



TTHM MONITORING PROGRAM

Monitoring Schedule

Sampling Date	Purpose of Monitoring		Description
	Compliance	Assessment	
8/7/2007	X		Conducted latest (3 rd quarter) round of MassDEP Compliance Testing.
11/12/2007		X	Conducted assessment testing to evaluate impacts of water transfer from Fall Brook to NoTown
11/26/2007		X	Conducted first round of assessment testing to evaluate combined impacts of transfer and enhanced organics removal at NoTown Treatment Facility.
12/4/2007	X		Conduct 4 th Quarter round of MassDEP compliance testing.
12/17/2007		X	Conduct second round of assessment testing to evaluate combined impacts of transfer and enhanced organics removal at NoTown Treatment Facility
Q1/2008	X		Conduct 1 st Quarter round of MassDEP compliance testing.

Results of 11/12/2007 Assessment Testing to Evaluate Water Transfer

Sampling Date ⁽¹⁾	Sampling Locations ⁽²⁾ – TTHM's Concentration in parts per billion (ppb)				
	636 Main St.	1287 Main St.	270 West St.	302 N. Main St.	804 N. Main St.
10/30/2006	155.0	141.6	143.0	172.6	154.0
2/13/2007	139.1	148.7	127.9	138.7	118.2
5/11/2007	108.5	120.6	107.2	111.6	95.6
8/7/2007	153.0	142.0	142.0	142.0	143.0
10/17/2007	<i>Implement Transfer from Fall Brook to NoTown Distribution System</i>				
11/12/2007	89.1	86.9	77.9	86.2	81.1

Note 1 – Samples collected In Oct-Aug were for MassDEP Compliance Testing; samples collected in November for assessment testing.

Note 2 – These five sample locations are those included in MassDEP compliance testing for NoTown system only. Eight additional samples collected for compliance testing outside of NoTown distribution system.



TTHM SUMMARY

Definition

Total trihalomethanes (TTHM – chloroform, bromoform, bromodichloromethane, and dibromochloromethane) are disinfection by-products (DBPs) that form when chlorine used for disinfection reacts with naturally occurring organic material in the water.

Regulatory Requirements

<i>Current</i>	TTHM are currently regulated by Stage 1 of the Disinfectants and Disinfection Byproducts Rule (Stage 1 DBPR). This regulation requires that the City-wide running annual average of all sampling locations have a TTHM concentration less than 80 parts per billion.
<i>Future</i>	Stage 2DBR requires that by 2013 every sampling location have a running annual average TTHM concentration less than 80 ppb.

Current Regulatory Status

The results of TTHM sampling for Q4 2006 exceeded the Stage 1 DBR regulatory standard, and has continued to exceed the standard for Q1-3 of 2007. This is due primarily to elevated levels of TTHM's within the NoTown Distribution System.

Action Plan

<i>Phase 1</i>	Achieve compliance with current Stage 1 DBR regulatory requirements by reducing the city-wide running annual average TTHM concentration to less than 80 ppb.
<i>Phase 2</i>	Reduce the NoTown system running annual average TTHM concentration to less than 80 ppb.
<i>Phase 3</i>	Achieve compliance with future Stage 2DBR requirements by reducing the locational running annual average TTHM concentrations to less than 80 ppb throughout City

Schedule of Activities

Date	Activity
Mar and Aug 2007	Conducted two, three-week pilot scale testing (trailer treatment system) at Distributing Reservoir during cold water and warm water conditions, including evaluation of coagulants for organics removal.
July 2007	Conducted stratification study of NoTown reservoir to evaluate the potential for water intake modification.
July 2007	Conducted jar testing of multiple coagulants at No Town Treatment Facility.
September 2007	Developed application for coagulant/chemical feed modification for NoTown Treatment Facility and submitted to MassDEP for approval. MassDEP approval received in Oct 2007.
October 2007	Began transfer of water from Fall Brook to NoTown distribution system.
November 2007	Implemented full-scale testing of MassDEP-approved chemical feed modification at NoTown Treatment Facility (ongoing).
January 2007	<ul style="list-style-type: none"> Evaluate impacts of transfer and chemical feed modifications, and determine if additional physical modifications are needed to the NoTown system to achieve Phase 3 Goal. Develop city-wide hydraulic model for distribution system and evaluate modifications of system to achieve Phase 3 Goal.
Spring-Summer 2008	Conduct additional pilot testing at NoTown Treatment Facility
Spring 2008	Evaluate results of pilot testing and hydraulic modeling
Fall 2008-Winter 2009	Complete design plans for NoTown Treatment Facility Upgrade and distribution system modifications, if needed
Fall 2011	Complete construction of Facility Upgrade and distribution system modifications, if needed.