

Annual Drinking Water Quality Report for 2024
Town of Bethlehem Water District No.1
445 Delaware Avenue, Delmar, NY 12054
(Public Water Supply Identification Number NY0100191)

INTRODUCTION

To comply with State regulations, The Town of Bethlehem Department of Public Works issues an annual 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. Last year, we conducted tests for over 80 contaminants. We detected 2 of those contaminants at a level higher than the State allows. As we told you at the time, our water temporarily exceeded a drinking water standard and we modified our treatment process to rectify this problem. This report is an overview of last year's water quality. We want you to understand the efforts we make to continually improve the water treatment process and to protect our water resources. This report is 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 New York State standards.

If you have any questions concerning this report or concerning your drinking water please contact: Mr. Paul Penman, Commissioner of Department of Public Works, 445 Delaware Ave, Delmar NY 12054, Telephone (518) 439-4955 or e-mail PPenman@townofbethlehem.org . If you want to learn more, please attend any of our regularly scheduled town board meetings. The meetings are held on the 2nd and 4th Wednesday of each month. If you are unable to attend the meetings, we encourage you to contact the DPW offices directly.

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap 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 State Health Departments and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The Bethlehem Water District No. 1 draws its water from both "surface water" and "ground water" sources. During 2024, our system did not experience any restriction of our water sources. These sources are:

- Surface water drawn from the Vly Creek Reservoir located in the Town of New Scotland
- Groundwater from two (2) wells located in the Town of New Scotland
- Groundwater from eleven (11) wells located along the Hudson River
- Surface water drawn from the Alcove Reservoir located in the Town of Coeymans (City of Albany water purchased by the Town of Bethlehem)

The New Salem Water Purification Plant draws its water from the Vly Creek Reservoir, which has a storage capacity of 1.25 billion gallons. The New Salem Water Purification Plant has a peak capacity for purifying 6 million gallons of water per day. The treatment process consists of chlorination for disinfection; coagulation with aluminum sulfate; filtration with rapid sand filter, and corrosion control. The facility has equipment in place for the use of activated carbon for taste and odor control, which we started to use in the fall of 2024 along with powdered activated carbon for taste and odor control. There is no fluoride added to the Bethlehem Water Supply. Algae growth in the Reservoir is controlled by treatment with copper sulfate in the summer months. Water is pumped from the purification plant to a 5,700,000-gallon steel water storage tank. From that point, water is delivered by gravity through a network of water mains, which reach all the way from North Bethlehem to Selkirk.

There are also two deep wells to supplement the capacity of the New Salem Water Plant. Each well has a capacity of 374 gallons per minute. We are permitted by NYS Department of Environmental Conservation to withdraw 550,000 gallons per day, or 0.550 million gallons per day (MGD). Groundwater or well water is stored below the surface of the earth in deep, porous rocks or porous deposits of sand or gravel called "aquifers." Groundwater is purified naturally as it filters through layers of soil, clay, rock and sand. This process, known as "percolation" takes years to complete. As a result, groundwater requires less treatment than surface water.

The Clapper Road Water Purification Plant is supplied by facilities including a groundwater infiltration system and a well field that consist of 11 drilled wells which is adjacent to the Hudson River on Schemerhorn Island. The Water Purification Plant has the ability to treat 6 million gallon per day. The plant uses sodium permanganate and oxygen to oxidize iron and manganese found in the raw water, dissolved air flotation for the removal of organic materials, polyaluminum chloride(PCH-180) and a non-ionic polymer for coagulation, (4) Trident filter units for water purification, sodium hydroxide and carbon dioxide for pH adjustment, corrosion control and chlorine for disinfection.

To further strengthen the water distribution system and cooperate in a more regional approach to water supply, there are two interconnections with the City of Albany's water supply. One interconnection is located in a residential area on Kenwood Avenue and the other is in an industrial area on Creble Road. The Town currently purchases water from the City of Albany to supplement our capacity. We also have an emergency interconnect

with the Town of Guilderland’s water system in North Bethlehem. This interconnect can provide water from Bethlehem to Guilderland or vice versa depending upon which community needs supplemental water.

