Annual Water Quality Report for 2012
Town of Bethlehem Water District No.1
445 Delaware Avenue, Delmar, NY 12054
(Public Water Supply Identification Number NY0100191, NY 0130034)

INTRODUCTION
All community water systems are required by the U.S. Environmental Protection Agency (EPA) to publish an annual statement to review their water system, sources of supply and present information on compliance with drinking water standards. The purpose of this report is to increase your understanding of drinking water and awareness of the need to protect our drinking water resources. We are pleased to provide you with this year's Annual Water Quality Report. The Bethlehem water district # 1 did not have any contaminants higher than limits set by New York State.

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. Our constant goal is and always has been, to provide to you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and to protect our water resources. If you have any questions concerning this report or concerning your drinking water please contact: Richard A. Sayward, Chief Water Treatment Plant Operator; Bethlehem Water Treatment Plant, 143 New Salem So. Rd., Voorheesville, NY 12186; Telephone (518) 765-4433, Fax (518) 765-7210 or you can reach us by e-mail rsayward@townofbethlehem.org or Erik Deyoe, Commissioner of Public Works, 445 Delaware Avenue, Delmar, NY 12054; Telephone (518) 439-4955, e-mail edeyoe@townofbethlehem.org

WHERE DOES OUR WATER COME FROM?
The Bethlehem Water District No. 1 draws its water from both "surface water" and "ground water" sources. The New Salem Water Purification Plant draws its water from a Reservoir that 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 pre and post chlorination for disinfection; taste and odor control with the use of activated carbon; coagulation with aluminum sulfate; filtration with rapid sand filter, and corrosion 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. 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. Treatment of the well water consists of chlorination to protect against contamination from harmful bacteria and other organisms.

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. The Town currently purchases water from the City of Albany to supplement our capacity. We also have an interconnect with the Town of Guilderland's water system in North Bethlehem. This interconnect can provide water from Bethlehem to Guilderland or visa versa depending upon which community needs supplemental water.

The City of Albany's water source is a surface reservoir (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.

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 4 Trident filter units for water purification with chlorine as the primary disinfection agent and ozone on stand by if needed. Chemicals used include coagulation with Polyaluminum Chloride (PAC) and a non-ionic polymer, potassium permanganate for taste and odor control and a corrosion inhibitor.

In general, 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 NYS and USEPA 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.

FACTS AND FIGURES

The Bethlehem Water District provides water through 11,420 service connections to a population of approximately 33,656 people. In 2012 the District provided 891,400,000 gallons of water from the New Salem Plant, 192,515,000 gallons from Well #1 and Well #2. Supplemental water purchased from Albany was 331,226,000 gallons. Total of the above sources were 1,320,335,000 gallons. In addition, the Clapper Road Plant pumped 532,629,000 gallons of water. The total volume of water produced from all sources in 2012 was 2,000,396,000 gallons. Approximately 1,769,239,766 gallons of water was billed to customers of Water District #1. The difference (13.1%) between the volume billed and the total volume produced is water used fire fighting, flushing of the water distribution system, errors in water meters and water lost to leaks.

Our water system has over 175 miles of water mains and approximately 1,350 hydrants for fire protection. It also includes several covered water storage tanks with a combined capacity of over 17,000,000 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 5,480,537 gallons per day. Water production for the highest single day was 8,737,000 gallons.

The charge for water in 2012 was as follows: 1CF (Cubic Foot) to 500CF; $1.89 per 100 cubic feet or $2.51 per 1,000 gallons of water; 501CF to 100,000CF; $3.91 per 100CF or $5.20 per 1,000 gallons; and 100,001CF and over; $2.18 per 100CF or $2.90 per 1,000 gallons. Outside the district rates will be billed twice In-District rates listed above. A 10% late fee will be assessed on any bill not paid by the due date.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

In accordance with State regulations, the Bethlehem Water District routinely monitors your drinking water for numerous contaminants. Plant operators perform daily laboratory tests. Chlorine levels are constantly monitored. Drinking water is also tested by independent laboratories for such things as inorganic contaminants, radiological contaminants, lead and copper, nitrate, volatile organic contaminants, disinfection byproducts and synthetic organic contaminants. In addition, we test 60 samples for coliform bacteria each month are. All samples were found to be safe. The tables attached to this report show some of the results from the extensive testing performed each year. Complete records are on file in the Water District Office. For a listing of all the parameters that we must analyze and the frequency of testing for compliance, see the NYS Sanitary Code. 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.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the tables on pages 5 & 6, our systems had no violations in 2012. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

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. 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 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

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Town of Bethlehem is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at *http://www.epa.gov/safewater/lead*

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2012, our system was in compliance with applicable New York State drinking water operating, monitoring and reporting requirements.

