- Revised Total Coliform Rule - Level 2 Assessor Training

Overview of Level 2 Assessment Form

Vicky Carrier, P.E., Sanitary Engineer 3
John Czaja, Sanitary Engineer 3
William Sullivan, Sanitary Engineer 3
Steve Wallett, Environmental Sanitarian

CT DPH – Drinking Water Section

Agenda

- System Information
- General Questions
- Operational Changes
- Sampling Site
- Sampling Protocol
- Sources
- Treatment Facility
- Storage Facilities
- Distribution

System Information

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Connecticut Department of Public Health

Revised Total Coliform Rule Level 2 Assessment Form

PWS ID#: CT	**PWS Name:**	**Town:**
System Type: CWS ◯ NTNC ◯ TNC ◯		**Date Assessment Form Completed**: *This form must be completed and returned no later than 30 days after the Assessment Trigger Date.*
Assessment Trigger Date:		
Assessment Trigger:	☐ *E. coli* MCL violation ☐ Second Level 1 Assessment in a rolling 12-month period ☐ Voluntary Level 2 Assessment	

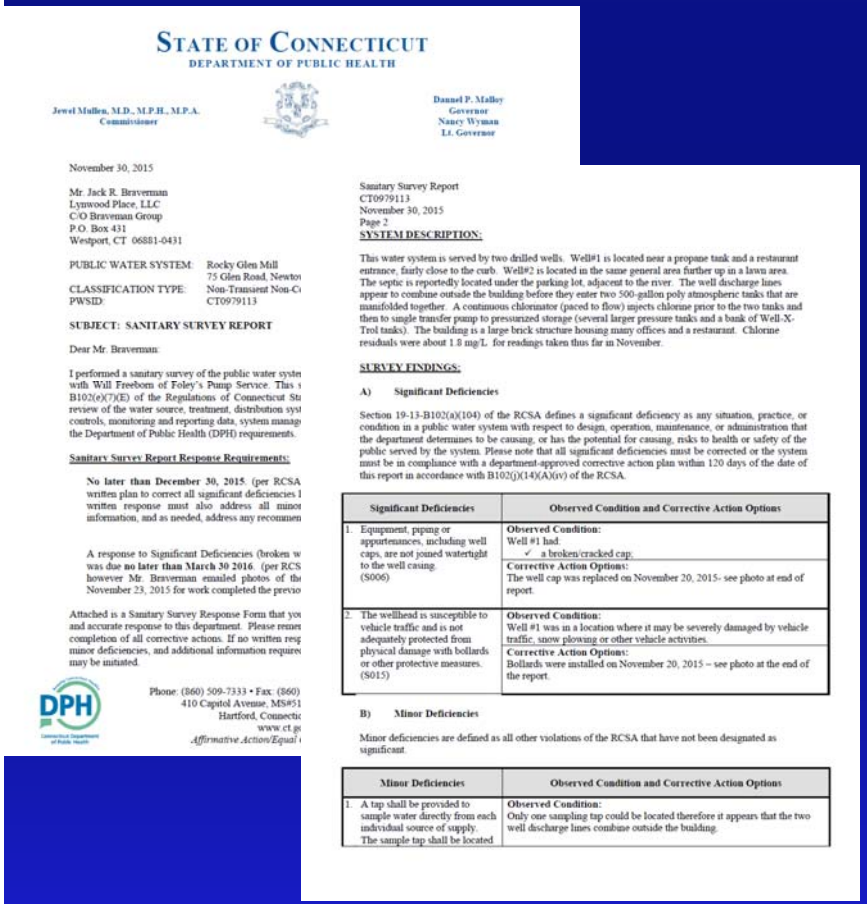
Instructions: *Review and evaluate all of the elements for possible sanitary defects. Indicate Yes or No if any sanitary defects are identified or N/A if the element is not applicable to the water system.* ***All sections of this form must be completed****. If a potential sanitary defect is identified, provide a description of the defect along with the actions taken or proposed to correct the defect. Indicate the date that the corrective action was completed or the proposed corrective action date if not yet corrected. Use the space provided following each section to provide more detail if needed. Please attach additional pages and include any supporting documentation where necessary.*

General Questions

1	General Questions	Potential Defect	Description of Defect and Corrective Action Taken/Proposed	Date Corrected/ Proposed
1.1	Are there any unresolved significant deficiencies from the last CT DPH Sanitary Survey?	○ Y ○ N ○ N/A		
1.2	Are there any unresolved sanitary defects identified in prior Level 1 or 2 Assessments?	○ Y ○ N ○ N/A		
1.3	Have there been any community illnesses suspected of being waterborne? (e.g., Do community public health officials indicate that an outbreak has occurred?)	○ Y ○ N ○ N/A		
1.4	Have there been any visible or physical indicators of unsanitary conditions?	○ Y ○ N ○ N/A		
1.5	Have there been any signs of vandalism or forced entry to water system components or facilities?	○ Y ○ N ○ N/A		
1.6	Have there been any other water quality issues within distribution or plumbing systems (color, turbidity, taste, and odor)?	○ Y ○ N ○ N/A		
1.7	Have there been any fire-fighting events, flushing activities, water main breaks or service line breaks which may have contributed to the bacteriological contamination?	○ Y ○ N ○ N/A		

General Questions

1.1- Are there any unresolved significant deficiencies from the last CT DPH Sanitary Survey?



STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Jewel Mullen, M.D., M.P.H., M.P.A.
Commissioner

Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor

November 30, 2015

Mr. Jack R. Braverman
Lynwood Place, LLC
C/O Braveman Group
P.O. Box 431
Westport, CT 06881-0431

PUBLIC WATER SYSTEM: Rocky Glen Mill
75 Glen Road, Newto
CLASSIFICATION TYPE: Non-Transient Non-C
PWSID: CT0979113

SUBJECT: SANITARY SURVEY REPORT

Dear Mr. Braverman:

I performed a sanitary survey of the public water syste with Will Freeborn of Foley's Pump Service. This s B102(e)(7)(E) of the Regulations of Connecticut Sta review of the water source, treatment, distribution sys controls, monitoring and reporting data, system manag the Department of Public Health (DPH) requirements.

Sanitary Survey Report Response Requirements:

No later than December 30, 2015: (per RCSA written plan to correct all significant deficiencies I written response must also address all minor information, and as needed, address any recommen

A response to Significant Deficiencies (broken w was due **no later than March 30 2016**. (per RCS however Mr. Braverman emailed photos of the November 23, 2015 for work completed the previo

Attached is a Sanitary Survey Response Form that yo and accurate response to this department. Please remer completion of all corrective actions. If no written resp minor deficiencies, and additional information requires may be initiated.

Phone: (860) 509-7333 • Fax: (860)
410 Capitol Avenue, MS#51
Hartford, Connecti
www.ct.g
Affirmative Action/Equal

Sanitary Survey Report
CT0979113
November 30, 2015
Page 2

SYSTEM DESCRIPTION:

This water system is served by two drilled wells. Well#1 is located near a propane tank and a restaurant entrance, fairly close to the curb. Well#2 is located in the same general area further up in a lawn area. The septic is reportedly located under the parking lot, adjacent to the river. The well discharge lines appear to combine outside the building before they enter two 500-gallon poly atmospheric tanks that are manifolded together. A continuous chlorinator (paced to flow) injects chlorine prior to the two tanks and then to single transfer pump to pressurized storage (several larger pressure tanks and a bank of Well-X-Trol tanks). The building is a large brick structure housing many offices and a restaurant. Chlorine residuals were about 1.8 mg/L for readings taken thus far in November.

SURVEY FINDINGS:

A) Significant Deficiencies

Section 19-13-B102(a)(104) of the RCSA defines a significant deficiency as any situation, practice, or condition in a public water system with respect to design, operation, maintenance, or administration that the department determines to be causing, or has the potential for causing, risks to health or safety of the public served by the system. Please note that all significant deficiencies must be corrected or the system must be in compliance with a department-approved corrective action plan within 120 days of the date of this report in accordance with B102(j)(14)(A)(iv) of the RCSA.

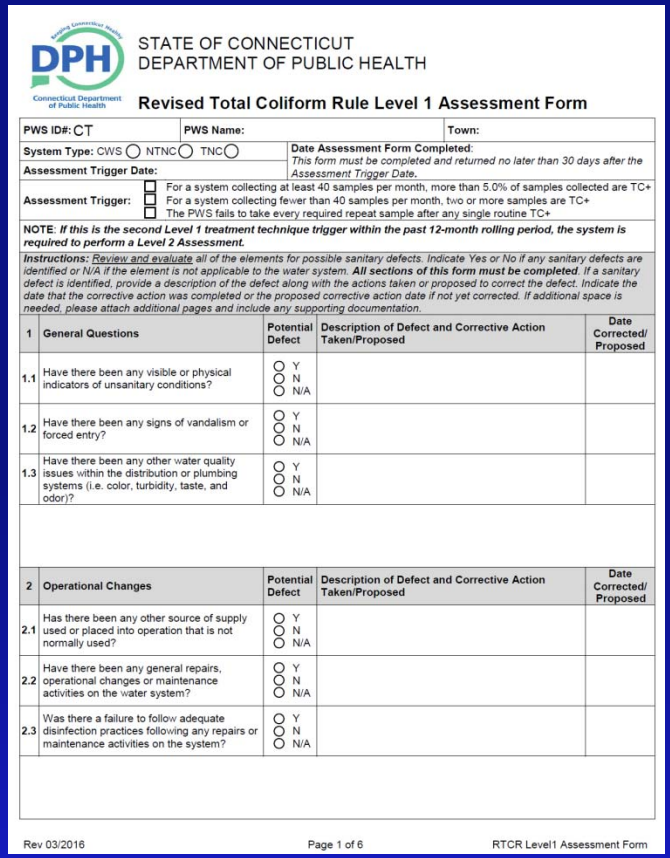
Significant Deficiencies	Observed Condition and Corrective Action Options
1. Equipment, piping or appurtenances, including well caps, are not joined watertight to the well casing. (S006)	**Observed Condition:** Well #1 had ✓ a broken/cracked cap. **Corrective Action Options:** The well cap was replaced on November 20, 2015- see photo at end of report.
2. The wellhead is susceptible to vehicle traffic and is not adequately protected from physical damage with bollards or other protective measures. (S015)	**Observed Condition:** Well #1 was in a location where it may be severely damaged by vehicle traffic, snow plowing or other vehicle activities. **Corrective Action Options:** Bollards were installed on November 20, 2015 – see photo at the end of the report.

B) Minor Deficiencies

Minor deficiencies are defined as all other violations of the RCSA that have not been designated as significant.

Minor Deficiencies	Observed Condition and Corrective Action Options
1. A tap shall be provided to sample water directly from each individual source of supply. The sample tap shall be located	**Observed Condition:** Only one sampling tap could be located therefore it appears that the two well discharge lines combine outside the building.

1.2- Have all sanitary defects identified in any prior Level 1 or 2 Assessments been corrected?



STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Connecticut Department of Public Health

Revised Total Coliform Rule Level 1 Assessment Form

PWS ID#: CT	PWS Name:	Town:
System Type: CWS ◯ NTNC ◯ TNC ◯		Date Assessment Form Completed: *This form must be completed and returned no later than 30 days after the Assessment Trigger Date.*
Assessment Trigger Date:		

Assessment Trigger:
☐ For a system collecting at least 40 samples per month, more than 5.0% of samples collected are TC+
☐ For a system collecting fewer than 40 samples per month, two or more samples are TC+
☐ The PWS fails to take every required repeat sample after any single routine TC+

NOTE: ***If this is the second Level 1 treatment technique trigger within the past 12-month rolling period, the system is required to perform a Level 2 Assessment.***

Instructions: *Review and evaluate all of the elements for possible sanitary defects. Indicate Yes or No if any sanitary defects are identified or N/A if the element is not applicable to the water system.* ***All sections of this form must be completed****. If a sanitary defect is identified, provide a description of the defect along with the actions taken or proposed to correct the defect. Indicate the date that the corrective action was completed or the proposed corrective action date if not yet corrected. If additional space is needed, please attach additional pages and include any supporting documentation.*

1	General Questions	Potential Defect	Description of Defect and Corrective Action Taken/Proposed	Date Corrected/ Proposed
1.1	Have there been any visible or physical indicators of unsanitary conditions?	◯ Y ◯ N ◯ N/A		
1.2	Have there been any signs of vandalism or forced entry?	◯ Y ◯ N ◯ N/A		
1.3	Have there been any other water quality issues within the distribution or plumbing systems (i.e. color, turbidity, taste, and odor)?	◯ Y ◯ N ◯ N/A		

2	Operational Changes	Potential Defect	Description of Defect and Corrective Action Taken/Proposed	Date Corrected/ Proposed
2.1	Has there been any other source of supply used or placed into operation that is not normally used?	◯ Y ◯ N ◯ N/A		
2.2	Have there been any general repairs, operational changes or maintenance activities on the water system?	◯ Y ◯ N ◯ N/A		
2.3	Was there a failure to follow adequate disinfection practices following any repairs or maintenance activities on the system?	◯ Y ◯ N ◯ N/A		

Rev 03/2016 Page 1 of 6 RTCR Level1 Assessment Form

General Questions

1.3- Have there been any community illnesses suspected of being waterborne (e.g., Does the community public health official indicate that an outbreak has occurred)?

