

2008 Water Quality Report

JUNE 1, 2008 WATER QUALITY REPORT

The Cohasset Water Department (DEP ID# 3065000), under the direction of the elected Board of Water Commissioners, provides public drinking water to about 2,400 connections for about 7,100 Cohasset residents and provides and maintains a water system for fire fighting. We provide drinking water for almost 90% of the population of Cohasset.

This Water Quality Report describes the sources of our drinking water and the quality of that water for the period from January 1 – December 31, 2007.

During 2007 we met or exceeded all applicable standards for drinking water quality, except that testing in November showed we exceeded the Action Level for lead.

The old 1977 'state of the art' plant control panel



TREATMENT PLANT MODERNIZATION CONTINUES



The new 2007 'state of the art' control console

2007 WATER SYSTEM IMPROVEMENTS

► Distribution System Improvements

We replaced 10,400 feet (1.97 miles) of undersized water mains – 5.4% of the 36 miles of water mains in the distribution system – to improve water service and fire protection throughout Cohasset.

► Rain Garden Project

Fifteen rain gardens were constructed as well as a 5,000 gallon oil/water separator at the intersection of Pond Street and Route 3A. Seven additional rain gardens were partially constructed along Route 3A.

► Leak Detection

We repaired 25 leaks in 2007, including 3 main breaks, 3 freeze-ups, main or service breaks caused by contractors and 20 leaks on customer service lines.

► Water Storage Tanks

Storage tank mixers were installed in the Scituate Hill Tank, after draining and cleaning out the tank. The mixers continually mix the water in the storage tank and help provide more consistent tap water quality.

► Fire Hydrants & Valves

We replaced 15 fire hydrants, installed 5 new hydrants and painted 50 of the 400 hydrants. We replaced 32 gate valves and installed 15 new gate valves.

► Wellfields

The Ellms Meadow Wellfield was returned to service and proved to be beneficial to the supply of water during the dry summer conditions of 2007.

► Land Acquisition to Protect Water Supply

We obtained another land acquisition grant, this time in the amount of \$366,850, for the purchase of an additional 30 acres of land in the watershed of Lily Pond and the Aaron River Reservoir.

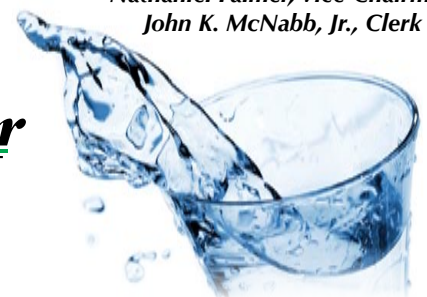
COHASSET BOARD OF WATER COMMISSIONERS

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Nathaniel Palmer, Vice-Chairman
John K. McNabb, Jr., Clerk



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2007 COHASSET WATER QUALITY RESULTS

The Cohasset Water Department tests for over 80 contaminants on a regular basis, in accordance with State and Federal requirements. The following contaminants were the only ones detected in the most recent testing required.

REGULATED CONTAMINANTS	Date(s) Collected	Highest Detect	Range Detected	Highest Average	MCL or MRDL	MCLG or MRDLG	Violation? (Y/N)	Possible Source(s) of Contamination
INORGANIC								
Fluoride (ppm)	Daily, 2007	1.52	0.0 - 1.52	----	4	4	No	Additive to water to promote strong teeth
Nitrate (ppm)	4/12/2007	0.17	----	----	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Chlorine (ppm)	Daily, 2007	1.86	0.6 - 1.86	----	4	4	No	Water additive used to protect public health by controlling microbes
Barium (ppm)	4/12/2007	0.008	----	----	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
VOLATILE ORGANIC								
Total Trihalomethanes (TTHMs) (ppb)	2/23, 5/4, 8/15, 11/29	90	26.3 - 90	75.1	80	----	No	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5's) (ppb)	2/23, 5/4, 8/15, 11/29	39	6.7 - 39	30.5	60	----	No	Byproduct of drinking water chlorination
RADIOACTIVE								
Gross Alpha (pCi/l)	2/17/04	-1.3+/-1.0	----	----	15	0	No	Erosion of natural deposits
Gross Beta (pCi/L)	2/17/04	2.9+/-2.2	----	----	50	0	No	Decay of natural and man-made deposits
Radium 226	2/17/04	0.3+/-0.2	----	----	0.1	0	No	Erosion of natural deposits
Radium 228	2/17/04	1.0+/-0.8	----	----	0.5	0	No	Erosion of natural deposits
SYNTHETIC ORGANIC								
Simazine (ppb)	3/23/06	0.1	----	----	4	4	No	Herbicide runoff

LEAD & COPPER (20 sites sampled each)	Date(s) Collected	90th Percentile	Action Level	MCLG	# sites above AL	Exceed-ence?	Possible Sources of Contamination
Lead (ppb)	8/09/2007	18	15	0	3 of 20	Yes	Corrosion of household plumbing systems
Copper (ppm)	8/09/2007	.46	1.3	1.3	0 of 20	No	Corrosion of household plumbing systems; leaching from wood preservatives

TURBIDITY	TT	Lowest Monthly % of Samples	Highest Detected Daily Value	Violation?	Possible Sources of Contamination
Daily Compliance (NTU)	0.3	----	0.24	No	Soil Runoff
Monthly Compliance	At least 95%	100%	----	No	

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.