ADDITIONAL SOURCE CAPACITY

In 2008 we redeveloped our deep Wells #1 & #2 in New Salem. We were granted permission by NYS Department of Environmental Conservation for to increase the amount of water withdrawn from the aquifer. We are able to pump 0.550 MGD from each well from our present 0.200 MGD.

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 our water supply are attached to this report.

WATER CONSERVATION TIPS

There are a number of things you can do to conserve water in your own home. The following list shows how each of us can contribute this goal:

- Only run the dishwasher and clothes washer when there is a full load
- 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 lawn for only a couple of hours after sunset or in the early morning to avoid excessive evaporation
- Leaks in toilet tanks can waste hundreds of gallons a day through an overflow pipe, leaking plunger ball or flapper valve
- 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.
- Turn off the water while washing your dishes, brushing your teeth and washing your hands

Follow the water conservation measures implemented by the Town Board to conserve outside water use. Current water restrictions only allow sprinkling of lawns shrubs and other outside uses before 10 am and after 4 pm. Watch for notices of changes in water restrictions published in the local newspaper and on the Public Access Channel.

CAPITAL IMPROVEMENTS

Recent and upcoming Capital Improvements

The Bethlehem Water District No. 1 is currently working with consultants to evaluate water system improvements to ensure the system's long-term compliance with the changes to the disinfection byproduct rules. This evaluation is complete. It has recommended capital improvements to the New Salem and Clapper Road water treatment plants, as well as distribution system improvements, to reduce the generation of trihalomethanes and haloacetic acids, which are byproduct compounds of the water disinfection process. This work is on-going and it is anticipated that these capital improvements will be implemented over the next two years.

The Water District facilities sustained significant damages from tropical storm Irene in 2011. Some major initiatives related to this recovery include reconstructing portions of the breached Stage III diversion dam structure in the Town of New Scotland and replacing damaged control systems at the Dinmore Road well field supplying the Clapper Road Water Treatment Plant. Also since the storm, the Water District has replaced sections of failed a raw water transmission main in the Town of New Scotland, and repaired damage to the emergency spillway and log boom at the Vly Creek Reservoir.

Beyond these improvements, the Bethlehem Water District is also working on a series of efforts to replace aging and obsolete equipment, improve system security, and develop more efficient control systems. Some of these capital improvement efforts include the following:

- Replacing dedicated phone line circuits used for the Supervisory Control and Data Acquisition (SCADA) system with a radio-based telemetry system for improved reliability;
- Replacing aging equipment at the New Salem and Clapper Road Water Treatment Plants including: chlorine equipment; polymer feed equipment; heating system components; and other plant and process equipment;
- Rehabilitating six wells in our Dinmore Road well field;
- Designing and planning for future water storage tank cleaning and recoating projects;
- Continuing design and capital construction efforts to improve the District's existing dam facilities to new regulatory standards.

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 Water District office at 518.439.4955 if have any questions or concerns.

Town of Bethlehem
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. However, there are presently no notable contamination threats.

The Infiltration Gallery and Dinmore Road well field: 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 result in susceptibility 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.

TOWN OF BETHLEHEM WATER DISTRIC No.1 New Salem PURIFICATION PLANT & WELLS TABLE OF DETECTED CONTAMINANTS *
Public Water Supply Identification Number NY0100191