1.4- Have there been any visible or physical indicators of unsanitary conditions?

General Questions

1.5- Have there been any signs of vandalism or forced entry to water system components or facilities?

1.6- Have there been any other water quality issues within distribution or plumbing systems (color, turbidity, taste, and odor)?

General Questions

1.7- Has there been a fire fighting events, flushing activities, water main breaks, etc.?

Operational Changes

PWS ID#: CT	PWS Name:	Town:

2	Operational Changes	Potential Defect	Description of Defect and Corrective Action Taken/Proposed	Date Corrected/ Proposed
2.1	Has there been any other source of supply used or placed into operation that is not normally used?	○ Y ○ N ○ N/A		
2.2	Have there been any general repairs, operational changes or maintenance activities on the water system?	○ Y ○ N ○ N/A		
2.3	Was there a failure to follow adequate disinfection practices following any repairs or maintenance activities on the system?	○ Y ○ N ○ N/A		
2.4	If this is a seasonal system, were there any problems during the most recent start-up procedure?	○ Y ○ N ○ N/A		

Operational Changes

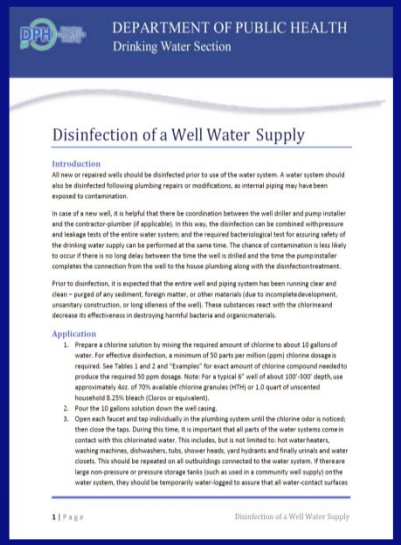
2.1- Have there been any wells or other sources used or placed into operation which is not normally used?

Operational Changes

2.2- Have there been any general repairs, operational changes or maintenance activities on the water system?

Operational Changes

2.3- Was there a failure to follow adequate disinfection practices following any repairs or maintenance activities on the system



DEPARTMENT OF PUBLIC HEALTH
Drinking Water Section

Disinfection of a Well Water Supply

Introduction

All new or repaired wells should be disinfected prior to use of the water system. A water system should also be disinfected following plumbing repairs or modifications, as internal piping may have been exposed to contamination.

In case of a new well, it is helpful that there be coordination between the well driller and pump installer and the contractor-plumber (if applicable). In this way, the disinfection can be combined with pressure and leakage tests of the entire water system; and the required bacteriological test for assuring safety of the drinking water supply can be performed at the same time. The chance of contamination is less likely to occur if there is no long delay between the time the well is drilled and the time the pump installer completes the connection from the well to the house plumbing along with the disinfectiontreatment.

Prior to disinfection, it is expected that the entire well and piping system has been running clear and clean – purged of any sediment, foreign matter, or other materials (due to incompletedevelopment, unsanitary construction, or long idleness of the well). These substances react with the chlorineand decrease its effectiveness in destroying harmful bacteria and organicmaterials.

Application

1. Prepare a chlorine solution by mixing the required amount of chlorine to about 10 gallons of water. For effective disinfection, a minimum of 50 parts per million (ppm) chlorine dosage is required. See Tables 1 and 2 and "Examples" for exact amount of chlorine compound needed to produce the required 50 ppm dosage. Note: For a typical 6" well of about 100'-300' depth, use approximately 4oz. of 70% available chlorine granules (HTH) or 1.0 quart of unscented household 8.25% bleach (Clorox or equivalent).
2. Pour the 10 gallons solution down the well casing.
3. Open each faucet and tap individually in the plumbing system until the chlorine odor is noticed; then close the taps. During this time, it is important that all parts of the water systems come in contact with this chlorinated water. This includes, but is not limited to: hot water heaters, washing machines, dishwashers, tubs, shower heads, yard hydrants and finally urinals and water closets. This should be repeated on all outbuildings connected to the water system. If thereare large non-pressure or pressure storage tanks (such as used in a community well supply) on the water system, they should be temporarily water-logged to assure that all water-contact surfaces

1 | Page — Disinfection of a Well Water Supply

are chlorinated adequately. All piping should be inspected for dead ends. All dead endpiping should be removed, looped or valved off. This allows for both the flushing of stagnant waterand the chlorine solution to be introduced. Dead end piping can harbor bacteria. Chlorine willalso not enter the piping, unless water flows through it.

4. With the use of a food grade hose connected to a nearby sill cock, recirculate some ofthe chlorinated water back down and along the interior of the well casing to dilute theinitial concentrated solution. (The initial chlorine solution may affect the integrity of theconcrete grout, such as between the tile sections of a dug well).
5. Install or replace the watertight well cap on the well casing so that the system cannotbe subsequently contaminated. If the existing well is located in a well pit, this is an opportunetime to bring the well into compliance with Public Health Code 19-13-B51. Please refer to theWell Casing Extension Guidance Document on our website for more information.
6. Allow the chlorinated water to stand idle in the well and piping system for at least threehours. It is preferable to allow the solution to remain in the system overnight.
7. With the well pumping, flush the chlorinated water from the system through the storagetank and taps. An outside sill cock may be used to flush the water to waste; however care shouldbe taken to avoid contact of chlorinated water with the grass, shrubbery, streams, brooks, etc. (In a small well supply, it may take a few days to remove all the chlorine from the system). DONOT OVER TAX A LOW- YIELDING WELL.

Drilled vs. Dug Wells:

Most homeowner wells are either drilled or hand dug. In the case of a drilled well, the steelcasing should extend a minimum of six inches above the established grade. It should also be outfitted with a certified watertight well cap with screened vent, as is specified in PHC 19-13-B51 (j)(b). The following web site lists all approved watertight well caps in the State of Connecticut: http://www.watersystemscouncil.org/upload/standards/pitless.pdf. An existing well pit should be eliminated and the well casing raised to a minimum of six-inches above established grade. The above listed Well Casing Extension Guidance Document should be referred to for thisprocedure.

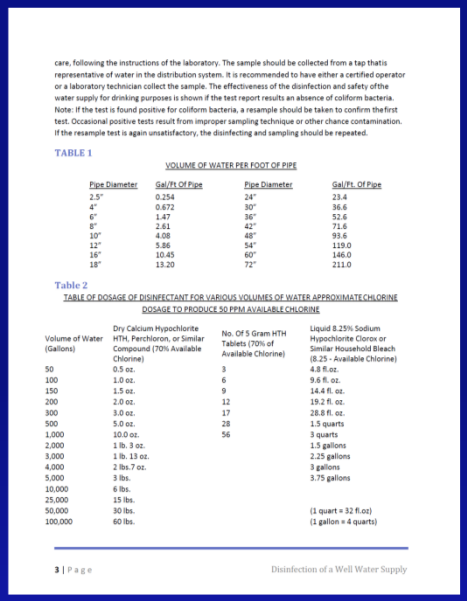
Dug wells are generally "high risk" because they are typically not constructed watertight, allowingthe entrance of surface water, insects and rodents. Dug wells must be inspected and repaired priorto disinfection. They should be tightly sealed after chlorination. Serious consideration should be giventto connecting to a public water supply, if available. If this is not possible, a properly constructed drilled well should be considered.

Bacteriological Test:

Before the required water sample is taken, it is very important that there be no trace of chlorine leftin the water supply. A desirable and precise method to determine the complete absence of chlorine in the water is to use a chlorine residual test kit.

Once the chlorine is absent from the water system, a sample is collected in a sterile bottle furnished by, and to be analyzed at, a state-approved laboratory. The collection of the sample should be done with

2 | Page — Disinfection of a Well Water Supply



care, following the instructions of the laboratory. The sample should be collected from a tap thatis representative of water in the distribution system. It is recommended to have either a certified operator or a laboratory technician collect the sample. The effectiveness of the disinfection and safety ofthe water supply for drinking purposes is shown if the test report results an absence of coliform bacteria. Note: If the test is found positive for coliform bacteria, a resample should be taken to confirm the first test. Occasional positive tests result from improper sampling technique or other chance contamination. If the resample test is again unsatisfactory, the disinfecting and sampling should be repeated.

TABLE 1

VOLUME OF WATER PER FOOT OF PIPE

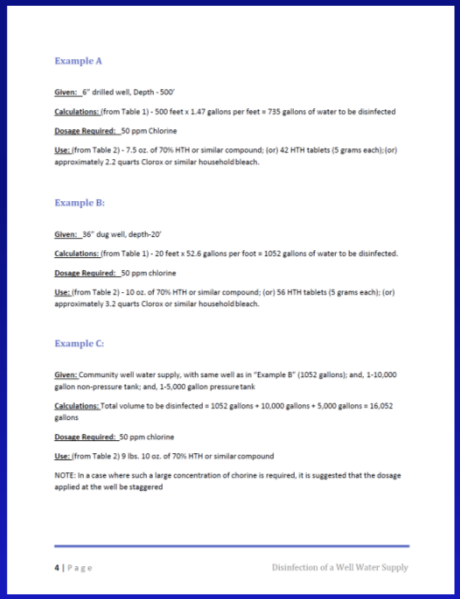
Pipe Diameter	Gal/Ft Of Pipe	Pipe Diameter	Gal/Ft. Of Pipe
2.5"	0.254	24"	23.4
4"	0.672	30"	36.6
6"	1.47	36"	52.6
8"	2.61	42"	71.6
10"	4.08	48"	93.6
12"	5.86	54"	119.0
16"	10.45	60"	146.0
18"	13.20	72"	211.0

Table 2

TABLE OF DOSAGE OF DISINFECTANT FOR VARIOUS VOLUMES OF WATER APPROXIMATECHLORINE DOSAGE TO PRODUCE 50 PPM AVAILABLE CHLORINE

Volume of Water (Gallons)	Dry Calcium Hypochlorite HTH, Perchloron, or Similar Compound (70% Available Chlorine)	No. Of 5 Gram HTH Tablets (70% of Available Chlorine)	Liquid 8.25% Sodium Hypochlorite Clorox or Similar Household Bleach (8.25 - Available Chlorine)
50	0.5 oz.	3	4.8 fl.oz.
100	1.0 oz.	6	9.6 fl. oz.
150	1.5 oz.	9	14.4 fl. oz.
200	2.0 oz.	12	19.2 fl. oz.
300	3.0 oz.	17	28.8 fl. oz.
500	5.0 oz.	28	1.5 quarts
1,000	10.0 oz.	56	3 quarts
2,000	1 lb. 3 oz.		1.5 gallons
3,000	1 lb. 13 oz.		2.25 gallons
4,000	2 lbs.7 oz.		3 gallons
5,000	3 lbs.		3.75 gallons
10,000	6 lbs.		
25,000	15 lbs.		
50,000	30 lbs.		(1 quart = 32 fl.oz)
100,000	60 lbs.		(1 gallon = 4 quarts)

3 | Page — Disinfection of a Well Water Supply



Example A

Given: 6" drilled well, Depth - 500'

Calculations: (from Table 1) - 500 feet x 1.47 gallons per feet = 735 gallons of water to be disinfected

Dosage Required: 50 ppm Chlorine

Use: (from Table 2) - 7.5 oz. of 70% HTH or similar compound; (or) 42 HTH tablets (5 grams each); (or) approximately 2.2 quarts Clorox or similar household bleach.

Example B:

Given: 36" dug well, depth-20'

Calculations: (from Table 1) - 20 feet x 52.6 gallons per foot = 1052 gallons of water to be disinfected.

Dosage Required: 50 ppm chlorine

Use: (from Table 2) - 10 oz. of 70% HTH or similar compound; (or) 56 HTH tablets (5 grams each); (or) approximately 3.2 quarts Clorox or similar household bleach.

