Annual Water Quality Report for 2008
Town of Bethlehem Water District No.1
445 Delaware Avenue, Delmar, NY 12054
(Public Water Supply Identification Numbers NY0100191 & NY0130034)

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 Residential and Industrial water systems 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 Josh Cansler, Commissioner of Public Works, 445 Delaware Avenue, Delmar, NY 12054; Telephone (518) 439-4955

WHERE DOES OUR WATER COME FROM?
The Bethlehem Water District No. 1 draws its water from both "surface water" and "ground water" sources. The Residential Water Purification Plant draws its water from a Reservoir that has a storage capacity of 1.25 billion gallons. The Residential 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 Residential 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. One interconnection is located in a residential area and the other is in an industrial area. 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 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 Industrial area is supplied by facilities including a groundwater infiltration system adjacent to the Hudson River on Schemerhorn Island and a 6 million gallon per day Water Purification Plant. 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 11,121 service connections to a population of approximately 33,000 people. In 2008 the District provided 832,540,000 gallons of water from the Residential Plant, 122,044,000 gallons from Well #1 and Well #2. Supplemental water purchased from Albany was 248,015,000 gallons. Total of the above sources were 1,202,599,000 gallons. In addition, the Industrial Plant pumped 810,653,000 gallons of water. The total volume of water produced from all sources in 2008 was 2,013,252,000 gallons. Approximately 1,833,629,683 gallons of water was billed to customers of Water District #1. The difference (9.1%) 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 Industrial Water purification plant. Average daily water production for the Residential Plant; Well#1; Well#2 and Albany was 3,294,792 gallons per day. Consumption for the highest single day was 5,210,000 gallons. The average daily demand for the Industrial Plant was 2,220,967 gallons with the highest single day consumption of 3,966,000 gallons.

The charge for water in 2008 was as follows: 1CF (Cubic Foot) (CF) to 600CF; $1.67 per 100 cubic feet or $2.23 per 1,000 gallons of water; 600CF to 80,000CF; $3.44 per 100CF or $4.60 per 1,000 gallons; and 80,000CF and over; $1.927 per 100CF or $2.57 per 1,000 gallons. Outside the district rates are double the amounts listed above.

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 52 samples for coliform bacteria each month from the Residential System and 8 from the Industrial Road System are tested for coliform bacteria. 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 2008. 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).

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2008, 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 SOURCE RESTRICTIONS

The drought conditions in previous years resulted in more stringent restrictions on the use of water for residential and commercial customers. During 2007 the Town purchased water from the City of Albany to meet the demand for water. The Town also received emergency permission from the NYS Department of Health to pump Hudson River to supplement raw water capacity at the Industrial Plant to serve the Industrial area. In November 2006 the river intake for the Industrial Plant was taken out of service and a new well field was placed in service.

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

In 2008 the following projects were completed at the Industrial WTP

- Upgraded the backup power systems at the WTP by installing two 500 kw diesel generators
- Site security improvements at the WTP have been engineered ant the installation of the improvements will take place early in 2009
- Improvements to the SCADA (upgraded software)

The following projects were completed at the Residential WTP:

- Safe yield increased at our deep well in New Salem from a combined flow rate of 400,000 gpd to 1,100, 000 gpd
- Constructed new well house building at our deep wells in New Salem. Installed a new pump in both wells.
- Site security improvements at the WTP have been engineered and the installation of the improvements will take place in early 2009
- Replaced #2 High Lift pump at the WTP
- Installed railing on the catwalk at our Stage III diversion dam. (Safety improvement)
- Developed a hydraulic model of our distribution system
- Purchased Variable Frequency Drives for the pumps at the Selkirk Tank Pumping Station
- Improvements to the SCADA (upgraded software)

CLOSING

Thank you for allowing us to continue providing your family with clean, quality water this year. We ask that all our customers help us protect our water system. Please call the Water District Office at 439-4955 if you have questions.

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 Hudson River and New 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 RESIDENTIAL PURIFICATION PLANT & WELLS TABLE OF DETECTED CONTAMINANTS * Public Water Supply Identification Number NY010019						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity [1] (Highest turbidity sample from 12/14/08)	N	0.17 100%	NTU	N/A	TT=5 NTU TT= % samples <0.3	Soil runoff
Inorganic Contaminants (Sample data from 2/12/2008 unless otherwise noted data for **WTP in boldface**)						
Chloride WTP Range for wells	N	**52** 50-76	ppm	N/A	250	Geology; Naturally occurring
Copper (sample data 6/26/08-7/27/08) Range of copper concentration	N	0.35[2] ND-0.59	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits;
Lead (sample data 6/26/08-7/27/08) Range of lead concentration	N	2[3] ND-20	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Manganese (range for wells)	N	10-20	ppb	N/A	300	Geology; Naturally occurring
Nickel (WTP)	N	**2.1** 2.4-3.4	ppb	N/A	100	Discharge from steel/metal factories
Nitrate (as Nitrogen) WTP (range of 4samples from 2 wells for 2/12/08,4/2/08,& 8/13/08) average	N N	**0.4** 2.0-2.3 2.15	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Odor	N	**1**	units	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges: natural sources
pH (WTP) range	N	**7.1** 7.0-7.4	units		6.5-8.5	
Sodium[4] (WTP) Range for wells	N	**26.8** 27.4-40	ppm	N/A	N/A	Geology; Road Salt
Sulfate WTP Range for wells	N	**42** 34-46	ppm	N/A	250	Naturally Occurring,
Zinc WTP Range for wells	N	**340** 10-190	ppb	N/A	5000	Galvanized pipe; **corrosion inhibitor**
Disinfection Byproducts (quarterly samples from 2/12/08, 5/13/08, 8/13/08, 11/10/08)						
Haloacetic Acids (HAA5)[5] Range of Values for HAA5	N	51.5 30.7-75.2	ppb	N/A	60[8]	By-product of drinking water chlorination
TTHM[Total Trihalomethanes](Average) [5] Range of values for Total Trihalomethanes	N	76.2 32.1-133	ppb	0	80	By-product of drinking water chlorination
Chlorine (average) Range of chlorine residuals based on daily samples	N	1.56 0.55-2.68	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Total Organic Carbon (monthly samples from 2008)						
Raw Water (range) Treated Water (range)	N	3.9-5.3 2.7-3.4	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