The City of Albany’s water source is the Alcove Reservoir that is located on the Hannacroix Creek. Albany also has the Basic Creek Reservoir that serves as a secondary source. Treatment of Albany’s water includes coagulation, sedimentation, pH, alkalinity adjustment and filtration at the Albany Filtration Plant. Chlorine is added at the Albany plant as a residual disinfectant to maintain microbiological quality throughout the distribution system. Albany does not add fluoride to its water supply at this time, but plans to begin in 2025. To view the City of Albany Annual Water Quality Report go to the following link; <http://www.albanyny.org/Government/Departments/WaterAndWaterSupply/WaterQualityReport.aspx>

The New York State Department Of Health (NYSDOH) in conjunction with the Town recently accepted it’s Drinking Water Source Protection Plan (DWSP2) and in the Conclusion section, NYS DOH notes that “Overall, the Town of Bethlehem drinking water sources are of the highest quality.”

FACTS AND FIGURES

The Bethlehem Water District serves approximately 36,000 people through 12,000 service connections. In 2024, the District provided 651,088,000 gallons of water from the New Salem Plant, 244,278,000 gallons from Well #1 and Well #2, and 651,088,000 gallons of water from the Clapper Road Plant. Supplemental water purchased from Albany was 47,494,000 gallons. The total volume of water produced from all sources in 2024 was 1,634,231,000 gallons. Approximately 1,428,157,283 gallons of water was billed to customers of Water District #1. The difference (11.4%) between the volume billed and the total volume produced is water used firefighting, flushing of the water distribution system, errors in water meters and water lost to leaks.

Our water system has approximately 230 miles of water mains and approximately 1,900 hydrants for fire protection. It also includes several covered water storage tanks with a combined capacity of over 14,000,000 gallons. Additionally, there are two water storage tanks with 1,000,000 gallons in each tank at the Clapper Road Water purification plant. Average daily water production for the New Salem Plant; Clapper Road Plant; Well#1; Well#2 and Albany was 4,029,214 gallons per day, or 4.03 MGD.

Water Usage Tiers	Price per CCF ¹	Equivalent Price per 1,000 Gallons
Up to 500 CF ²	\$2.31	\$3.06
501 CF to 5,000 CF	\$4.82	\$6.39
5,001 CF to 50,000 CF	\$5.13	\$6.81
50,001 CF to 500,000 CF	\$4.16	\$5.52
500,001 CF and over	\$3.86	\$5.12

1: CCF = hundred cubic feet
 2: CF = cubic feet (1 cubic foot = 7.48 gallons of water)

Water customers located outside of the Water District were billed twice the In-District rates listed above. A 10% late fee was assessed on any bill not paid by the due date.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

In accordance with State regulations, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds. Plant operators perform daily laboratory tests and chlorine levels are constantly monitored. In addition, we test fifty-two (52) samples for coliform bacteria each month from the New Salem WTP and Distribution System and eight (8) from the Clapper Road WTP and Distribution System are tested for coliform bacteria. All samples were found to be safe. The tables presented below 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 compounds do not change frequently. Some of our data, though representative, are more than one year old.

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 pose 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), the EPA website at www.epa.gov or the Albany County Health Department at (518) 447-4620.

INFORMATION ON UNREGULATED CONTAMINANTS

Unregulated Contaminant Monitoring 5 was conducted during 2023. This is a requirement of the 1996 Safe Drinking Water Act amendments. This monitoring provides a basis for future regulatory action to protect the public health. Monitoring for UCMR 5 has 29 PFAS compounds and Lithium. The UCMR data will help the EPA make determinations about future regulations regarding these compounds and their occurrence nationwide.