Example C:

Given: Community well water supply, with same well as in "Example B" (1052 gallons); and, 1-10,000 gallon non-pressure tank; and, 1-5,000 gallon pressure tank

Calculations: Total volume to be disinfected = 1052 gallons + 10,000 gallons + 5,000 gallons = 16,052 gallons

Dosage Required: 50 ppm chlorine

Use: (from Table 2) 9 lbs. 10 oz. of 70% HTH or similar compound

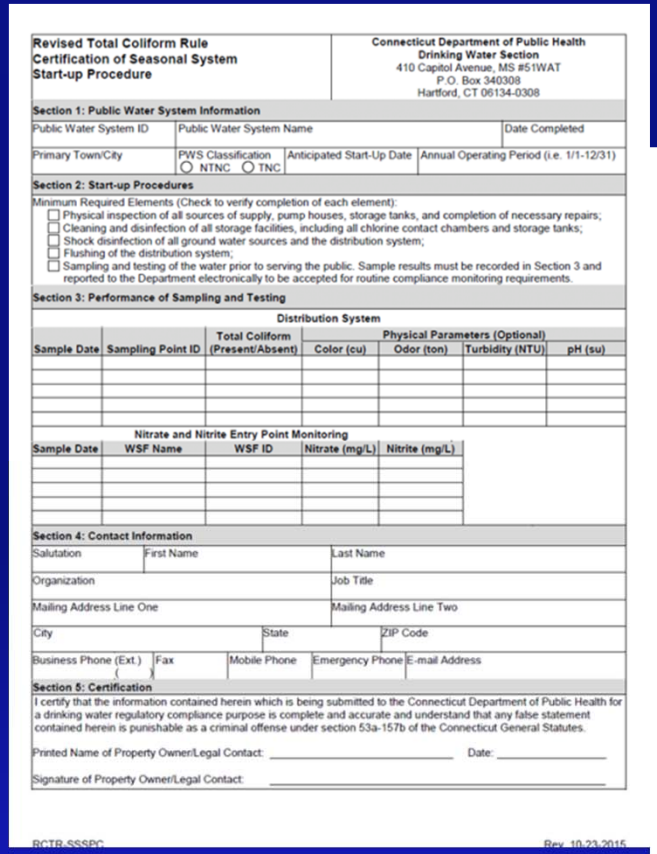
NOTE: In a case where such a large concentration of chorine is required, it is suggested that the dosage applied at the well be staggered

4 | Page — Disinfection of a Well Water Supply

Drinking Water Section

Operational Changes

2.4 - If this is a seasonal system, were there any problems during the most recent start-up procedure?



Revised Total Coliform Rule
Certification of Seasonal System
Start-up Procedure

Connecticut Department of Public Health
Drinking Water Section
410 Capitol Avenue, MS #51WAT
P.O. Box 340308
Hartford, CT 06134-0308

Section 1: Public Water System Information

Public Water System ID	Public Water System Name		Date Completed
Primary Town/City	PWS Classification ○ NTNC ○ TNC	Anticipated Start-Up Date	Annual Operating Period (i.e. 1/1-12/31)

Section 2: Start-up Procedures

Minimum Required Elements (Check to verify completion of each element):

- ☐ Physical inspection of all sources of supply, pump houses, storage tanks, and completion of necessary repairs;
- ☐ Cleaning and disinfection of all storage facilities, including all chlorine contact chambers and storage tanks;
- ☐ Shock disinfection of all ground water sources and the distribution system;
- ☐ Flushing of the distribution system;
- ☐ Sampling and testing of the water prior to serving the public. Sample results must be recorded in Section 3 and reported to the Department electronically to be accepted for routine compliance monitoring requirements.

Section 3: Performance of Sampling and Testing

Distribution System

Sample Date	Sampling Point ID	Total Coliform (Present/Absent)	Physical Parameters (Optional) Color (cu)	Odor (ton)	Turbidity (NTU)	pH (su)

Nitrate and Nitrite Entry Point Monitoring

Sample Date	WSF Name	WSF ID	Nitrate (mg/L)	Nitrite (mg/L)

Section 4: Contact Information

Salutation	First Name		Last Name	
Organization			Job Title	
Mailing Address Line One			Mailing Address Line Two	
City		State		ZIP Code
Business Phone (Ext.) ( )	Fax	Mobile Phone	Emergency Phone	E-mail Address

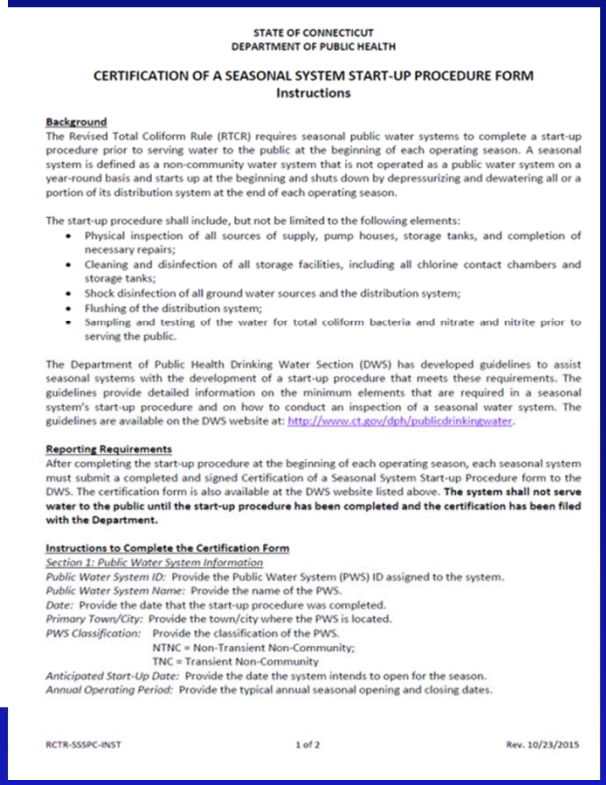
Section 5: Certification

I certify that the information contained herein which is being submitted to the Connecticut Department of Public Health for a drinking water regulatory compliance purpose is complete and accurate and understand that any false statement contained herein is punishable as a criminal offense under section 53a-157b of the Connecticut General Statutes.

Printed Name of Property Owner/Legal Contact: _____ Date: _____

Signature of Property Owner/Legal Contact: _____

RCTR-SSSPC Rev. 10-23-2015



STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

CERTIFICATION OF A SEASONAL SYSTEM START-UP PROCEDURE FORM
Instructions

Background

The Revised Total Coliform Rule (RTCR) requires seasonal public water systems to complete a start-up procedure prior to serving water to the public at the beginning of each operating season. A seasonal system is defined as a non-community water system that is not operated as a public water system on a year-round basis and starts up at the beginning and shuts down by depressurizing and dewatering all or a portion of its distribution system at the end of each operating season.

The start-up procedure shall include, but not be limited to the following elements:

- Physical inspection of all sources of supply, pump houses, storage tanks, and completion of necessary repairs;
- Cleaning and disinfection of all storage facilities, including all chlorine contact chambers and storage tanks;
- Shock disinfection of all ground water sources and the distribution system;
- Flushing of the distribution system;
- Sampling and testing of the water for total coliform bacteria and nitrate and nitrite prior to serving the public.

The Department of Public Health Drinking Water Section (DWS) has developed guidelines to assist seasonal systems with the development of a start-up procedure that meets these requirements. The guidelines provide detailed information on the minimum elements that are required in a seasonal system's start-up procedure and on how to conduct an inspection of a seasonal water system. The guidelines are available on the DWS website at: http://www.ct.gov/dph/publicdrinkingwater.

Reporting Requirements

After completing the start-up procedure at the beginning of each operating season, each seasonal system must submit a completed and signed Certification of a Seasonal System Start-up Procedure form to the DWS. The certification form is also available at the DWS website listed above. **The system shall not serve water to the public until the start-up procedure has been completed and the certification has been filed with the Department.**

Instructions to Complete the Certification Form

Section 1: Public Water System Information

Public Water System ID: Provide the Public Water System (PWS) ID assigned to the system.
Public Water System Name: Provide the name of the PWS.
Date: Provide the date that the start-up procedure was completed.
Primary Town/City: Provide the town/city where the PWS is located.
PWS Classification: Provide the classification of the PWS.
NTNC = Non-Transient Non-Community;
TNC = Transient Non-Community
Anticipated Start-Up Date: Provide the date the system intends to open for the season.
Annual Operating Period: Provide the typical annual seasonal opening and closing dates.

RCTR-SSSPC-INST 1 of 2 Rev. 10/23/2015

Sampling Sites and Protocols

- Sections 3 and 4
- Sampling Sites and Protocols

3	Sampling Sites	Potential Defect	Description of Defect and Corrective Action Taken/Proposed	Date Corrected/ Proposed
3.1	Does the area surrounding each sampling tap appear to be unsanitary?	○ Y ○ N ○ N/A		
3.2	Are there sampling taps that are not routinely used or not identified i system's Sampling Site Plan?	○ Y		

4	Sampling Protocol	Potential Defect	Description of Defect and Corrective Action Taken/Proposed	Date Corrected/ Proposed
4.1	Was the sample taken in an improper sample container?	○ Y ○ N ○ N/A		
4.2	Were there any sampling or handling errors (i.e. human error)?	○ Y ○ N ○ N/A		
4.3	Were any of the sampling locations equipped with an auto sensing, swivel-or single-spout type faucet?	○ Y ○ N ○ N/A		
4.4	Were there any sample holding time or storage temperature exceedances?	○ Y ○ N ○ N/A		
4.5	Did the laboratory report any testing errors?	○ Y ○ N		

Sampling Sites and Protocols

- Sections 3 and 4
- Sampling Sites and Protocols

"This section of the assessment is designed to determine whether water samples could have been contaminated during the sample collection or processing, resulting in total coliform or *E. coli*-positive samples. In that case, the positive results may not indicate a distribution system problem but rather a sampling problem". Proposed Revised Total Coliform Rule Assessments and Corrective Actions Guidance Manual (Proposed RTCR A/CA GM).

Sampling Sites and Protocols

- The evaluation of the sample site(s) with the positive sample(s) and the sampling protocol would be performed in a similar manner for systems of all sizes and types. Because the sample site(s) is/are a key indicator of whether the problem is system-wide or localized, the assessment would be similar for both a Level 1 and Level 2 assessment, and would include a field visit to inspect the sample location(s) or a detailed discussion with the sample collector to determine the conditions at the sample site(s).

(Proposed RTCR A/CA GM).

Sampling Sites and Protocols

Some of the common items to evaluate at the sample site(s) include:

- Cleanliness and suitability of the sample tap and sink
- Potential for hot water to enter the sample through the tap
- Conditions that may have changed at the sample site since the last sample collection

Sampling Sites and Protocols

In addition to sample tap contamination, it is possible that elements of the sampling protocol that were not followed closely could result in contamination of the sample. Elements of the sampling protocol may include:

- Removal of the tap aerator
- Adequate flushing of the tap prior to sample collection
- Proper storage and preparation of the sampling container
- Correct storage, preservation, and handling of sample(s) during transport to the laboratory
- Compliance with holding time and temperature requirements
- Finally, this evaluation should include a discussion with the laboratory, either in-house or externally, to determine if all laboratory quality checks were performed with satisfactory results.

Sampling Sites and Protocols

- Three Best Management Practices to minimize water quality problems associated with Sampling Sites and Protocols:

Sampling Sites and Protocols

- Three Best Management Practices to minimize water quality problems associated with Sampling Sites and Protocols:

- Follow your DPH approved Sampling Site Plan,

Sampling Sites and Protocols

- Three Best Management Practices to minimize water quality problems associated with Sampling Sites and Protocols:

- Follow your DPH approved Sampling Site Plan,

- Follow the appropriate sampling guidelines

Sampling Sites and Protocols

- Three Best Management Practices to minimize water quality problems associated with Sampling Sites and Protocols:

- Follow your DPH approved Sampling Site Plan,

- Follow the appropriate sampling guidelines,

- Maintain effective communication with your laboratory, local health personnel, and the DPH DWS

Sampling Sites

- Section 3

3	Sampling Sites	See Sampling Site Plan Guidance
3.1	Does the area surrounding each sampling tap appear to be unsanitary?	Determine if the taps used for the compliance monitoring are clean and in sanitary condition. Slop sink taps, taps in dirty condition, etc. may result in bacteriological contaminated samples.
3.2	Are there sampling taps that are not routinely used or not identified in the system's Sampling Site Plan?	Determine that the sampling taps are from locations where water is used on a routine basis and from locations identified in your DPH approved Sampling Site Plan. A tap that is not used on a routine basis may result in bacteriological contaminated samples, and a system is required to collect samples from approved sites.

- (RTCR) - Total coliform samples must be collected at sites which are representative of water quality throughout the distribution system according to a written sample siting plan subject to State review and revision.

Sampling Taps

Sampling Protocol

- Section 4

4	Sampling Protocol	In answering the following questions consult with the laboratory that conducted the analysis and/or sample collector(s).
4.1	Was the sample taken in an improper sample container?	Verify that the sample containers were sterile and of the appropriate size or type for bacteriological sampling.
4.2	Were there any sampling or handling errors (i.e. human error)?	Review chain-of-custody records and lab compliance reports to verify that samples containers were properly collected, handled and stored prior to, during or after sampling. This may include the removal of aerator, flushing or other procedure as a specific laboratory may conduct or require.
4.3	Were any of the sampling locations equipped with an auto sensing, swivel-or single-spout type faucet?	Determine if these type faucets were used. These types of faucets should not be used as sampling locations since hot water flows through the faucet or may leak and blend with the cold water, and hot water may contain bacteria.
4.4	Were there any sample holding time or storage temperature exceedances?	Review chain-of-custody records and lab compliance reports to verify that samples did not exceed allowed sample holding times and that the samples were stored properly at all times prior to analysis.
4.5	Did the laboratory report any testing errors?	Review chain-of-custody records and lab compliance reports to verify that samples were analyzed in accordance with applicable methods.
4.6	Was there a failure to follow appropriate collection procedures when samples were collected?	Verify that proper sample collection procedures were followed prior to sample collection. This may include the removal of aerator, flushing or other procedure that a specific laboratory analysis method requires.
4.7	Have there been any special samples taken from a water treatment plant, well, tank or distribution system as part of the investigation that have confirmed the bacteriological contamination?	Review the results of any special samples taken (those not used for compliance) during the investigation and determine if any indicated the presence of bacteria. Detections may help identify where areas where the bacteriological contamination may be coming from. A summary of these special sample test results should be provided as supporting documentation where applicable.