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

N/A-not applicable

TOWN OF BETHLEHEM WATER DISTRIC No.1 INDUSTRIAL 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 6/19//08)	N	0.30 100%	NTU	N/A	TT=5 NTU TT= % samples < 0.3	Soil runoff
Inorganic Contaminants (Sample data from 11/13/08) unless otherwise noted)						
Barium	N	128	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride	N	51	ppm	N/A	250	Geology; Naturally occurring
Copper (samples from 9/25/08-10/22/08) Range of copper concentration	N	0.725[2] ND-0.82	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits
Lead (samples from 9/25/08-10/22/08) Range of lead concentration	N	0.7[3] ND-10	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Odor	N	3	units	N/A	3	Organic or inorganic pollutants originating from municipal and industrial waste discharges: natural sources
pH (average)	N	7.0	units		6.5-8.5	
Sodium[4]	N	20.2	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	12	ppm	N/A	250	Naturally Occurring,
Disinfection Byproducts (quarterly samples from 2/12/08, 5/13/08, 8/13/08, 11/10/08)						
Haloacetic Acids (HAA5)[5] Range of values for HAA5	N	52.4 3-74	ppb	N/A	60	By-product of drinking water chlorination
TTHM[Total Trihalomethanes](Average)[5] Range of values for Total Trihalomethanes	N	53.8 31.6-91.1	ppb	0	80	By-product of drinking water chlorination
Chlorine (average) based on daily testing Range of chlorine residuals	N	1.23 0..24-2.40	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Total Organic Carbon (monthly samples from 2008)						
Raw Water (range) Treated Water (range)	N	2.1-6.5 1.6-2.4	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. The level presented represents the 90th percentile of 30 test sites. The action level for copper was not exceeded at any of the 30 sites tested for the Residential Plant and not exceeded at any of the 5 sites tested for the Industrial Plant
3. The level presented represents the 90th percentile of 30 test sites. The action level for lead was exceeded at 1 of the 30 sites tested for the Residential Plant and not exceeded at any of the 5 sites tested for the Industrial Plant,
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.
6. 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, radiological chemicals (2). The inorganic contaminants tested for were: arsenic, barium, cadmium, chromium, mercury, silver, selenium, antimony, beryllium, thallium, Iron and cyanide.

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 6/18/08)	N	1 positive sample	N/A	0	5% or more positive samples of sites sampled per month	Naturally present in the environment
Turbidity (highest level detected from 9/27/08)	N	0.78 100%	NTU	N/A	TT=1 NTU TT= 95% samples < 0.3	Soil runoff
Inorganic Contaminants (Sample data from 2008 unless otherwise noted)						
Barium (12/30/08)	N	4.7	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride (average/maximum) (range)	N	33.1/36.8 30.0-36.8	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 treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant byproducts such as trihalomethanes, the presence of metals such as copper, iron and manganese; Natural color may be caused by decaying leaves, plants, and soil organic matter.
Nickel (12/30/08)	N	0.7	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[4] (average/maximum) (range) based on monthly samples	N	14.8/15.5 14.0-15.5	ppm	N/A	N/A	Geology; Road Salt
Sulfate (average/Maximum) (range)	N	12.9/14.5 12.0-14.5	ppm	N/A	250	Naturally Occurring,
Total Organic Carbon (monthly samples from 2008)						
Raw Water (average/Maximum) (range Low, High)	N[3]	2.75/3.16 1.83-3.16	ppm	NA	TT	Organic material both natural and man made; Organic pollutants, decaying vegetation,
Treated Water (average/Maximum) (range Low, High)		1.74/2.14 1.10-2.14				
Stage 2 Disinfection Byproducts (16 samples collected every 60 days from Jan-October 2008)						
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 (HAA5)[5] Range of values for HAA5	N	7.6-22	ppb	N/A	60	By-product of drinking water chlorination
TTHM[TotalTrihalomethanes](Average[5] Range of values for Total Trihalomethanes	N	7.7-79	ppb	0	80	By-product of drinking water chlorination
Radionuclides (bi-weekly sample data from 2008 unless otherwise noted)						
Alpha Particles (average/Maximum) (range)	N	0..52/0.7 0.2-0.7	pCi/L	0	15	Erosion of natural deposits
Beta particles (average/Maximum) (range)	N	0.73/1.3 0.2-0.70	pCi/L	0	50	Decay of natural deposits and man-made emissions
Radium 228 (average of 2 samples from 5/16/08 & 10/1/08) range of values	N	0.51 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.
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 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**.** We had 38 % removal of TOC.
4. The state considers 50 pCi/L to be the level of concern for beta particles
5. During 2008 and the beginning of 2007 we collected samples to determine future sample locations for routine disinfection byproduct sampling. The study consists of the collection of disinfection byproduct samples once every 60 days. Data from samples collected in 2008 is included in herein."