In 2024, the Town of Bethlehem decided to do additional sampling for unregulated perfluoroalkyl substances at each of the wells that provide raw water to the Clapper Road WTP. While the compliance monitoring is based on the blended raw water that is entering the WTP, the results of which can be found in the Table of Detected Contaminants for the facility below, we felt it was important to measure each individual source. Further, additional testing was completed at the New Salem WTP and New Scotland deep wells. The results of this additional testing can be found in the Bethlehem Water District No. 1 Annual Water Quality Report Supplement, which is available for viewing on the town website at <https://www.townofbethlehem.org/719/Water-Quality-Reports>.

TOWN OF BETHLEHEM WATER DISTRICT No.1 NEW SALEM PURIFICATION PLANT TABLE OF DETECTED CONTAMINANTS *							
Public Water Supply Identification Number NY010019							
Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants							
Turbidity ¹ (Highest turbidity sample)	N	1/18/24	0.178	NTU	N/A	TT=5 NTU	Soil runoff
New Salem WTP						100%	
Inorganic Contaminants							
Barium	N	8/27/24 11/27/23	26.7	µg/l	2000	MCL=2000	Natural sources
Chloride WTP	N	11/7/23	39.3	mg/l	N/A	MCL=250	Geology; Naturally occurring
Chromium	N	11/7/23	2.4	µg/l	100	MCL=100	Erosion of natural deposits
Copper Range of copper concentration	N	7/25/23- 9/6/23	0.339 ² 0.000572- 0.713	mg/l	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits;
Lead) Range of lead concentration	N	7/25/23- 9/6/23	1.02 ³ ND-61.5	µg/l	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nickel	N	8/27/24	1.6	µg/l	N/A	N/A	Geology; Naturally occurring
Nitrate (as Nitrogen)	N	8/27/24	0.132	mg/l	10	MCL=10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Odor	Y	11/7/23	40.0	units	N/A	3	natural sources; chlorine residual from treatment
pH (WTP)	N	11/7/23	6.45	units		6.5-8.5	
Sodium ⁴ (WTP)	N	11/7/23	22.2	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	11/7/23	65.7	mg/l	N/A	MCL=250	Naturally occurring
Zinc WTP	N	11/7/23	0.395	µg/l	N/A	MCL=5000	Galvanized pipe; corrosion inhibitor
Disinfection Byproducts Stage 1							
Chlorine	N	daily testing	2.18 1.17-2.85	mg/l	MRDLG N/A	MRDL MCL=4	Used in the treatment and disinfection of drinking water
Disinfection Byproducts Stage 2 (4 samples collected quarterly)							
Haloacetic Acids (HAA5) ⁵ Range of HAA5s all sites	Y McCormack Road N N N	2/13/24 5/15/24 8/13/24 11/19/24	LRAA1 70.3 41.6-119 LRAA2 49.2 36-67.8 LRAA3 59.6 30.4-111 LRAA4 56.1 31.5-71.4	µg/l	N/A	MCL=60	By-product of drinking water chlorination
Total Trihalomethanes (TTHMM) ⁶ Wemple Rd Range of TTHMs all sites	Y McCormack Road N N Y Wemple Road	2/13/24 5/15/24 8/13/24 11/19/24	LRAA1 86.3 49.4-101 LRAA2 54.3 35.8-69.4 LRAA3 70.7 69.5-75.7 LRAA4 82.4 47.8-86.9	µg/l	N/A	MCL=80	By-product of drinking water chlorination
Total Organic Carbon⁶							
Total Organic Carbon Monthly/Quarterly Compliance Ratio	N	Monthly Samples 2024	1.05-1.22	N/A	Compliance ratio >=1	TT	Organic material both natural and man made; Organic pollutants, decaying vegetation,
Unregulated Peerfluoroalkyl Compounds							
PFBA (Perfluorobutanoic acid)	N	8/27/25	2.83	ng/l	N/A		Released into the environment from widespread use in commercial and industrial applications.
Unregulated Contaminant Monitoring 5 WTP sampled each quarter							
PFOS	N	4/4/23	1.9	ng/l	N/A	MCL=10 ^{5,6,7}	Released into the environment from widespread use in commercial and industrial applications.
PFBA	N	4/4/23 7/11/23 11/21/23	2.1 3.0 2.0	ng/l			
6.2FTS	N	4/4/23	1.0	ng/l			