Sampling Protocol

- 4.1

Laboratory Methods can determine the type of bottle required. Work with lab to verify correct type.

Analysis Report

December 26, 2013

FOR:

Sample Information		Custody Information		Date	Time
Matrix:	DRINKING WATER	Collected by:		12/20/13	11:45
Location Code:	[redacted]	Received by:	SW	12/20/13	13:24
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GBF91304

[redacted]BF91304

Project ID: [redacted]

Client ID:

Parameter	Result	RL/ PQL	Units	DW MCL	Sec Goal	Date/Time	By	Reference
Escherichia Coli	0	0	MPN/100 mls	0		12/20/13 15:35	CB/KDB	SM 9223B
Total Coliforms	0	0	MPN/100 mls	0		12/20/13 15:35	CB/KDB	9223B
Hardness (CaCO3)	42.4	0.1	mg/L			12/24/13		E200.7
Alkalinity-CaCO3	42	20	mg/L			12/21/13	BS/EG	SM 2320B
Color	< 1	1	Color Units		15	12/20/13 19:00	DH/KDB	SM 2120B
Nitrite as Nitrogen	< 0.01	0.01	mg/L	1		12/20/13 22:49	BS/EG	300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	10		12/20/13 22:49	BS/EG	300.0
Odor at Room Temperature	< 1	1	T.O.N.		3	12/20/13 19:00	DH/KDB	SM 2150B
pH	7.50	0.10	pH Units		6.5-8.5	12/21/13 04:43	BS/EG	4500-H B
Turbidity	1.24	0.20	NTU		5	12/20/13 18:33	Z	SM2130B
Iron	2.19	0.005	mg/L		0.3	12/24/13	LK	E200.7
*** Iron exceeds Secondary Goal ***								
Manganese	0.068	0.002	mg/L		0.05	12/24/13	LK	E200.7
*** Manganese exceeds Secondary Goal ***								
Total Metal Digestion	Completed					12/23/13	TH	E200.7

Sampling Protocol

- 4.2

Laboratory Reports will have information on sampling or testing errors.

Project ID: [redacted] [redacted]

Client ID:

Parameter	Result	RL/ PQL	Units	DW MCL	Sec Goal	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level (less than the reporting level, the lowest amount the laboratory can detect and report.) MCL = Maximum Contaminant Level MCLG = Maximum Contaminant Level Goal

Comments:

Maximum Contaminant Level (Lower of): 40 CFR Part 141; CT Public Health Code 19-13-B102. The highest level of a contaminant that is allowed in drinking water. MCLs are enforceable standards.

Secondary DW Maximum Contaminant Level Goal (MCLG): (Lower of): 40 CFR Part 143; CT Public Health Code 19-13-B102. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are non-enforceable public health goals.

The regulatory hold time for pH is immediately. This pH was performed in the laboratory and may be considered outside of hold-time.

Sampling Protocol

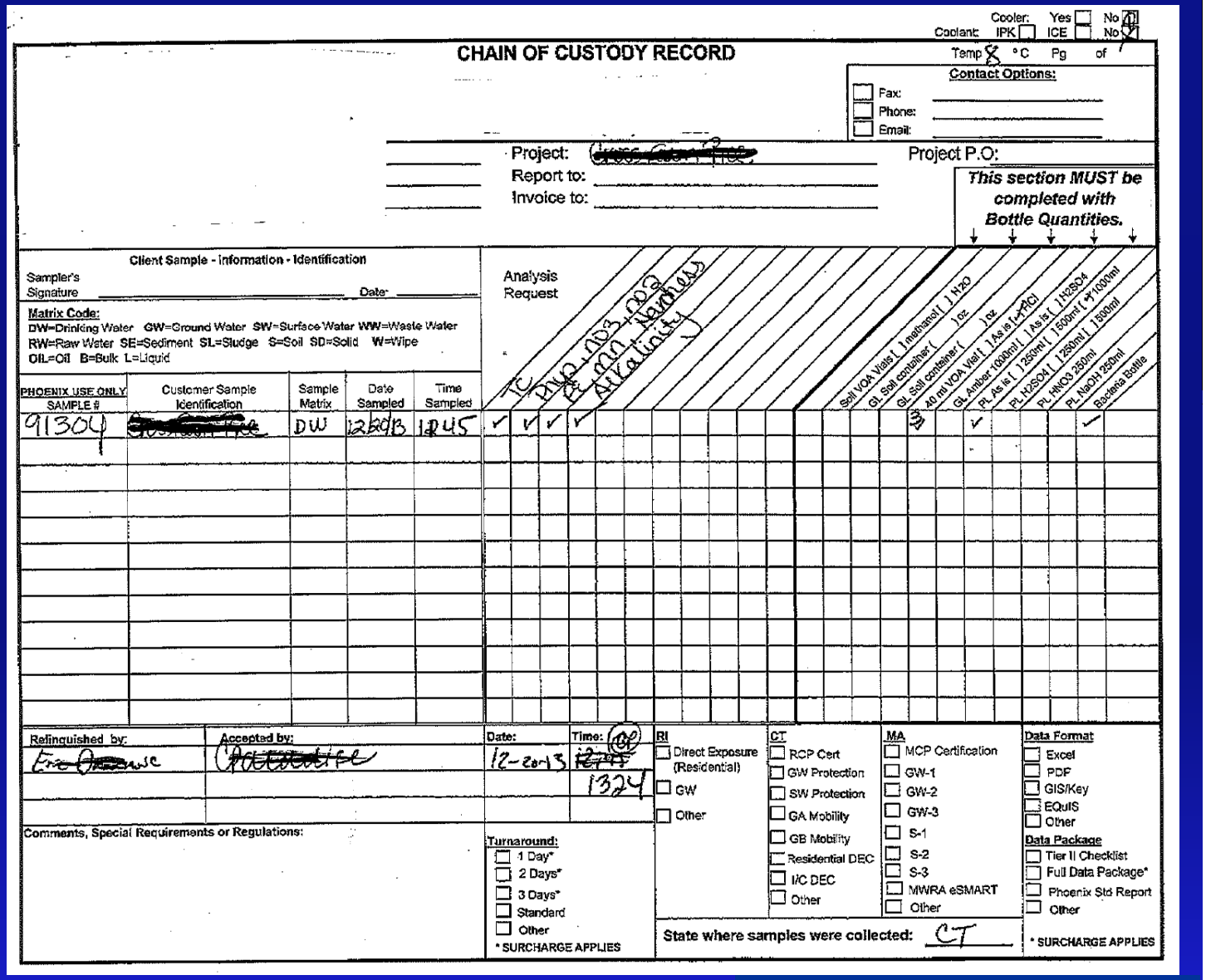
- 4.3

Review your Sampling Site Plan and verify appropriate locations.

Sampling Protocol

- 4.4

Laboratory Chain of Custody will have information on sample condition at time of receipt.



Cooler: Yes ☐ No ☐
Coolant: IPK ☐ ICE ☐ No ☐
Temp 8 °C Pg of

CHAIN OF CUSTODY RECORD

Contact Options:
☐ Fax:
☐ Phone:
☐ Email:

Project:
Report to:
Invoice to:
Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature _____ Date: _____

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe
Oil=Oil B=Bulk L=Liquid

Analysis Request

PHOENIX USE ONLY: SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	TC	Phos, NO3, NO2	E. coli, Heterotrophic Plate Count	Alkalinity	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml [ ] 1000ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle
91304	[redacted]	DW	12-20-13	1245	✓	✓	✓	✓			3		✓				✓	

Relinquished by:	Accepted by:	Date:	Time:
[redacted]	[redacted]	12-20-13	~~12:45~~ 1324

Comments, Special Requirements or Regulations:

Turnaround:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ Standard
☐ Other
* SURCHARGE APPLIES

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☐ MCP Certification
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: CT

Data Format
☐ Excel
☐ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other
* SURCHARGE APPLIES

Sampling Protocol

4.7

"For both a Level 1 and Level 2 assessment, the collection of additional samples for total coliforms with potential subsequent E. coli analysis and supporting water quality parameters is encouraged. Systems should keep records of any special purpose samples taken in order to create a baseline for comparison should another assessment be triggered in the future". (Proposed RTCR A/CA GM)

Sampling Protocol

- The level of effort and resources required to implement the Level 2 assessments will be commensurate with a more comprehensive investigation, a higher level review of available information, and may involve the engagement of additional parties and expertise…….. (Proposed RTCR A/CA GM).

Sampling Sites and Protocols

....

- Follow your DPH approved Sampling Site Plan,
- Follow the appropriate sampling guidelines,
- Maintain effective communication with your laboratory, local health personnel, and the DPH DWS

5 Distribution

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Revised Total Coliform Rule Level 2 Assessment Form

PWS ID#: CT	PWS Name:	Town:

5	Distribution	Potential Defect	Description of Defect and Corrective Action Taken/Proposed	Date Corrected/ Proposed
5.1	Have there been any incidents of low or inadequate pressure (<25 psi)?	○ Y ○ N ○ N/A		
5.2	Have there been any distribution plumbing installations, water service line breaks or main breaks?	○ Y ○ N ○ N/A		
5.3	Were there any events that may have caused flows in excess of normal?	○ Y ○ N ○ N/A		
5.4	Have all cross connection violations been corrected?	○ Y ○ N ○ N/A		
5.5	Are there any dead end or low flow sections within the distribution system or plumbing system?	○ Y ○ N ○ N/A		
5.6	Are there any automatically operating air vacuum, air release or combination air release/air vacuum valves having a discharge port connected to drain, not screened or that may have been submerged in water?	○ Y ○ N ○ N/A		
5.7	Were there low disinfection residuals?	○ Y ○ N ○ N/A		

5.1 Have there been any incidents of low or inadequate pressure (<25 psi)?

- Determine if there been any inadequate or low pressure events.

Adequate pressure is the first barrier in protection of water system from contamination.

5.2 Have there been any distribution plumbing installations, water service line breaks or main breaks?

- Review records to determine if there were any breaks or repairs to the system.

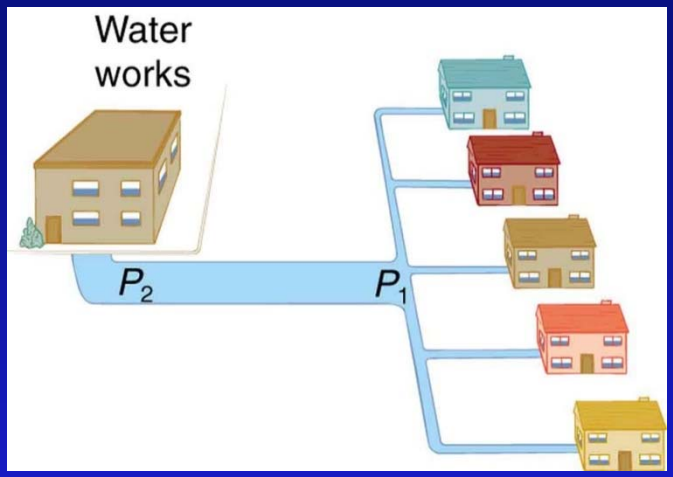
A break or installation may cause bacteria to be introduced into a system directly or indirectly. Increased flows or other disturbances to the pipes may release bacteria in sediment or scale within the pipe.

Effective disinfection followed by sampling and testing for bacteria is warranted following these events.

5.3 Was there any events that may have caused flows in excess of normal?

- Review records to determine if there was any event where flows within the system were in excess of normal.

Such events may include flushing, fire event, unauthorized use, operation of a blow off, etc. Increased flows in pipes may disturb bacteria-containing sediment or scale buildup and cause the bacteria to be released into the water.



5.4 Have all cross connection violations been corrected?

- Review sanitary survey reports, cross connection inspection reports and recent work orders to determine if any cross connection violations have been identified and not corrected.

SURVEY YEAR _____ **CROSS CONNECTION SURVEY REPORT FORM** PAGE _____ OF _____

Community Public Water Systems Serving 1,000 persons or less and Non-Community Public Water Systems

PUBLIC WATER SYSTEM: _____ PUBLIC WATER SYSTEM ID#: _____

TOWN: _____

You may copy this form if additional consumer premises (more than 4) are to be listed.

