



**Presented By
New Britain Water**

ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017

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

Ta broszura zawiera wazne informacje dotyczace jakosci wody do picia. Przetlumacz zawartosc tej broszury lub skontaktuj sie z osoba ktora pomoze ci w zrozumieniu zawartych informacji.

”هذا التقرير يحتوي على معلومات مهمة تتعلق بمياه الشفة (أو للشرب).
ترجم التقرير، أو تكلم مع شخص يستطيع أن يفهم التقرير.“

PWS ID#: CT0890011

Quality First

The Honorable Mayor of New Britain, Erin E. Stewart, and The Board of Water Commissioners are proud to present our annual water quality report covering the period between January 1 and December 31, 2017. Over many decades, the New Britain Water Department has provided drinking water of the highest quality to residents of New Britain. As always, we are honored to continue this work.



Count on Us

Delivering high-quality drinking water to our customers involves far more than just pushing water through pipes. Water treatment is a complex, time-consuming process. Because tap water is highly regulated by state and federal laws, water treatment plant and system operators must be licensed and are required to commit to long-term, on-the-job training before becoming fully qualified. Our licensed water professionals have a basic understanding of a wide range of subjects, including mathematics, biology, chemistry, and physics. Some of the tasks they complete on a regular basis include:

Water treatment is a complex, time-consuming process.

- Operating and maintaining equipment to purify and clarify water;
- Monitoring and inspecting machinery, meters, gauges, and operating conditions;
- Conducting tests and inspections on water and evaluating the results;
- Maintaining optimal water chemistry;
- Applying data to formulas that determine treatment requirements, flow levels, and concentration levels;
- Documenting and reporting test results and system operations to regulatory agencies; and
- Serving our community through customer support, education, and outreach.

So, the next time you turn on your faucet, think of the skilled professionals who stand behind each drop.

Source Water Protection

The New Britain Water Department takes great pride in having some of the best sources of water in the State of Connecticut. To ensure that they remain of the highest quality, the water department patrols and inspects the watersheds while performing many tests of the water for potential contamination.

Where Does My Water Come From?

The New Britain Water Department's customers receive water from 8 sources. The Shuttle Meadow Water Treatment Plant draws water from the Shuttle Meadow, Wassel, Whigville, Wolcott, White's Bridge, Hart Pond, and Nepaug reservoirs. Combined, they hold about 2.8 billion gallons of water. The department also has three well fields: the upper and lower White's Bridge well fields in Bristol and the Patton Brook well in the Town of Southington. Last year, because of the extreme drought conditions, the New Britain Water Department exercised its right to withdraw water from the MDC's Nepaug reservoir.

Water Treatment Process

Our treatment processes consists of a series of steps. First, raw water is drawn from our water sources and disinfected by ozone gas, to protect against Cryptosporidium. Ozone also has the benefit of oxidizing metals and removing taste and odor causing compounds from the water. The second step in the process sends the water to a mixing tank where polyaluminum chloride is added, causing small particles to adhere to one another, making them heavy enough to settle into a basin from which sediment is removed. After settling, the water is filtered through granular activated carbon and fine sand to remove smaller suspended particles and organic compounds. The water is now very clear and ready for final treatment. Chlorine is added to maintain a disinfectant residual in the distribution system. (We carefully monitor the amount of chlorine needed to protect the safety of your water). In addition, calcium carbonate is added to reduce corrosion of plumbing fixtures by adjusting the pH and alkalinity of the water. Fluoride is also added to promote dental health. The water is then sent to a clear well, where, after a period of time, the water it is ready to flow to your home or business.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. The Board of Water Commissioners will meet on the dates listed below. Meetings begin at 6:30 p.m. at 50 Caretaker Road, New Britain, CT.

- Tuesday January 9, 2018
- Wednesday February 21, 2018
- Wednesday March 21, 2018
- Wednesday April 18, 2018
- Wednesday May 16, 2018
- Wednesday June 20, 2018
- Wednesday July 18, 2018
- Wednesday August 15, 2018
- Wednesday September 19, 2018
- Wednesday October 17, 2018
- Wednesday November 21, 2018
- Wednesday December 19, 2018
- Wednesday January 16, 2019



Proposed New Reservoir

In 2016, the state legislature passed state law Public Act 16-61, which mandated that an environmental study be conducted on land owned by the New Britain Water Department.

The law was passed to determine the feasibility of creating a new reservoir on the land by allowing an extension of quarrying operations into the abutting watershed.

The plan for the proposed reservoir will increase storage capacity by 2.31 billion gallons, which will nearly double the amount of water available to the New Britain Water Department.

This reservoir will be used in times of drought to supplement the New Britain Water Department's water supply. It will also allow for better management of water resources needed to maintain minimum stream flows. These minimum stream flows are to be mandated in order to promote greater ecological health in state water ways.