TOWN OF BETHLEHEM WATER DISTRICT No.1 NEW SALEM WELLS TABLE OF DETECTED CONTAMINANTS *							
Public Water Supply Identification Number NY010019							
Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants (sample data from Well #1 &, Well #2)							
Barium Well #1 Well #2	N	11/7/23	25.8	µg/l	2000	MCL=2000	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
			23.9				
Chromium Well#2	N	11/7/23	1.2	µg/l	100	MCL=100	Discharge from steel and pulp mills; Erosion of natural deposits.
Chloride Well #1 Well #2	N	11/7/23	40.7	mg/l	N/A	MCL=250	Geology; Naturally occurring
			59.6				
Nickel Well #1 Well #2	N	8/27/24	1.4	µg/l	N/A	N/A	Geology; Naturally occurring
			1.1				
Nitrate (as Nitrogen) Well #1 Well #2	N	9/23/24	1.03	mg/l	10	MCL=10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
			1.99				
pH Well #1 Well #2	N	11/7/23	6.45	units		6.5-8.5	
			7.30				
Sodium ¹ Well #1 Well #2	N	11/7/23	27.1	ppm	N/A	N/A	Geology; Road Salt
			31.1				
Sulfate Well #1 Well #2	N	7/11/23	28.2	mg/l	N/A	MCL=250	Naturally occurring.
			38.4				
Zinc Well #1 Well #2	N	11/7/23	13.1	µg/l	N/A	MCL=5000	Galvanized pipe; corrosion inhibitor
			8.8				
Unregulated Contaminant Monitoring 5 Wells sampled in 1 st and 3 rd quarters of 2023							
Lithium (New Salem Wells 1 &2)	N/A	7/11/23	141	µg/l	N/A	N/A	Naturally occurring metal; that may concentrate in brine waters; lithium salts are used as pharmaceuticals, used in electrochemical cells, batteries, and in organic synthesis

TOWN OF BETHLEHEM WATER DISTRICT No.1 CLAPPER ROAD WTP TABLE OF DETECTED CONTAMINANTS*							
Public Water Supply Identification Number NY0130034							
Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants							
Turbidity ¹ (Highest turbidity sample)	N	6/24/24	0.14	NTU	N/A	TT=5 NTU	Soil runoff
Clapper WTP		100%				TT= % samples < 0.3	
Inorganic Contaminants							
Barium	N	8/27/24	157	µg/l	2000	MCL=2000	Geology; Naturally occurring
Chloride	N	8/27/24	46.7	mg/l	N/A	MCL=250	Geology; Naturally occurring
Chromium	N	8/27/24	2.2	µg/l	100	MCL=100	Discharge from steel and pulp mills; Erosion of natural deposits.
Nickel	N	8/27/24	1.1	µg/l	N/A	N/A	Geology; Naturally occurring

TOWN OF BETHLEHEM WATER DISTRICT No.1 CLAPPER ROAD WTP TABLE OF DETECTED CONTAMINANTS*							
Public Water Supply Identification Number NY0130034							
Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants							
Turbidity ¹ (Highest turbidity sample)	N	6/24/24	0.14	NTU	N/A	TT=5 NTU	Soil runoff
Clapper WTP		100%				TT= % samples < 0.3	
Inorganic Contaminants							
Barium	N	8/27/24	157	µg/l	2000	MCL=2000	Geology; Naturally occurring
Chloride	N	8/27/24	46.7	mg/l	N/A	MCL=250	Geology; Naturally occurring
Chromium	N	8/27/24	2.2	µg/l	100	MCL=100	Discharge from steel and pulp mills; Erosion of natural deposits.
Nickel	N	8/27/24	1.1	µg/l	N/A	N/A	Geology; Naturally occurring