A)

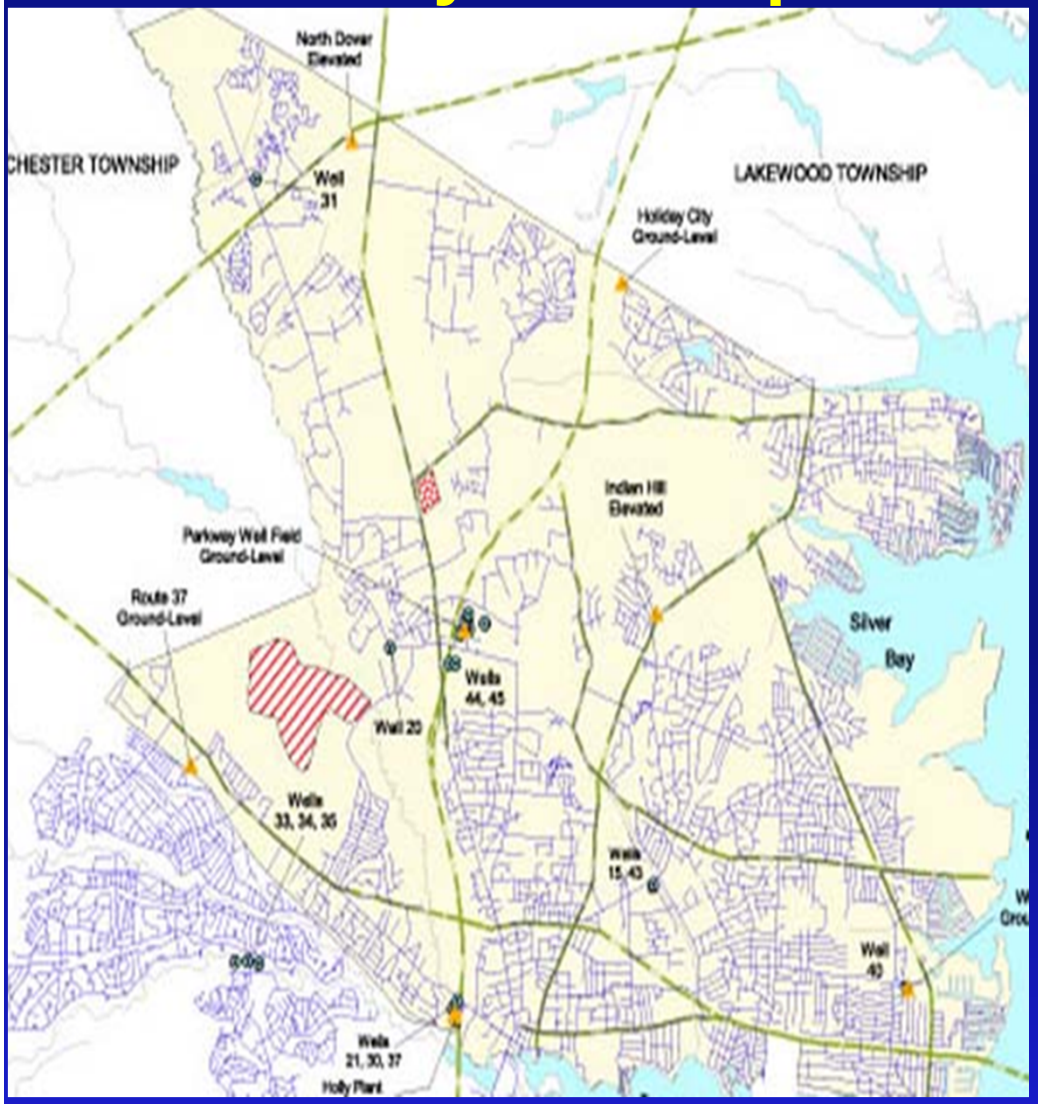
Name of Tester(s) / Inspector(s)	Certificate #	Expiration date	I certify that the information in this report is substantially correct (Signature)

B) Consumer Premise	C) Categories of concern	D) Date of most recent inspection	E) Violations		F) Testing Backflow Prevention Devices				
			Number found	Number uncorrected	Device type [1]	Number of Devices Total	Tested	Failed	Repaired
1					PVB				
					DCVA				
					RPD				
2					PVB				
					DCVA				
					RPD				
3					PVB				
					DCVA				
					RPD				
4					PVB				
					DCVA				
					RPD				

[1] PVB = Pressure Vacuum Breaker, DCVA = Double Check Valve Assembly, RPD = Reduced Pressure Principle Device

B) Consumer Premise (as numbered above)	G) Status of Uncorrected Violation
1	
2	
3	
4	

5.5 Are there any dead end or low flow sections within the distribution system or plumbing system?



Chronic repeated coliform bacteriological issues have been associated with inadequate disinfection of stagnant water lines.

5.6 Are there any automatically operating air vacuum, air release or combination air release/air vacuum valves having a discharge port connected to drain, not screened or that may have been submerged in water?

- Review records and/or inspect system to determine if there is any air vacuum, air release or combination air release/air vacuum valves.

If present determine that they are not connected to a drain, submerged in water or may become submerged in water. Any valves routinely operated on a pump discharge or elsewhere should be appropriated screened.

5.7 Was there low disinfection residuals?

- Review distribution sample results to determine if chlorine was below normal operating levels or if a detectable free chlorine level (i.e. > 0.05 mg/L) is maintained in the distribution or plumbing system. This would apply only to water systems which provide continuous chlorination treatment.

Sources

PWS ID#: CT	PWS Name:		Town:	
6	**Source of Supply**		**Source Type:**	
	Source Name:	**Potential Defect**	**Description of Defect and Corrective Action Taken/Proposed**	**Date Corrected/ Proposed**
	Source Facility ID:			
6.1	Have there been any recent activities (i.e. septic or sewer releases, construction, waste discharges) in the vicinity of the source?	○ Y ○ N ○ N/A		

Signs Of A Failing Septic System

- Sewage/Plumbing Backup into the House
- Sewage Odors in the House
- Slow Draining Sinks and Toilets
- Gurgling Sounds in the Plumbing
- Puddles Forming on the Soil Treatment Area (Drainfield) Surface
- Bad Odors around the Drainfield
- Backflow from the Drainfield into the Septic Tank
- System Alarms Sounding (if present on the system)
- Frozen Pipes or Frozen Soil Treatment Area (Drainfield)
- Algae Blooms or Excessive Plant Growth in Nearby Ponds/Lakes
- High Levels of Nitrates or Coliform Bacteria in Well Water Tests

Sources

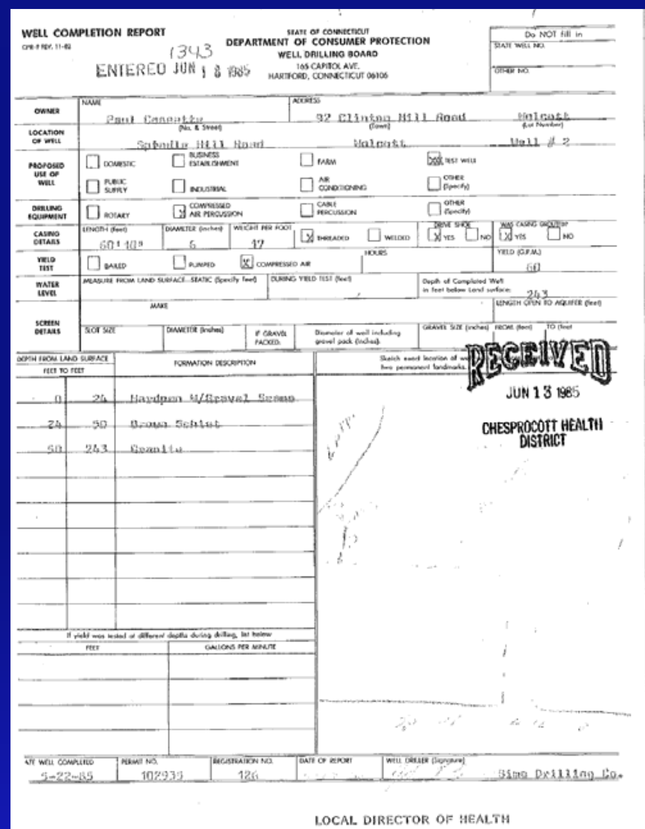
6.2	Are there any holes or unprotected openings in the well casing?	○ Y ○ N ○ N/A		

Sources

6.3	Does the well casing terminate less than 6 inches below established grade or well pit floor?	○ Y ○ N ○ N/A		

Sources

6.4	Does the well casing terminate less than ten feet below the surface or do the casing sections not appear to be joined watertight?	○ Y ○ N ○ N/A		



WELL COMPLETION REPORT

STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION
WELL DRILLING BOARD
165 CAPITOL AVE.
HARTFORD, CONNECTICUT 06106

1343
ENTERED JUN 18 1985

Do NOT fill in
STATE WELL NO.
OTHER NO.

OWNER — NAME: Paul Cannatta — ADDRESS: 92 Clinton Hill Road, Wolcott

LOCATION OF WELL — (No. & Street) Spindle Hill Road — (Town) Wolcott — (Lot Number) Well # 2

PROPOSED USE OF WELL: ☐ DOMESTIC ☐ BUSINESS ESTABLISHMENT ☐ FARM ☒ TEST WELL ☐ PUBLIC SUPPLY ☐ INDUSTRIAL ☐ AIR CONDITIONING ☐ OTHER (Specify)

DRILLING EQUIPMENT: ☐ ROTARY ☒ COMPRESSED AIR PERCUSSION ☐ CABLE PERCUSSION ☐ OTHER (Specify)

CASING DETAILS: LENGTH (feet) 60' 10" — DIAMETER (inches) 6 — WEIGHT PER FOOT 17 — ☒ THREADED ☐ WELDED — DRIVE SHOE ☒ YES ☐ NO — WAS CASING GROUTED? ☒ YES ☐ NO

YIELD TEST: ☐ BAILED ☐ PUMPED ☒ COMPRESSED AIR — HOURS — YIELD (G.P.M.) 60

WATER LEVEL: MEASURE FROM LAND SURFACE—STATIC (Specify feet) — DURING YIELD TEST (feet) — Depth of Completed Well in feet below Land surface: 243

SCREEN DETAILS: MAKE — LENGTH OPEN TO AQUIFER (feet) — SLOT SIZE — DIAMETER (inches) — IF GRAVEL PACKED: Diameter of well including gravel pack (inches) — GRAVEL SIZE (inches) — FROM (feet) — TO (feet)

DEPTH FROM LAND SURFACE FEET	TO FEET	FORMATION DESCRIPTION
0	24	Hardpan W/Gravel Seams
24	50	Brown Schist
50	243	Granite

Sketch exact location of well with two permanent landmarks.

RECEIVED
JUN 13 1985
CHESPROCOTT HEALTH DISTRICT

If yield was tested at different depths during drilling, list below

FEET	GALLONS PER MINUTE

DATE WELL COMPLETED 5-22-85 — PERMIT NO. 102939 — REGISTRATION NO. 126 — DATE OF REPORT — WELL DRILLER (Signature) — Sims Drilling Co.

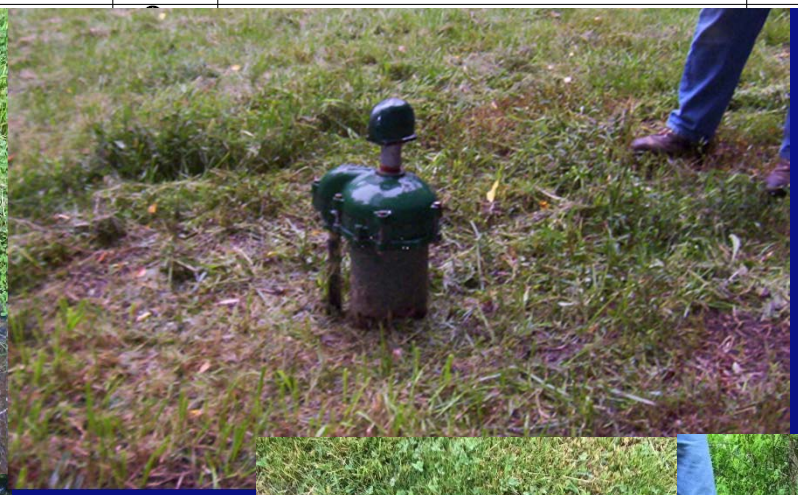
LOCAL DIRECTOR OF HEALTH

Sources

6.5	Is the cover of the dug well watertight and sealed watertight to the casing?	○ Y ○ N ○ N/A		

Sources

6.6	Is the well located in a depressed area where water may collect or is subject to flooding, and has any flooding or ponding occurred?	○ Y ○ N ○ N/A		



Sources

6.7	Is the sanitary seal or well cap improperly installed to the casing and electric conduit, or are they in an unsatisfactory condition?	○ Y ○ N ○ N/A		