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity [1] (Highest turbidity sample from 1/24/12)	N	0.52 100%	NTU	N/A	TT=5 NTU TT= % samples <0.3	Soil runoff
Total Colifrom (from 6/19/12) 4 resamples collected the following day and all were coliform negative	N	1 positive sample	N/A	0	5% or more positive samples per month when 40 or more samples are collected	Naturally present in the environment
Inorganic Contaminants (Sample data from 2/14/12 for **WTP in boldface;** sample data from Wells from 2/16/11 unless otherwise noted)						
Barium	N	**18.3**	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride WTP Range for wells	N	**32** 42-103	ppm	N/A	250	Geology; Naturally occurring
Copper (sample data 7/15/11-7/20/11) Range of copper concentration	N	0.36[2] ND-0.53	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits;
Lead (sample data 7/15/11-7/20/11) Range of lead concentration	N	2[3] ND-5	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nickel (WTP)	N	**2.2** 1.3-2.0	ppb	N/A	100	Discharge from steel/metal factories
Nitrate (as Nitrogen) WTP (range of samples from 2 wells from 2/14/12)	N	**0.3** 1.08-2.60	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Odor	N	**3**	units	N/A	3	Natural sources
pH (WTP) range for wells	N	**7.3** 7.1-7.3	units		6.5-8.5	
Sodium[4] (WTP) Range for wells	N	**24.1** 29.8-59.6	ppm	N/A	N/A	Geology; Road Salt
Sulfate WTP Range for wells	N	**20.5** 30-36	ppm	N/A	250	Naturally Occurring,
Zinc WTP Range for wells	N	**270** ND-10	ppb	N/A	5000	Galvanized pipe; **corrosion inhibitor**
Disinfection Byproducts Stage 1 (1 quarterly samples from 2/14/12)						
Haloacetic Acids [HAA5]Average[5] Range of Values for HAA5	N	53.1 36.2-53.1	ppb	N/A	60	By-product of drinking water chlorination
TTHM[Total Trihalomethanes]Average [5] Range of values for Total Trihalomethanes	N	82.7 50.1-67.5	ppb	0	80	By-product of drinking water chlorination
Chlorine	N	1.23 0.68-2.35	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Disinfection Byproducts Stage 2 (4 samples collected quarterly 5/8/12, 8/7/12 & 11/20/12)						
Haloacetic Acids (HAA5)[6] Range of Values for HAA5	N	1.1-106	ppb	N/A	60	By-product of drinking water chlorination
TTHM[Total Trihalomethanes] [6] Range of values for Total Trihalomethanes	N	52.9-130	ppb	0	80	By-product of drinking water chlorination
Total Organic Carbon [7](monthly samples from 2012)						
Raw Water (range) Treated Water (range)	N	2.2-4.3 1.5-2.9	ppm	NA	TT	Organic material both natural and man made; Organic pollutants, decaying vegetation,
Radiological Contaminants (samples from 1/7/08, 4/1/08 & 8/13/08)						
Radium 228 (Well #2) average of 3 samples Range of samples	N	0.78 ND-1.32	pCi/L	0	5	Erosion of natural deposits

FOOTNOTES-

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 0.23 NTU being the average turbidity.
2. The level presented represents the 90th percentile of 30 test sites. 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 copper values detected at your water system. In this case, 30 samples were collected at your water system and the 90th percentile value was the 27th sample with the fourth highest value (level detected 0.36 mg/l). The action level for copper was not exceeded at any of the sites tested.
3. The level presented represents the 90th percentile of 30 test sites. The action level for lead was not exceeded at any of the 20 sites tested.
4. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets.
5. The average is based on a running annual average. The average shown represents the highest RAA for the 1st quarter of 2012. There were sample collection site changes in this quarter which skewed the RAA above the MCL.
6. Stage 2 monitoring data used new sampling sites in which each site will have its own Locational Running Average (LRA). Three quarters of data were collected in 2012. A fourth quarter of data will be collected in 2013 in order to compute the LRA.
7. 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**..**

TOWN OF BETHLEHEM WATER DISTRIC No.1 Clapper Road WTP TABLE OF DETECTED CONTAMINANTS* Public Water Supply Identification Number NY0130034						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity [1] (Highest turbidity sample from 3/26/12)	N	0.18 100%	NTU	N/A	TT=5 NTU TT= % samples < 0.3	Soil runoff
Inorganic Contaminants (Sample data from 10/18/11) unless otherwise noted)						
Barium	N	184	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride	N	48	ppm	N/A	250	Geology; Naturally occurring
Nickel	N	11.4	ppb	N/A	100	Discharge from steel/metal factories
pH	N	7.3	units		6.5-8.5	
Sodium[42]	N	21.7	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	15	ppm	N/A	250	Naturally Occurring,
Disinfection Byproducts (quarterly samples from 2/14/12)						
Haloacetic Acids (HAA5)Average[3] Range of values for HAA5	N	40.3 5.2-52.5	ppb	N/A	60	By-product of drinking water chlorination
TTHM[Total Trihalomethanes]Average[3] Range of values for Total Trihalomethanes	N	75.4 56.5-67.5	ppb	0	80	By-product of drinking water chlorination
Chlorine (average) based on daily testing Range of chlorine residuals	N	0.65 0.4-1.58	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Total Organic Carbon[4] (monthly samples from 2012)						
Raw Water (range) Treated Water (range)	N	1.8-4.2 1.4-2.6	ppm	NA	TT	Organic material both natural and man made; Organic pollutants, decaying vegetation,
Radiological Contaminants (samples from 1/7/08 & 4/1/08)						
Gross Alpha activity	N	2.64	pCi/L	0	15	Erosion of natural deposits