TOWN OF BETHLEHEM WATER DISTRICT No.1 CLAPPER ROAD WTP TABLE OF DETECTED CONTAMINANTS*							
Public Water Supply Identification Number NY0130034							
Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants							
Turbidity ¹ (Highest turbidity sample)	N	6/24/24	0.14	NTU	N/A	TT=5 NTU	Soil runoff
Clapper WTP		100%				TT= % samples < 0.3	
Inorganic Contaminants							
Barium	N	8/27/24	157	µg/l	2000	MCL=2000	Geology; Naturally occurring
Chloride	N	8/27/24	46.7	mg/l	N/A	MCL=250	Geology; Naturally occurring
Chromium	N	8/27/24	2.2	µg/l	100	MCL=100	Discharge from steel and pulp mills; Erosion of natural deposits.
Nickel	N	8/27/24	1.1	µg/l	N/A	N/A	Geology; Naturally occurring

Nitrate	N	8/27/24	0.156	mg/l	10	MCL=10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Odor	Y	8/26/24	20	units	N/A	MCL=3	natural sources; chlorine residual from treatment
pH	N	8/27/24	7.65	units		6.5-8.5	
Sodium ²	N	8/27/24	36.2	mg/l	N/A	N/A	Geology; Road Salt
Disinfection Byproducts							
Chlorine (average) based on daily testing	N	daily testing	1.64	mg/l	MRDLG	MRDL	Used in the treatment and disinfection of drinking water
Range of chlorine residual			1.46-2.20		N/A	MCL=4	
Total Organic Carbon³							
Total Organic Carbon Monthly/Quarterly Compliance Ratio	N	Monthly Samples 2024	1.32-1.61	N/A	Compliance ratio >=1	TT	Organic material both natural and man made; Organic pollutants, decaying vegetation,
Unregulated Contaminant Monitoring 5 Regulation , WTP sampled each quarter,							
Lithium	N/A	1/17/23	17.7	µg/l	N/A	N/A	Released into the environment from widespread use in commercial and industrial applications.
Lithium	N/A	4/4/23	15.2	µg/l	N/A	N/A	
PFOA	N	4/4/23	1.6	ng/l	N/A	MCL=10 ^{4,5,6}	
PFHxA	N	4/4/23	1.0	ng/l		N/A	
PFBA	N	4/4/23	1.7	ng/l			
PFPeA	N	4/4/23	1.4	ng/l			
Lithium	N/A	7/11/23	15.2	µg/l			
PFOA	N	7/11/23	1.6	ng/l			
PFOS	N	7/11/23	1.1	ng/l			
PFHxA	N	7/11/23	1.1	ng/l			
PFBA	N	7/11/23	2.2	ng/l			
Lithium	N/A	10/3/23	15.9	µg/l	N/A	N/A	Naturally occurring metal; that may concentrate in brine waters;; lithium salts are used as pharmaceuticals, used in electrochemical cells, batteries, and in organic synthesis
PFOA	N	11/21/23	2.4	ng/l			
PFOS	N	11/21/23	1.1	ng/l			
PFHxS	N	11/21/23	1.1	ng/l			
PFBA	N	11/21/23	1.5	ng/l			
PFPeA	N	11/21/23	1.0	ng/l			
FOOTNOTES-							
<ol style="list-style-type: none"> 1. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Level detected represents the highest level detected. State regulations require that entry point turbidity must always be below 1.0 NTU. The regulations also require that 95% of the turbidity samples collected have measurements below 0.3 NTU. We also monitor the distribution system 5 times a week with 0.14 NTU being the average turbidity. 2. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets. . Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets. 3. The Interim Enhanced Surface Water Treatment Rule (IESWTR) requires monitoring of raw and finished water Total Organic Carbon (TOC). Depending on the raw water alkalinity value, proper water treatment should remove between 15% to 35% of the raw water TOC thus reducing the amount of disinfection byproducts produced. The removal or compliance ratio should be 1 or greater. 4. Only PFOA and PFOS have a regulatory limit of 10 ng/l each. 5. All perfluoroalkyl substances, besides PFOA and PFOS, are considered Unspecified Organic Contaminants (UOC) which have an MCL = 0.05 mg/L. 6. USEPA Health Advisory Levels identify the concentration of a contaminant in drinking water at which adverse health effects and/or aesthetic effects not anticipated to occur over specific exposure durations. Health Advisory Levels are not to be construed as legally enforceable federal standards and are subject to change as new information becomes available. PFBS and HFPO-DA also have Health Advisory Levels. 							