Sources

6.8	Does the well lack a vent?	○ Y ○ N ○ N/A		

Sources

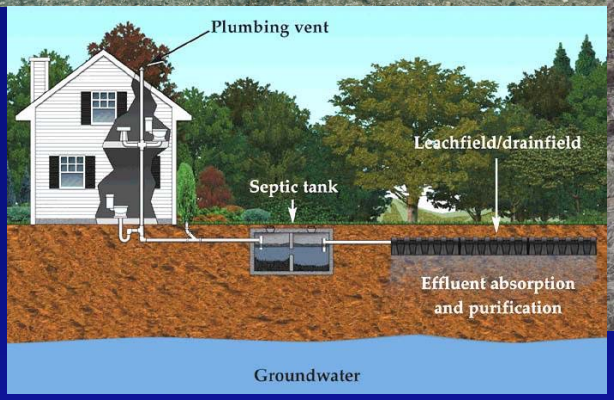
6.9	Is the well vent not shielded or properly screened?	○ Y ○ N ○ N/A		

Sources

6.10	Is the well pit currently flooded or is there any indication that water collects in the pit?	○ Y ○ N ○ N/A		

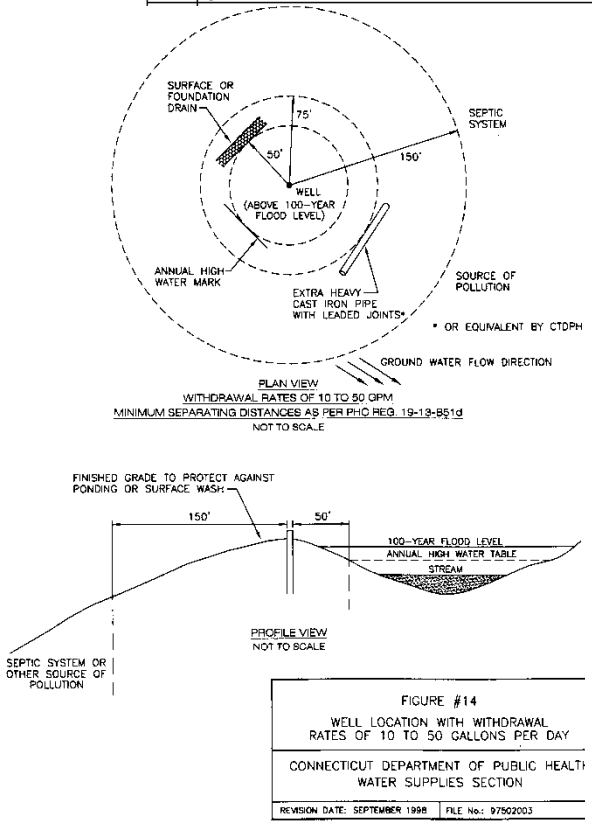
Sources

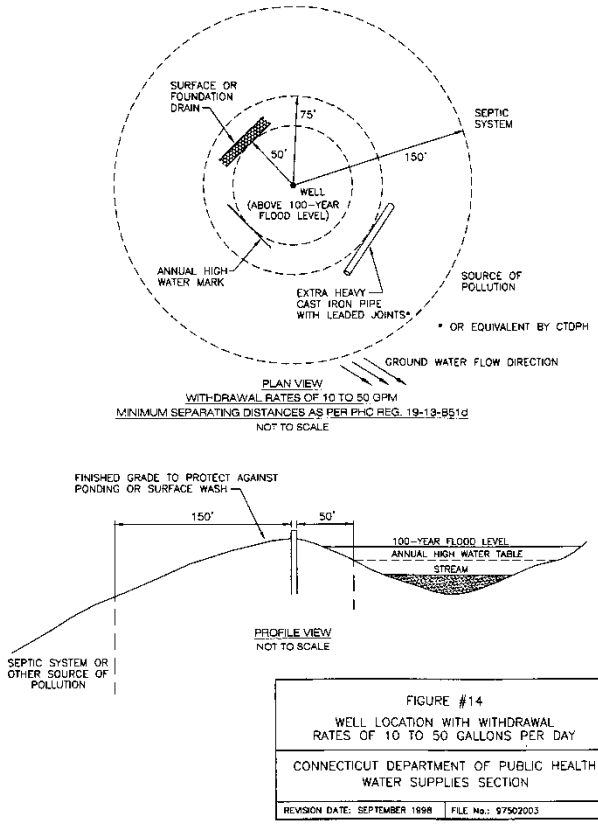
6.11	Is the well pit drain line directly connected to a septic, sewer or storm drain system?	○ Y ○ N ○ N/A		

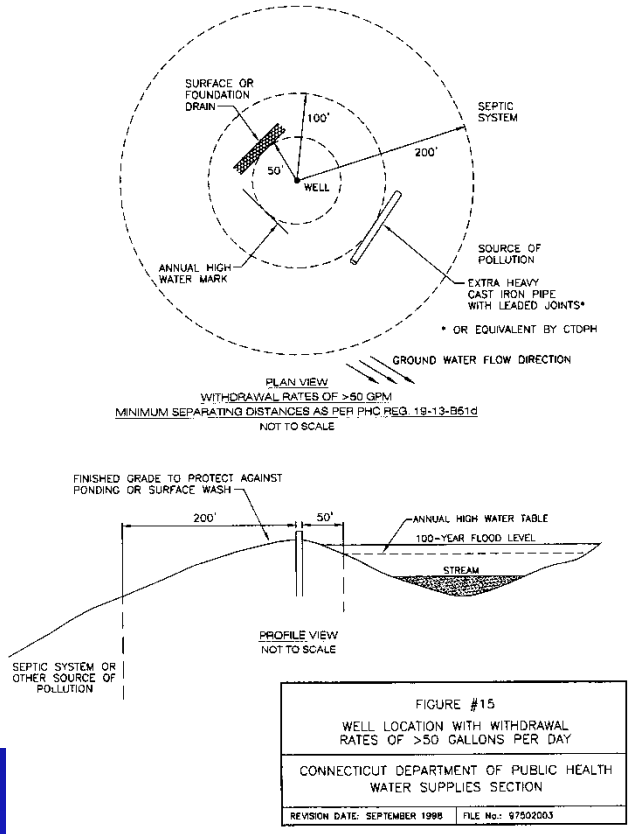


Sources

6.12	Is the source in compliance with separation distance requirements associated with a potential bacterial source?	○ Y ○ N ○ N/A		







Sources

6.12	Is the source in compliance with separation distance requirements associated with a potential bacterial source?	○ Y ○ N ○ N/A		

Sources

6.13	Does the spring box have any breaches, holes or unprotected openings?	○ Y ○ N ○ N/A		

Sources

6.14	Are all spring box hatches appropriately sealed and overflow vents appropriately shielded and screened?	○ Y ○ N ○ N/A		

Sources

6.14	Are all spring box hatches appropriately sealed and overflow vents appropriately shielded and screened?	○ Y ○ N ○ N/A		

Sources

6.15	Does the source have a history of bacteriological contamination?	○ Y ○ N ○ N/A	

Violation Summary Report

Water System Name: 39 Hop Brook Rd - Apt Complex
Water System Town: Brookfield
PWS ID/Type: CT0189971 / C
Population: 36
Food Service Establishment? No

Admin Contact: Mrs. Jeanne L. Miller
Organization: Arc Capital, LLC.
Title: Owner
Phone / Ext: 203-942-8343 /
E-Mail: brookfield@hopbrookcrossing.
Chief Certified Operator(s): Mr. Andrew Hurlbut, Certified

Violation Name (Type)	Analyte / Requirement	Compliance Period	Issue Date	Public Notification Required	Public Notification Received	Water System Facility	Compliance Achieved
CCR ADEQUACY/AVAILABILITY/CONTENT	CONSUMER CONFIDENCE RULE	8/10/2013 -	11/13/2013				
CCR REPORT	CONSUMER CONFIDENCE RULE	7/1/2013 -	11/13/2013				
FAILURE TO RESPOND TO SANITARY SURVEY	SANITARY SURVEY	4/25/2015 -	5/18/2015				
MCL (TCR), ACUTE	COLIFORM (TCR)	2/1/2015 - 2/28/2015	3/27/2015	3/4/2015		DISTRIBUTION SYSTEM	3/31/2015
MCL (TCR), MONTHLY	COLIFORM (TCR)	2/1/2016 - 2/29/2016	3/14/2016	4/13/2016		DISTRIBUTION SYSTEM	
MCL (TCR), MONTHLY	COLIFORM (TCR)	1/1/2016 - 1/31/2016	2/17/2016	3/18/2016		DISTRIBUTION SYSTEM	
MCL, AVERAGE	CHLORIDE	10/1/2015 - 12/31/2015	11/19/2015	12/19/2015	12/2/2015	ENTRY POINT	
MCL, AVERAGE	CHLORIDE	7/1/2015 - 9/30/2015	11/19/2015	12/19/2015	12/2/2015	ENTRY POINT	
MCL, AVERAGE	CHLORIDE	4/1/2015 - 6/30/2015	8/19/2015	9/18/2015	9/15/2015	Entry Point	
MCL, AVERAGE	CHLORIDE	1/1/2015 - 3/31/2015	4/17/2015	5/17/2015	5/4/2015	Entry Point	
MCL, AVERAGE	CHLORIDE	10/1/2014 - 12/31/2014	12/16/2014	1/15/2015	1/9/2015	Entry Point	
MCL, AVERAGE	CHLORIDE	4/1/2014 - 6/30/2014	7/17/2014	8/16/2014	12/16/2014	Entry Point	
MCL, SINGLE SAMPLE	CHLORIDE	7/1/2014 - 9/30/2014	11/28/2014	12/28/2014	12/16/2014	Entry Point	
MONITORING, ROUTINE MAJOR	DI(2-ETHYLHEXYL) PHTHALATE	4/1/2015 - 6/30/2015	9/24/2015			Entry Point	9/9/2015
MONITORING, ROUTINE MAJOR	DI(2-ETHYLHEXYL) ADIPATE	4/1/2015 - 6/30/2015	9/24/2015			Entry Point	9/9/2015
MONITORING, ROUTINE MAJOR	DI(2-ETHYLHEXYL) ADIPATE	1/1/2015 - 3/31/2015	7/6/2015			Entry Point	5/8/2015
MONITORING, ROUTINE MAJOR	DI(2-ETHYLHEXYL) PHTHALATE	1/1/2015 - 3/31/2015	7/6/2015			Entry Point	5/8/2015

Total Violations: 17

Tuesday, March 15, 2016 *Page 1 of 1*

Other Compliance Schedules

Compliance Schedule Activity	Due Date	Achieved Date
SUBMIT LEAD CONSUMER NOTICE CERTIFICATE	3/31/2013	
SUBMIT CCR TO THE DEPARTMENT	6/30/2013	
SUBMIT CCR CERTIFICATION FORM	8/9/2013	
SUBMIT LEAD CONSUMER NOTICE CERTIFICATE	9/28/2013	
SUBMIT LEAD CONSUMER NOTICE CERTIFICATE	3/31/2014	
SUBMIT LEAD CONSUMER NOTICE CERTIFICATE	9/28/2014	
SUBMIT LEAD CONSUMER NOTICE CERTIFICATE	12/29/2014	
ELECTRONIC SUBMISSION-SERVICE AREA DATA	12/31/2014	
RESPOND TO SANITARY SURVEY	4/24/2015	
SUBMIT LEAD CONSUMER NOTICE CERTIFICATE	12/29/2015	
SUBMIT CCR TO THE DEPARTMENT	6/30/2016	
SUBMIT CCR CERTIFICATION FORM	8/9/2016	
CROSS CONNECTION EXEMPTION	3/1/2018	

Public Notification Requirements

Violation/Situation	Compliance Period	Notice Tier	Public Notification Required	Public Notification Performed	PN Certification Due to DPH	PN Certification Received
Total Coliform MCL Violation	2/1/16 - 2/29/16	2	3/15/2016	3/19/2016	3/25/2016	4/6/2016

NOTE: This information has been provided to help owners and operators of public water systems maintain compliance with drinking water quality monitoring requirements. Any inaccuracies contained herein will not relieve the owner or operator of the requirement to maintain compliance with the applicable regulations.

