may also contact Lili Morgan,

Public Health Sanitarian assigned to the water system, at the Schoharie County Department of Health at 295-8382 for any questions about the Annual Water Quality Report and the system.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

The Village of Schoharie has a **waiver** from the monitoring requirements for the inorganics of antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium and thallium. The waiver is being issued because these contaminants have not been detected, or detected at naturally occurring trace levels that are reliably and consistently below the maximum contaminant levels for at least three rounds. The next sample is due by the expiration date of the waiver, December 31, 2026. Sampling may be required if circumstances change. Waiver dates 01/01/2018 to 12/31/2026. Our disinfection by-product monitoring plan (THM, HAA5, and chlorine residual) is available for review, as required, by contacting the Village as stated above.

The Revised Total Coliform Bacteria Rule became effective April 2016. The Village complied with the Rule and no level one or level two assessments were required because of unsatisfactory samples.

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ☐ Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- □ Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- ☐ Turn off the tap when brushing your teeth.
- ☐ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up an you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.

CLOSING

A repair project approved for the Young Spring source has been completed to help assure the stability of the water sources. The village is looking into upgrading the existing water storage tank and distribution mains.

Thank you for allowing us to continue to provide your family with quality drinking water the year of 2020. The Village had two NYS certified water treatment plant operators and distribution system operators in 2020. They work diligently to maintain the quality of water. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. Please call our office if you have any questions.