The tables presented for Bethlehem WD#1 depict only those analytes that were detected. Many of the test results were **NOT DETECTABLE**. The type/group (number of contaminants in each group) tested for were as follows: volatile organic compounds (53) +MTBE, synthetic organic compounds (31), asbestos, color; radiological chemicals (3). The inorganic contaminants tested for and not detected were: arsenic, cadmium, chromium, mercury nitrate, silver, selenium, antimony, beryllium, thallium, iron, and cyanide; microbiological contaminants -E. coli.

Glossary of Terms Used in Data Tables

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

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (µg/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) (ng/l) corresponds to one part of liquid to one trillion parts of liquid

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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 that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system

Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

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 feasible using the best available treatment technology.

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.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Locational Running Annual Average (LRAA) - The LRAA is calculated by taking the average of the four most recent samples collected at each individual site.

N/A-not applicable

WHAT DOES THIS INFORMATION MEAN?

As you can see by the tables above, our system had 7 violations. We exceeded the MCL for the Trihalomethanes in the 2st, 3rd and 4th quarters. In addition, we exceeded the MCL for HAA5 in the 2nd, 3rd and 4th quarters and odor. Therefore we are required to furnish the following information:

Trihalomethanes

Some studies suggest that people who drink chlorinated water (which contains trihalomethanes) or water containing elevated levels of trihalomethanes for long periods of time may have an increased risk for certain health effects. For example, some studies of people who drank chlorinated drinking water for 20 to 30 years show that long term exposure to disinfection by-products (including trihalomethanes) is associated with an increased risk for certain types of cancer. A few studies of women who drank water containing trihalomethanes during pregnancy show an association between exposure to elevated levels of trihalomethanes and small increased risks for low birth weights, miscarriages and birth defects. However, in each of the studies, how long and how frequently people actually drank the water, as well as how much trihalomethanes the water contained is not known for certain. Therefore, we do not know for sure if the observed increases in risk for cancer and other health effects are due to trihalomethanes or some other factor. The individual trihalomethanes chloroform, bromodichloromethane and dibromochloromethane cause cancer in laboratory animals exposed to high levels over their lifetimes. Chloroform, bromodichloromethane and dibromochloromethane are also known to cause effects in laboratory animals after high levels of exposure, primarily on the liver, kidney, nervous system and on their ability to bear healthy offspring. Chemicals that cause adverse health effects in laboratory animals after high levels of exposure may pose a risk for adverse health effects in humans exposed to lower levels over long periods of time.

Haloacetic Acids Health Effects

Some studies suggest that people who drink chlorinated water (which contains Haloacetic Acids) or water containing elevated levels of HAAs for long periods of time may have an increased risk for certain health effects. For example, some studies of people who drank chlorinated drinking water for 20 to 30 years show that long term exposure to disinfection by-products (including HAAs) is associated with an increased risk for certain types of cancer. However, how long and how frequently people actually drank the water as well as how much HAAs the water contained is not known for certain. Therefore, the evidence from these studies is not strong enough to conclude that the observed increased risk for cancer is due to HAAs, other disinfection by-products, or some other factor. Studies of laboratory animals show that the individual HAAs, dichloroacetic acid and trichloroacetic acid, can cause cancer following exposure to high levels over their lifetimes. Dichloroacetic acid and trichloroacetic acid are also known to cause other effects in laboratory animals after high levels of exposure, primarily on the liver, kidney, and nervous system and on their ability to bear healthy offspring. The effects reported in studies of laboratory animals occur at exposures much higher than exposures that could result through normal use of the water. The risks for adverse health effects from HAAs in drinking water are small compared to the risk for illness from drinking inadequately disinfected water.