Schedule Generation Date: 5/23/2016 Page 87

Connecticut Department of Public Health Drinking Water Section
Water Quality Monitoring and Compliance Schedule

PWS ID	PWS Name	Classification	Population	Owner Type	Primary Source
CT0189971	39 HOP BROOK RD - APT COMPLEX	C	36	P	GW

Local Address (where applicable)	Service Connections	Residential	Commercial	Industrial	Combined	Agricultural
39 HOP BROOK ROAD		12				

Towns Served: BROOKFIELD

Public Notification Requirements

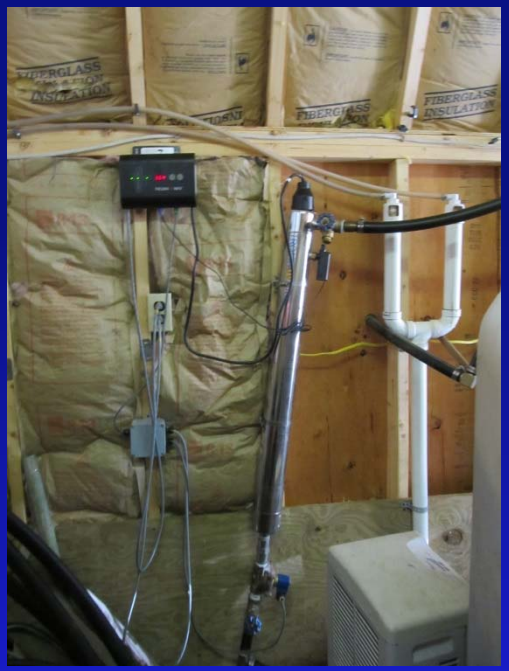
Violation/Situation	Compliance Period	Notice Tier	Public Notification Required	Public Notification Performed	PN Certification Due to DPH	PN Certification Received
Total Coliform MCL Violation	2/1/16 - 2/29/16	1	3/15/2016	3/19/2016	3/25/2016	4/6/2016
Total Coliform MCL Violation	1/1/16 - 1/31/16	2	3/18/2016	2/16/2016	3/28/2016	3/11/2016
Chloride MCL Violation	1/1/16 - 3/31/16	2	5/13/2016		5/23/2016	
Total Coliform MCL Violation	3/1/16 - 3/31/16	2	5/26/2016		6/5/2016	

Treatment Facility

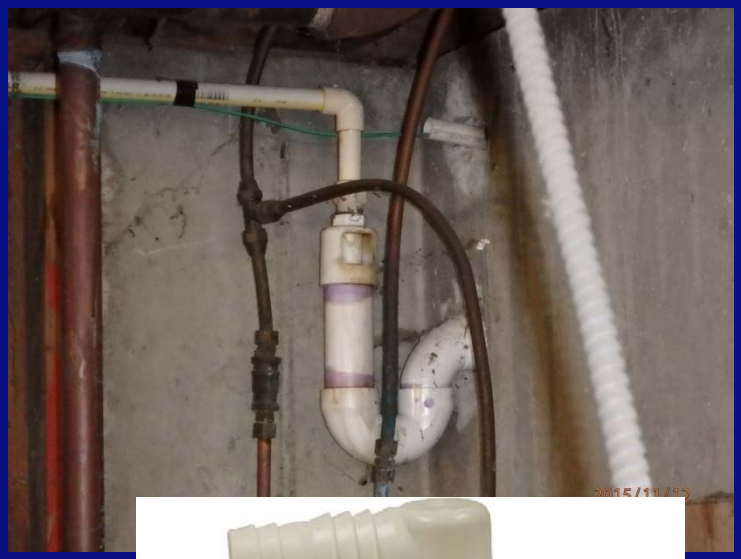
7	Treatment Facility		PWS does not have any treatment facilities	
	Facility Name:	Potential Defect	Description of Defect and Corrective Action Taken/Proposed	Date Corrected/ Proposed
	Treatment Facility ID:			
7.1	Has there been any by-pass in the disinfection treatment process?	Y N N/A		
7.2	Is the filter backwash discharge line directly connected to a drainage pipe or sewer/septic line?	Y N N/A		
7.3	Have there been any interruptions in disinfection treatment (UV, chlorine, etc.)?	Y N N/A		
7.4	Has there been any recent installation or repair to the treatment process?	Y N N/A		
7.5	Have there been any low or inadequate disinfection residual levels?	Y N N/A		
7.6	Is there any evidence of filter or media contamination?	Y N N/A		
7.7	For ultraviolet (UV) disinfection systems, is the well(s) discharge flow rate (pre-UV) above the rated manufacturer's capacity of the UV unit?	Y N N/A		
7.8	For surface water treatment plants was the required inactivation CT being achieved during the time of the recent coliform positive test results?	Y N N/A		
7.9	Is the water treated with a phosphate inhibitor without the system being chlorinated?	Y N N/A		

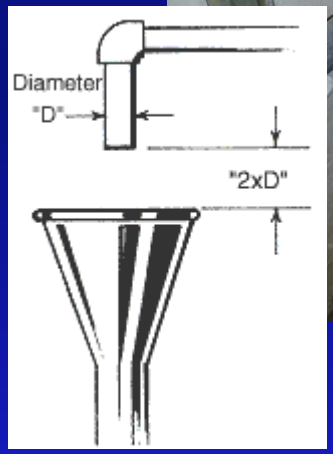
7.1 Has there been any by-pass in the disinfection treatment process?

- Does the treatment system have a bypass?
  -more typical for a UV unit
- Verify the bypass valve is closed.
- If treatment provided is for treating a Maximum Contaminant Level (MCL) a bypass is a significant deficiency and must be removed



7.2 Is the filter backwash discharge line directly connected to a drainage pipe or sewer /septic line?





7.3 Have there been any interruptions in disinfection treatment (UV, chlorine, etc.)?

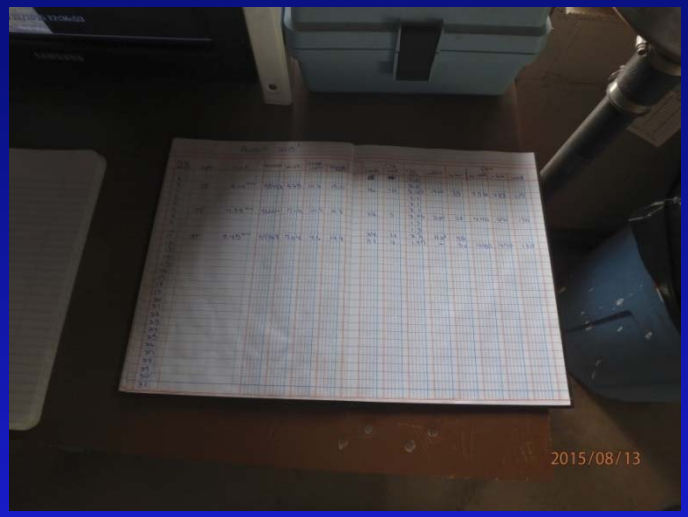
- Disinfection – chlorine feed system
  - Review daily treatment logs
  - Discuss with operator or person handling feed system if day tank ran out, chemical metering pump lost prime (air bound), leak in feed line, etc.
- UV unit
  - Does UV unit have an operating on/off light, dose meter, frequency of checking status, any alarm or is the unit working
  - Quartz sleeve not cleaned
  - Lamp failed and last time replaced
- Failure due to power outage

7.4 Has there been any recent installation or repair to the treatment process?

- Filter media changed
- Filter cartridge changed
- Chemical metering pump replaced
- Use of different chemical
- Etc.

7.5 Have there been any low or inadequate disinfection residual levels?

- Review treatment logs
  - were levels lower than normal
- For disinfection system approved for 4 log inactivation of viruses, did chlorine residual drop below approved minimum
  - Required backup components



7.6 Is there any evidence of filter or media contamination?

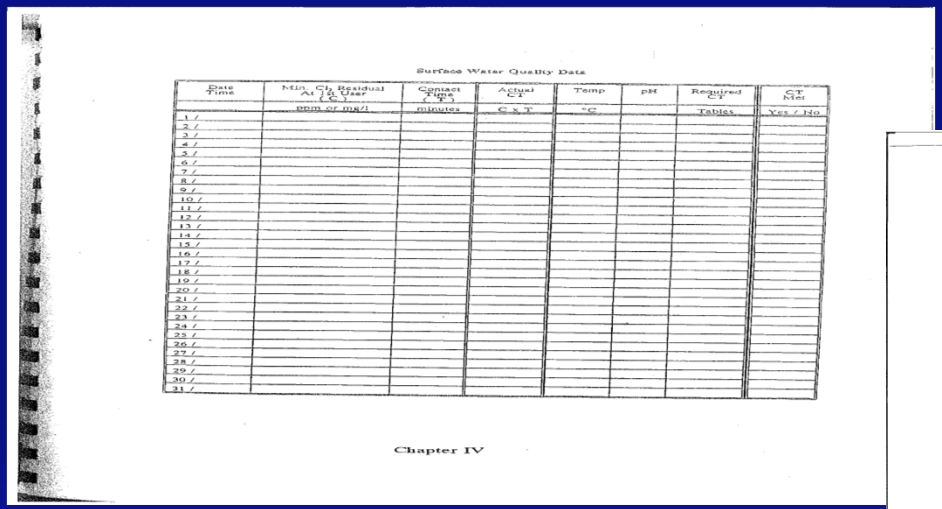
- Was media replaced
- Filter cartridge replaced
  - Not properly stored or handled
- Recommend sample before or after filter

7.7 For ultraviolet (UV) disinfection systems, is the well(s) discharge flow rate (pre-UV) above the rated manufacturer's capacity of the UV unit?

- UV unit operating in excess of rated flow may provide inadequate disinfection
- Determine flow rate of water being treated (typically well pump rate)
  - Meter readings
  - Pump records or other
- Examine UV unit
  - May have flow rating
  - Obtain model number and research

7.8 For surface water treatment plants was the required inactivation CT being achieved during the time of the recent coliform positive test results?

Review CT records



Surface Water Quality Data

Date Time	Min. Cl Residual At Ent. User (C)	Contact Time (T)	Actual CT	Temp	pH	Required CT	CT Met
	ppm or mg/l	minutes	C x T	°C		Tables	Yes / No
1 /							
2 /							
3 /							
4 /							
5 /							
6 /							
7 /							
8 /							
9 /							
10 /							
11 /							
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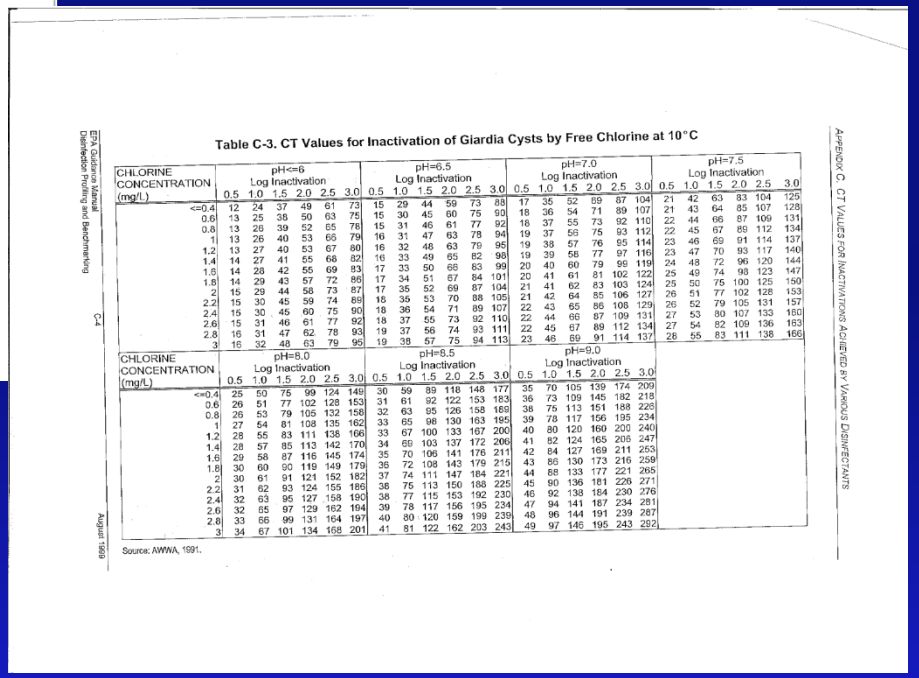
Chapter IV