FOOTNOTES-

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
2. Water containing more than 20 mg/l should not be consumed by persons on severely restricted sodium diets.
3. The average is based on a running annual average. The average shown represents the highest RAA for the 4 quarters in 2011. The highest HAA5 was in the 3rd quarter while the highest TTHM was in the 4th quarter.
4. 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 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 (38) , asbestos, color & odor; radiological chemicals (2). The inorganic contaminants tested for and not detected were: arsenic, cadmium, chromium, mercury, silver, selenium, antimony, beryllium, thallium, iron, manganese and cyanide; microbiological contaminants -E. coli.

CITY OF ALBANY TABLE OF DETECTED CONTAMINANTS* Public Water Supply Identification Number NY0100189						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Total Coliform (samples from 413/12, 9/3/12 & 10/24/12)	N	3 positive samples	N/A	0	5% or more positive samples of sites sampled per month	Naturally present in the environment
Turbidity (highest level detected at various times)	N	1.74 100%	NTU	N/A	TT=1 NTU TT= 95% samples < 0.3	Soil runoff
Inorganic Contaminants (Daily and weekly samples from 2012 unless otherwise noted)						
Chloride (average) (range) based on daily samples	N	21.6 19.6-24.5	ppm	N/A	250	Geology; Naturally occurring
Color (average/maximum) (range) based on daily samples	N	1.0/2.0 1.0-2.0	units	N/A	15	Large quantities of organic chemicals, inadequate Natural color may be caused by decaying leaves, plants, and soil organic matter.
Nickel (sample from 12/31/12)	N	0.9	ppb	N/A	100	Discharge from steel/metal factories
Odor [daily samples] (average/maximum) (range) based on daily samples	N	1.0-3.0 ND-3.0	units	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges: natural sources
Sodium[2] (average) (range) based on quarterly samples	N	16.5 16.0-17.0	ppm	N/A	N/A	Geology; Road Salt
Sulfate (average) (range) based on monthly samples	N	9.4 8.5-10.04	ppm	N/A	250	Naturally Occurring,
Total Organic Carbon (Daily samples from 2012)						
Treated Water (average) (range Low, High)	N	1.94 1.19-2.90	ppm	NA	TT	Organic material both natural and man made; Organic pollutants, decaying vegetation,
Disinfection Byproducts						
Chlorine (based on daily samples) Range of chlorine residual	N	0.70 – 1.10	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Haloacetic Acids (samples from 5/2012 8/2012 12/2012 2/2013	N	 19[3] 10-30	ppb	N/A	60	By-product of drinking water chlorination
Ttrihalomethanes (samples from 5/2012 8/2012 12/2012 2/2013	N	 59.0[3] 21-77	ppb	0	80	By-product of drinking water chlorination
Radionuclides (bi-weekly sample data from 2012 unless otherwise noted)						
Alpha Particles (average) (range)	N	0.43 0.15-0.70	pCi/L	0	15	Erosion of natural deposits
Beta particles (average) (range)	N	0.73 0.04-1.8	pCi/L	0	50[4]	Decay of natural deposits and man-made emissions
Radium 226 & 228 (average) range of values Bi-yearly samples from 2010	N	0.68 ND-0.85	pCi/L	0	5	Erosion of natural deposits

FOOTNOTES-

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. Our highest single turbidity measurement for the year occurred 9/5/11 (2.1 NTU). State regulations require that entry point turbidity must always be below 1.0NTU.
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 should not be consumed by persons on moderately restricted sodium diets.
3. The level represents the RAA calculated from data collected at each sample site. Stage 2 monitoring in effect 8 samples vs 4 previously, 2013 data used in calculation of RAA. One complete year of the new Stage 2 Rule.
4. The state considers 50 pCi/L to be the level of concern for beta particles

*The tables presented for City of Albany 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 (38) , asbestos, color & odor.
The inorganic contaminants tested for and not detected were: arsenic, barium, cadmium, chromium, mercury, silver, selenium, antimony, beryllium, thallium, iron, manganese, fluoride 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 - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
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.
Running Annual Average (RAA): The RAA is calculated each quarter by taking the average of the four most recent samples collected.
N/A-not applicable