Additionally, we exceeded the MCL for odor and are required to furnish the following information:

Odor as measured by this standard procedure has no health effects; although several contaminants exert odors when they are present at levels near their MCLs. Odor is an important quality factor affecting the drinkability of water. In late October of 2024, the Vly Creek Reservoir experienced a late season algae event. While no algae was detected in the finished water, it did contribute to a taste and odor event in November and December. It is possible that the chlorine residual may also be influencing the odor measured.

New York State has adopted the first in the nation drinking water standard for 1,4-Dioxane along with one of the lowest maximum contaminant levels for PFOA and PFOS. Public Water Supplies in NYS are required to test for PFOA, PFOS and 1,4-Dioxane. PFOA and PFOS have Maximum Contaminant Levels (MCL) of 10 parts per trillion each while 1,4-Dioxane has an MCL of 1.0 parts per billion. The Town of Bethlehem has completed its 4th quarter monitoring in 2024 for PFOA, PFOS & 1,4-Dioxane.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

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 microbiological pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

INFORMATION ON LEAD SERVICE LINE INVENTORY

The Lead and Copper Rule Revisions (LCRR) requires every federally defined community and non-transient, non-community water system to develop a service line inventory (also called a lead service line inventory (LSLI)).

A Lead Service Line (LSL) is defined as any portion of pipe that is made of lead which connects the water main to the building inlet. An LSL may be owned by the water system, owned by the property owner, or both. The inventory includes both potable and non-potable SLs within a system. In accordance with the federal Lead and Copper Rule Revisions (LCRR) our system has prepared a lead service line inventory and have made it publicly accessible.

The Town of Bethlehem distribution system has some lead service lines, has galvanized lines requiring replacement and lead status unknown service lines. You can see the complete inventory by visiting the website at https://www.health.ny.gov/environmental/water/drinking/service_line/NY0100191.htm.

INFORMATION ON LEAD

Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is *primarily from materials and parts used in service lines and in home plumbing*. The Village of Menands is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact Paul Penman, Commissioner of Public Works, (518) 439-4955 x1135, or ppenman@townofbethlehem.org.

Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2024, our system was in compliance with applicable New York State drinking water operating, monitoring and reporting requirements.

WHAT IS THE SOURCE WATER ASSESSMENT PROGRAM (SWAP)?

To emphasize the protection of surface and ground water sources used for public drinking water, Congress amended the Safe Drinking Water Act (SDWA) in 1996. The amendments require that New York State Department of Health's Bureau of Public Water Supply Protection is responsible for ensuring that source water assessments are completed for all of New York's public water systems.

A source water assessment provides information on the potential contaminant threats to public drinking water sources:

- ◆ Each source water assessment will: determine where water used for public drinking water comes from (delineate the source areas)
- ◆ Inventory potential sources of contamination that may impact public drinking water sources
- ◆ Assess the likelihood of a source water area becoming potential contaminated

SWAP summaries for each of our water sources are attached to this report.

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 storage facilities; and
- ◆ Saving water lessens the strain on the water system during dry spells or droughts, helping to avoid severe water use restrictions so that essential firefighting 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:

- ◆ Only run the dishwasher and clothes washer when there is a full load.
- ◆ Turn off the tap when brushing your teeth and washing dishes.
- ◆ Use water saving showerheads.
- ◆ Install faucet aerators in the kitchen and the bathroom to reduce the flow from 4 to 2.5 gallons per minute.
- ◆ Water gardens and lawns for only a couple of hours after sunset or in the early morning to avoid excessive evaporation.
- ◆ Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and 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.
- ◆ Keep showers to 5 minutes or less in length.
- ◆ When washing your family vehicle, use a bucket of water and rinse it quickly with the hose.