EPA Guidance Manual Disinfection Profiling and Benchmarking

C-4

August 1999

APPENDIX C CT VALUES FOR INACTIVATIONS ACHIEVED BY VARIOUS DISINFECTANTS

Table C-3. CT Values for Inactivation of Giardia Cysts by Free Chlorine at 10°C

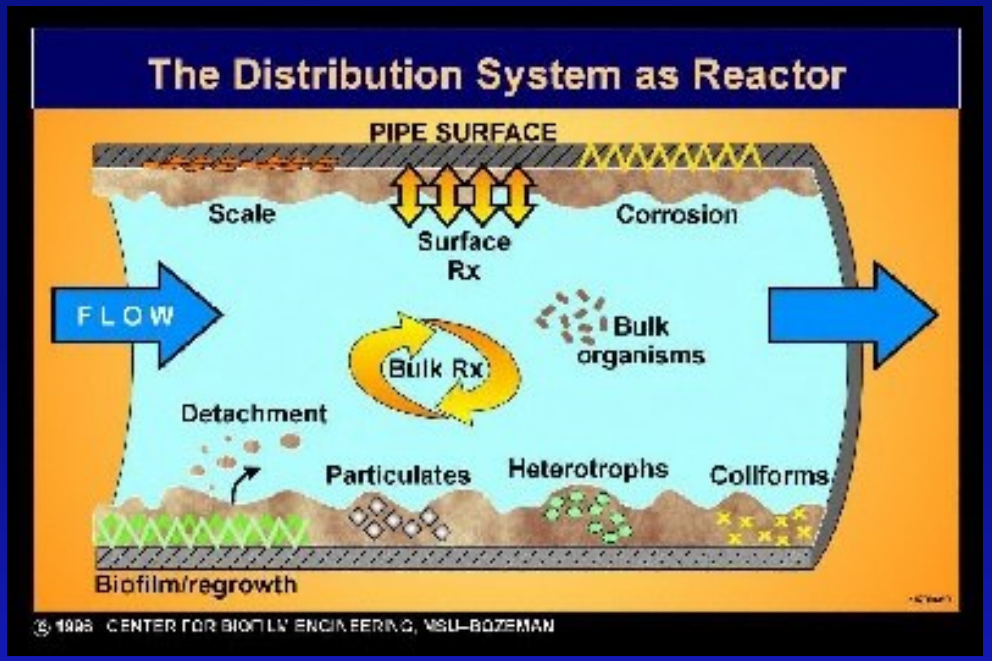
CHLORINE CONCENTRATION (mg/L)	pH<=6 Log Inactivation 0.5	1.0	1.5	2.0	2.5	3.0	pH=6.5 Log Inactivation 0.5	1.0	1.5	2.0	2.5	3.0	pH=7.0 Log Inactivation 0.5	1.0	1.5	2.0	2.5	3.0	pH=7.5 Log Inactivation 0.5	1.0	1.5	2.0	2.5	3.0
<=0.4	12	24	37	49	61	73	15	29	44	59	73	88	17	35	52	69	87	104	21	42	63	83	104	125
0.6	13	25	38	50	63	75	15	30	45	60	75	90	18	36	54	71	89	107	21	43	64	85	107	128
0.8	13	26	39	52	65	78	15	31	46	61	77	92	18	37	55	73	92	110	22	44	66	87	109	131
1	13	26	40	53	66	79	16	31	47	63	78	94	19	37	56	75	93	112	22	45	67	89	112	134
1.2	13	27	40	53	67	80	16	32	48	63	79	95	19	38	57	76	95	114	23	46	69	91	114	137
1.4	14	27	41	55	68	82	16	33	49	65	82	98	19	39	58	77	97	116	23	47	70	93	117	140
1.6	14	28	42	55	69	83	17	33	50	66	83	99	20	40	60	79	99	119	24	48	72	96	120	144
1.8	14	29	43	57	72	86	17	34	51	67	84	101	20	41	61	81	102	122	25	49	74	98	123	147
2	15	29	44	58	73	87	17	35	52	69	87	104	21	41	62	83	103	124	25	50	75	100	125	150
2.2	15	30	45	59	74	89	18	35	53	70	88	105	21	42	64	85	106	127	26	51	77	102	128	153
2.4	15	30	45	60	75	90	18	36	54	71	89	107	22	43	65	86	108	129	26	52	79	105	131	157
2.6	15	31	46	61	77	92	18	37	55	73	92	110	22	44	66	87	109	131	27	53	80	107	133	160
2.8	16	31	47	62	78	93	19	37	56	74	93	111	22	45	67	89	112	134	27	54	82	109	136	163
3	16	32	48	63	79	95	19	38	57	75	94	113	23	46	69	91	114	137	28	55	83	111	138	166

CHLORINE CONCENTRATION (mg/L)	pH=8.0 Log Inactivation 0.5	1.0	1.5	2.0	2.5	3.0	pH=8.5 Log Inactivation 0.5	1.0	1.5	2.0	2.5	3.0	pH=9.0 Log Inactivation 0.5	1.0	1.5	2.0	2.5	3.0
<=0.4	25	50	75	99	124	149	30	59	89	118	148	177	35	70	105	139	174	209
0.6	26	51	77	102	128	153	31	61	92	122	153	183	36	73	109	145	182	218
0.8	26	53	79	105	132	158	32	63	95	126	158	189	38	75	113	151	188	226
1	27	54	81	108	135	162	33	65	98	130	163	195	39	78	117	156	195	234
1.2	28	55	83	111	138	166	33	67	100	133	167	200	40	80	120	160	200	240
1.4	28	57	85	113	142	170	34	69	103	137	172	206	41	82	124	165	206	247
1.6	29	58	87	116	145	174	35	70	106	141	176	211	42	84	127	169	211	253
1.8	30	60	90	119	149	179	35	72	108	143	179	215	43	86	130	173	216	259
2	30	61	91	121	152	182	37	74	111	147	184	221	44	88	133	177	221	265
2.2	31	62	93	124	155	186	38	75	113	150	188	225	45	90	136	181	226	271
2.4	32	63	95	127	158	190	38	77	115	153	192	230	46	92	138	184	230	276
2.6	32	65	97	129	162	194	39	78	117	156	195	234	47	94	141	187	234	281
2.8	33	66	99	131	164	197	40	80	120	159	199	239	48	96	144	191	239	287
3	34	67	101	134	168	201	41	81	122	162	203	243	49	97	146	195	243	292

Source: AWWA, 1991.

7.9 Is the water treated with a phosphate inhibitor without the system being chlorinated?

Adding phosphate to water without a chemical disinfectant may result in a biofilm growth which can harbor bacteria



Storage Facility

8	Storage Facility Facility Name: Storage Facility ID: Storage Type:	Potential Defect	PWS does not have storage facilities Description of Defect and Corrective Action Taken/Proposed	Date Corrected/ Proposed
8.1	Are there any holes or unprotected openings in the atmospheric tank(s)?	Y N N/A		
8.2	Is the hatch on the atmospheric tank not sealed properly?	Y N N/A		
8.3	Are the vents on the atmospheric tank not suitably protected and/or screened?	Y N N/A		
8.4	Is the overflow on the atmospheric tank not suitably protected and/or screened?	Y N N/A		
8.5	Is the overflow not equipped with an air gap?	Y N N/A		
8.6	Was the last atmospheric tank inspection performed more than 10 years ago or does its interior need cleaning or repainting?	Y N N/A		
8.7	Does the air compressor for the hydro-pneumatic storage tank lack an air filter or is the air filter in poor condition?	Y N N/A		
8.8	Is there any evidence of tank failure?	Y N N/A		
8.9	Has there been any work or maintenance conducted on the tank (i.e. cleaning, inspection, repairs, painting, etc.) after which it was not disinfected?	Y N N/A		
8.10	Does the in-ground storage tank not meet minimum separation distance requirements to drains, septic or sewer components?	Y N N/A		

Refer to Storage Tank Design and Construction Guideline on DPH's website

If raw source water samples are clean (absent bacteria) focus should be on tanks and treatment. Special sampling before and after these components is recommended.

8.1 Are there any holes or unprotected openings in the atmospheric tank(s)?

- Inspect tank for openings
- Are vents, overflows, hatches, level tubes, level probes/floats, etc. sealed watertight to the tank.

8.2 Is the hatch on the atmospheric tank not sealed properly?

- Needs watertight gasket
- Should extend above grade

Roof hatches

Not acceptable

- Flush type
- With drain

Acceptable

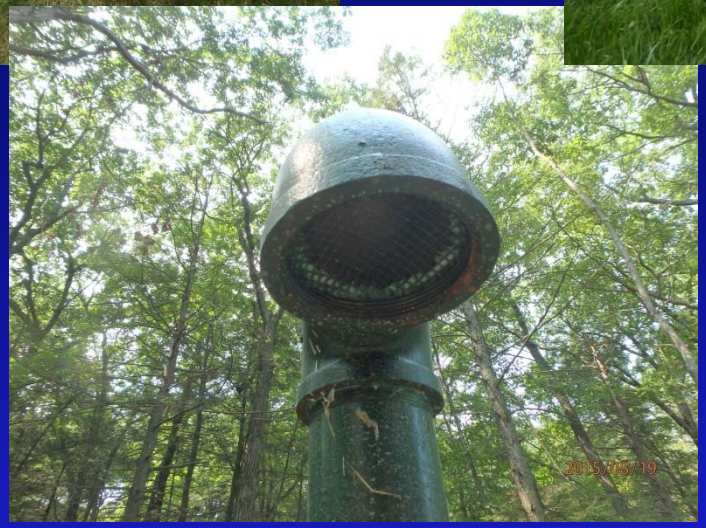
- Closes tightly
- Continuous gasket
- Raised curb
- Overlapping cover
- Sealed to tank watertight

8.3 Are vents on the atmospheric tank not suitably protected and/or screened?

- Protected and shielded to keep out rain and runoff
- Fine mesh screen (i.e. 24 mesh stainless steel) to keep insects out

Fuel type vents not recommended (bugs build nests on them and must be removed to inspect)

DPH Keeping Connecticut Healthy



Drinking Water Section

8.4 Is the overflow on the atmospheric tank not suitably protected and/or screened?

- Protected and shielded to keep out rain or runoff
- Three typical options
  - Screen, flap valve and duck bill valve (or combination)
- Fine screen supported on coarse screen

DPH Keeping Connecticut Healthy

Drinking Water Section

8.5 Is the overflow <u>not</u> equipped with an air gap?

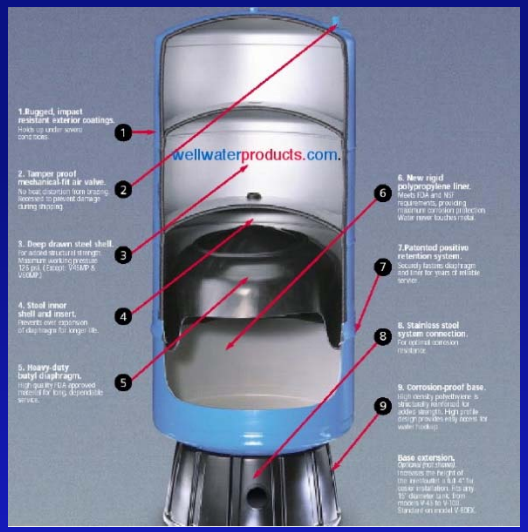
8.6 Was the last atmospheric tank inspection performed more than 10 years ago or does its interior need cleaning or repainting?

- 10 year inspection required for sanitary conditions and structural integrity (Guideline on DPH's website
- Sediment , corrosion or biofilm deposits may harbor bacteria
- Inadequate disinfection upon completion of work

8.7 Does the air compressor for the hydropneumatic storage tank lack an air filter or is the air filter in poor condition?

8.8 Is there any evidence of tank failure?

- Leaks
- Severe corrosion or degradation
- Excessive water demand
- Bladder type pressure tank water logged (may cause premature failure of pump due to excessive cycling)
  - Knock on tank or activate snifter valve



8.9 Has there been any work or maintenance conducted on the tank (i.e. cleaning, inspection, repairs, painting, etc.) after which it was not disinfected?

Inadequate disinfection after completion of work may result in a bacterial contamination

8.10 Does the in-ground storage tank not meet minimum separation distance requirements to drains, septic or sewer components?

- Section 19-13-B102(f)(5)(B) minimum distances from in ground tank
  - 50 feet from subsurface sewage disposal system or sanitary sewer
  - 25 feet from watercourse, storm drain or other source of pollution
  - 25 feet from sewer of septic tight pipe

p. 8 - Level 2 Assessment Form

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Revised Total Coliform Rule Level 2 Assessment Form

PWS ID#: CT	PWS Name:	Town:

RCTR Level 2 Assessor Information

Salutation	First Name	Last Name	RCTR Level 2 Credential Number
Business Phone (Ext.) ( )	E-mail Address		

☐ Check here to certify that the RTCR Level 2 Assessor is not an employee of the public water system identified on this form.

Contact Information for the Public Water System

Salutation	First Name	Last Name
Organization		Job Title
Mailing Address Line One		Mailing Address Line Two
City	State	ZIP Code

Business Phone (Ext.) ( )	Fax	Mobile Phone	Emergency Phone	E-mail Address

Certification

I certify that the information contained herein which is being submitted to the Connecticut Department of Public Health for a drinking water regulatory compliance purpose is complete and accurate and understand that any false statement contained herein is punishable as a criminal offense under section 53a-157b of the Connecticut General Statutes.

Signature of Water System Owner/Legal Contact: Date:

Printed Name of Water System Owner/Legal Contact:_____

Form to be completed based on an examination of the distribution system, water sources, treatment facilities, storage facilities and relevant operational practices data and documents available to the PWS and returned to the department as soon as practical but no later than 30 days after the system has identified that it had exceeded a level 2 treatment technique trigger.

Please return this form to the Drinking Water Section at:

Mail: State of Connecticut
Department of Public Health
Drinking Water Section
410 Capitol Avenue, MS# 51WAT
P.O. Box 340308
Hartford, CT 06134-0308

Email: dwdcompliance@ct.gov

Fax: 860-509-7359

Technical Questions?

Call or email anyone who presented today

Main phone number: 860-509-7333

vicky.carrier@ct.gov

john.czaja@ct.gov

william.sullivan@ct.gov

steve.wallet@ct.gov

Sampling Plan Water Quality Monitoring or Implementation Questions?

Call Carissa Madonna
Or Christopher Roy

Main Phone Number is 860-509-7333

- Carissa Madonna, carissa.madonna@ct.gov
- Christopher Roy, christopher.roy@ct.gov

Tell your Co-Workers about Upcoming Training Events

- Potential RTCR November 22, 2016 here at DOT
- DWS Lead & Copper Rule Compliance Operator Training Course at Goodwin College on November 21, 2016
- ATCAVE 2017 is on February 28, 2017

Drinking Water Section