The reservoir may also provide the foundation for a future regional water supply for the Central Connecticut area.

The planned expansion of the quarry will minimize and reduce the existing impacts on the local home owners in the surrounding areas by shifting present mining operations to areas further away from the residences abutting the quarry.

The environmental study also showed that the safe yield of the New Britain Water Department will be reduced temporarily, and there will be environmental impacts on the habitat of some animal species located on the site of reservoir. None of the species is considered endangered.

The study has been completed and submitted for review by the state's Water Planning Council and Council on Environmental Quality. If the study is approved and allowed to go forward, the city will be holding a public hearing in the summer to hear public comments. Notices will be published in the local newspaper.

To learn more, the entire environmental study can be found at www.newbritainct.gov.

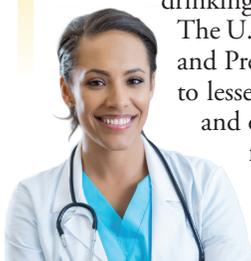
Important Health Information

Sources of lead in drinking water includes corrosion of household plumbing systems and erosion of natural deposits. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Sources of copper in drinking water includes corrosion of household plumbing systems, erosion of natural deposits, and leaching from wood preservatives. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctors.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.



What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per-capita water footprint is about 8,000 cubic feet, twice the global per-capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to <http://goo.gl/QMoIXT>.

Community Water Fluoridation

The safety and benefits of fluoride are well documented. For over 70 years, U.S. citizens have benefited from drinking water containing fluoride, leading to better dental health. Drinking fluoridated water keeps the teeth strong and has reduced tooth decay by approximately 25 percent in children and adults.

Over the past several decades, there have been major improvements in oral health. Still, tooth decay remains one of the most common chronic diseases of childhood. Community water fluoridation has been identified as the most cost-effective method of delivering fluoride to all members of the community, regardless of age, educational attainment, or income level.

Nearly all water contains some fluoride, but usually not enough to help prevent tooth decay or cavities. Public water systems can add the right amount of fluoride to the local drinking water to prevent tooth decay.

Community water fluoridation is recommended by nearly all public health, medical, and dental organizations in the U.S. Because of its contribution to the dramatic decline in tooth decay, the Centers for Disease Control and Prevention (CDC) named community water fluoridation one of the greatest public health achievements of the 20th century. (Courtesy of CDC: cdc.gov/fluoridation)



Stormwater Management

Stormwater quality is a big concern in Connecticut. Recently the state increased regulations to improve the quality of our ponds, lakes, streams, and rivers. The following is a list of simple things that you can do to help reduce pollution and improve water quality:

1. Check your car for leaking fluids and repair quickly.
2. If you change your own oil, collect the used oil in the containers that carried the replacement oil. By law, any store that sells motor oil must accept your used oil for proper disposal or recycling.
3. Do not overfertilize your lawn. Use only the recommended amount during the correct season.
4. Bring old oil-based paints, solvents, and pesticides to annual DPW Household Hazardous Waste Collection Day.
5. Pick up pet waste and put it in trash bags.
6. Take your car to the car wash instead of washing it in the driveway.
7. Have your septic tank pumped and system inspected regularly.
8. Never dump anything down catch basins or into streams.
9. Direct downspouts away from pavement onto grassed surfaces.
10. Consider starting a rain garden or planting native drought-resistant plants.
11. If you see dumping of pollutants into the streets, catch basins, or streams, report the problem to New Britain at (860) 826-3536. Common pollutants include oils, paints, chemicals, wash water, leaves, trash, pool water, and pet waste.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not themselves pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen and disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at such times. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use, and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Acting Deputy Director Ramon Esponda, PE, ME, at (860) 826-3546.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:



Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

A water assessment of the New Britain source waters was completed by the Department of Public Health, Drinking Water Section. The updated assessment report can be found on the Department of Public Health's Web site: www.dir.ct.gov/dph/Water/SWAP/Community/CT0890011.PDF

The assessment found that one of our water sources has a high susceptibility to potential sources of contamination because it is located in a urban setting. Even though nothing has ever been detected there, the department is required to make this information public.

FOG (Fats, Oils, and Grease)

You may not be aware of it, but every time you pour fat, oil, or grease (FOG) down your sink (e.g., bacon grease), you are contributing to a costly problem in the sewer collection system. FOG coats the inner walls of the plumbing in your house as well as the walls of underground piping throughout the community. Over time, these greasy materials build up and form blockages in pipes, which can lead to wastewater backing up into parks, yards, streets, and storm drains. These backups allow FOG to contaminate local waters, including drinking water. Exposure to untreated wastewater is a public health hazard. FOG discharged into septic systems and drain fields can also cause malfunctions, resulting in more frequent tank pump-outs and other expenses.