2024 CAPITAL IMPROVEMENTS

We completed a 12" water main on Clapper Road and a autoflusher on McCormack Road. Each of these improvements will improve the water age to those parts of the system. In addition, we installed a Powder Activated Carbon System at the New Salem Water Treatment Plant. These improvements help to reduce TTHM and HAAs and ensure the system's long-term compliance with the current disinfection byproducts rule.

CLOSING

Thank you for allowing us to continue providing you and your family with clean, quality drinking water this year. We ask that all of our customers help us protect our water system and resources. Please call the Department of Public Works at (518) 439-4955 if you have any questions or concerns.

NY0100191

Source Water Assessment Summary

The NYS DOH has completed Source Water Assessments for Bethlehem's Vly Creek Reservoir, New Salem wells and the Infiltration Gallery & new well field. The assessments are summarized below. The assessments include susceptibility ratings based on the risk posed by each potential source of contamination and how likely contaminants could enter the wells, the reservoir or Hudson River. The susceptibility rating is an estimate of the potential for contamination. It does not mean that the water delivered to your home is or will become unsafe to drink. See section "Are there contaminants in our drinking water?" of this report, for information concerning low levels of contaminants in your water.

New Salem Wells: The wells draw water from a high yield aquifer. Contaminants, if present, can move relatively quickly in high yield aquifers. The assessment has determined that the wells are susceptible to the microbes; bacteria, viruses and protozoa. Microbes can originate from improperly maintained or failing septic systems. Disinfection of the well water insures that any microbes that might reach the wells will be eliminated. The assessment has also determined that the wells are susceptible to various chemical types, such as nitrates, pesticides and petroleum products. Nitrates and pesticides can come from agricultural practices. Petroleum products can originate from leaking storage tanks. Fortunately, stored fuels are some distance from the wells.

Vly Creek Reservoir: This assessment found the amount of agricultural lands in the Vly Creek Reservoir's assessment area results in a potential for protozoa and pesticide contamination.

Dinmore Road well field (Clapper Road WTP raw water source): The assessment found the amount of pasture in the assessment area results in a potential for protozoa contamination. There is also a high density of sanitary wastewater discharges upstream, which could result in susceptibility of the groundwater to other contaminant categories. Non-sanitary wastewater discharges may also contribute to contamination.

Both of the Bethlehem water treatment plants perform multi level treatment to insure you receive safe drinking water. Additionally, as this annual report shows your water is routinely monitored for a great number of potential contaminants.

A copy of the full Source Water Assessment, including a map of the assessment area, is available for review by contacting us at the number provided in this report.

City of Albany

NY0100189

Alcove and Basic Creek Reservoirs

Source Water Assessment Summary

The NYS DOH has completed a Source Water Assessment for the City of Albany's Alcove and Basic Creek Reservoirs. The assessments are summarized below. The assessments include susceptibility ratings based on the risk posed by each potential source of contamination and how likely contaminants could enter the reservoirs. The susceptibility rating is an estimate of the potential for contamination. It does not mean that the water delivered to your home is or will become unsafe to drink. See section "Are there contaminants in our drinking water?" of this report, for information concerning low levels of contaminants in your water.

This assessment found the amount of pasture in the Alcove Reservoir assessment area results in a potential for protozoa contamination. It should be noted that the Albany Department of Water routinely tests for disease causing protozoa. In the last several years none have been detected in the reservoir. There are no other notable contamination threats to the reservoir. It should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination.

This assessment found the amount of pasture in the Basic Creek Reservoir assessment area results in a potential for protozoa contamination. While there are some facilities present that are permitted to discharge, they do not represent an important threat to source water quality based on the type of discharge. There is also notable contamination susceptibility associated with landfills north of the reservoir. It should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination. Albany's water treatment plant performs multi level treatment to insure you receive safe drinking water. Additionally, as this annual report shows your water is routinely monitored for a great number of potential contaminants.