* Monthly turbidity compliance is related to a specific treatment technique (TT). Our system filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.

UNREGULATED CONTAMINANTS	Date(s) Collected	Results	Average Detected	SMCL	ORSG	Violation?	Possible Sources of Contamination
INORGANIC							
Sodium (ppm)	4/12/2007	26	----	----	20	No	Runoff from use of salt on roadways to protect public safety
Sulfate (ppm)	4/12/2007	8.1	----	250	----	No	Natural sources

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether further regulation is warranted. Exceeding a SMCL or ORSG for an unregulated contaminant is not a violation.

LEAD EXCEEDANCE OF ACTION LEVELS

The Cohasset Water Department performed its required sampling for Lead and Copper on August 9, 2007. This sampling consisted of taking samples from 20 different residential homes and 4 different schools located in Cohasset.

While lead is not present in the raw water or in the treated water after it leaves the Lily Pond Treatment Plant, lead can leach into tap water in some situations from older lead services, lead solder in service connections, or even from brass fixtures (some of which contain lead).

These sites were selected by the Water Department and approved by DEP in compliance with the regulatory criteria which is based on when the home was constructed and the type of material used in installing the service line to the home.

The results of these tests, while an improvement overall from three years ago, did in fact cause an exceedance of the 90th percentile Action Level for lead. This means that the 3 out of the 20 residential sites samples had over 15 parts per million (ppm) of lead. While this is not a violation, the DEP requires the Water Department, following an exceedance such as this one, to provide public education and public notice about lead in the drinking water and to conduct additional testing.

The Water Department provided the required public notice brochures which were mailed to each customer's home with the water bills in November, 2007. Public education brochures were placed in all of the public buildings in Cohasset and were made available to every customer.

The Department has gone beyond the requirements and also offered to test any customer's water, for free, for lead content in an effort to help identify the homes in town that have lead services or brass fixtures that could be contaminating the water. During this free testing period, a total of 64 customers requested the free tests, and of them only 6 homes exceeded the Action Level.

The Water Department is also conducting additional regulatory testing for lead and is developing a comprehensive program to locate and eliminate all lead services and fittings in the distribution system.

DEFINITIONS

90th Percentile 9/10 were at or below this level

pCi/L Picocuries per liter (radioactivity)

ppb parts per billion, micrograms per liter (ug/l)

ppm parts per million, milligrams per liter (mg/l)

AL (Action Level) The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which must be followed.

MCL (Maximum Contaminant Level) Highest level of contaminant allowed in drinking water. MCLs are set as close to the

VULNERABLE POPULATIONS WARNING

Some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

EDUCATIONAL STATEMENT CONCERNING LEAD

Infants and young children are typically more vulnerable to lead in drinking water than the general population.

It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to 2-minutes before using tap water to reduce lead content.

Additional information is available from the Safe Drinking Water Hotline, 1-800-426-4791.

DEFINITIONS Continued

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 margin of safety.

MRDL (Maximum Residual Disinfectant Level) The highest level of a disinfectant allowed in drinking water. Disinfection is necessary to control microbiological contamination.

MRDLG (Maximum Residual Disinfectant Level Goal) Level of drinking water disinfectant which there is no known or expected risk to health; do not reflect the benefits of the use of disinfectants to control microbiological contaminants.

NTU (Nephelometric Turbidity Units) Measure of how clear the water is.

ORSG Mass Office of Research and Standards Guideline Concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure.

SMCL Secondary Maximum Contaminant Level These standards protect the aesthetic qualities of drinking water and are not health based.

TT (Treatment Technique) - 95% of all monthly samples taken must be less than/equal to 0.50 NTU

Variations & Exemptions State or EPA permission not to meet an MCL or a treatment technique under certain conditions.



MANGANESE UPDATE

Dr. Knocke, highly regarded nationally as an expert on manganese in drinking water, visited the Lily Pond Treatment Plant on March 18, 2008. In a meeting with the Water Commissioners, he provided his expert advice on how we can solve our manganese problem which while not harmful leads to discolored water.

Dr. Knocke (2nd from left) with Water Commissioners John McNabb, Nathaniel Palmer, and Glenn Pratt.

CONTACT US

Please call Superintendent Jared Hill at the Water Department at 781-383-0057 (fax 781-383-2906) with any questions or concerns.

For more information about the Water Department visit our website: www.cohassetwater.org

COMMUNITY INVOLVEMENT

We encourage public interest and participation in decisions affecting Cohasset's drinking water.

The Water Commission usually meets every other week at 6:00 pm at the Lily Pond Water Treatment Plant, 339 King Street. Meeting notices are posted at Town Hall. Feel free to attend and to participate.



This report is available at the Water Department, Town Hall, the Paul Pratt Memorial Library, and on our website: www.cohassetwater.org

Cohasset Water Department
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