Communities spend billions of dollars every year to unplug or replace grease-blocked pipes, repair pump stations, and clean up costly and illegal wastewater spills. Here are some tips that you and your family can follow to help maintain a well-run system now and in the future:

NEVER:

- Pour fats, oil, or grease down the house or storm drains.
- Dispose of food scraps by flushing them.
- Use the toilet as a waste basket.

ALWAYS:

- Scrape and collect fat, oil, and grease into a waste container such as an empty coffee can, and dispose of it with your garbage.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes.
- Place a wastebasket in each bathroom for solid wastes like disposable diapers, creams and lotions, and personal hygiene products including nonbiodegradable wipes.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 www.epa.gov/lead.

Water Conservation Tips

You can play a role in conserving water and save yourself money in the process 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. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it 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 an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

What's a Cross-Connection?

Cross-connections that contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems), or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand), causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools, or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed industrial, commercial, and institutional facilities in the service area to make sure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also inspect and test backflow preventers to make sure that they provide maximum protection.

For more information on backflow prevention, contact the Safe Drinking Water Hotline at (800) 426-4791.

To the Last Drop

The National Oceanic and Atmospheric Administration (NOAA) defines drought as a deficiency in precipitation over an extended period of time, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, and/or people. Drought strikes in virtually all climate zones, from very wet to very dry.

There are primarily three types of drought: Meteorological Drought refers to the lack of precipitation, or the degree of dryness and the duration of the dry period; Agricultural Drought refers to the agricultural impact of drought, focusing on precipitation shortages, soil water deficits, and reduced groundwater or reservoir levels needed for irrigation; and Hydrological Drought pertains to drought that usually occurs following periods of extended precipitation shortfalls that can impact water supply (i.e., stream flow, reservoir and lake levels, groundwater).

Drought is a temporary aberration from normal climatic conditions. Thus it can vary significantly from one region to another. Although drought occurs normally, human factors, such as water demand, can exacerbate the duration and impact that drought has on a region. By following simple water conservation measures, you can help significantly reduce the lasting effects of extended drought.

What Are PPCPs?

When cleaning out your medicine cabinet, what do you do with your expired pills? Many people flush them down the toilet or toss them into the trash. Although this seems convenient, these actions could threaten our water supply.

Recent studies are generating a growing concern over pharmaceuticals and personal care products (PPCPs) entering water supplies. PPCPs include human and veterinary drugs (prescription or over-the-counter) and consumer products, such as cosmetics, fragrances, lotions, sunscreens, and household cleaning products. From 2006 to 2010, the number of U.S. prescriptions increased 12 percent to a record 3.7 billion, while nonprescription drug purchases held steady at around 3.3 billion. Many of these drugs and personal care products do not biodegrade and may persist in the environment for years.

The best and most cost-effective way to ensure safe water at the tap is to keep our source waters clean. Never flush unused medications down the toilet or sink. Instead, check to see if the pharmacy where you made your purchase accepts medications for disposal, or contact your local health department for information on proper disposal methods and drop-off locations. You can also go on the Web (<https://go.glaZPgeB>) to find more information about disposal locations in your area.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The state recommends monitoring for certain substances less often than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2017	[4]	[4]	1.04	0.34–1.04	No	Water additive used to control microbes
Haloacetic Acids [HAAs] (ppb)	2017	60	NA	9.2	1–13.6	No	By-product of drinking water disinfection
Nitrate (ppm)	2017	10	10	0.1	0.1–0.1	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	51.3	11.7–66.0	No	By-product of drinking water disinfection
Total Organic Carbon (ppm)	2017	TT	NA	2.0	0.7–2.0	No	Naturally present in the environment
Turbidity ¹ (NTU)	2017	TT	NA	0.22	0.02–0.22	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2017	TT = 95% of samples meet the limit	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2017	1.3	1.3	0.01	0/34	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2017	15	0	0.06	1/34	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2017	250	NA	34	34–34	No	Runoff/leaching from natural deposits
Fluoride (ppm)	2017	2.0	NA	0.75	0.55–0.75	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
pH ² (Units)	2017	> 9.3	NA	9.6	9.3–9.6	No	Naturally occurring

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium (ppm)	2017	16.8	16.8–16.8	Chemicals used to disinfect drinking water

¹Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

²The New Britain Water Department is required by the CT DPH to maintain a pH level of greater than 9.3 to optimize corrosion control.

Definitions

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as the highest LRAAs.

MCL (Maximum Contaminant Level): 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.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

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

NA: Not applicable

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

SMCL (Secondary Maximum Contaminant Level): SMCLs are established to regulate the aesthetics of drinking water like appearance, taste and odor.

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