



Town of Holbrook
Office of Joint Superintendent
(781) 767-1800

RANDOLPH-HOLBROOK JOINT WATER BOARD

50 North Franklin Street
Holbrook, MA 02343



Town of Randolph

March 15, 2023

Commonwealth of Massachusetts
Department of Environmental Protection
Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02374

Monthly Reports Filtered System Forms
Forms F, G, I, J, TT
Analysis for TOC, DOC, SUVA
Chemical Addition Reports
DBPR Compliance Report
February, 2023 Randolph/Holbrook
Joint Water System, PWS #424001

Gentlemen:

Enclosed please find all reports as referenced above for the month of February, 2023. Should there be any questions, please do not hesitate to call me.

Sincerely,

William Platt
Treatment Plant Operator, Third Class

Enclosures

Cc: Board of Health Holbrook
Board of Health Randolph
Brian Howard, Town Manager, Randolph
Ryan Allgrove, EPG



Massachusetts Department of Environmental Protection - Drinking Water Program

SWTR
F

TURBIDITY DATA SHEET FOR FILTERED SYSTEMS

I. PWS INFORMATION:

PWS ID#: 4244001 PWS Name: Randolph-Holbrook Joint Water PWS Town: Randolph
 Treatment Facility Name: Randolph Water Plant Reporting Period: Month: Feb Year: 2013

II. DAILY REPORTING:

Filtered Water Turbidity Measured (check only one):	<input checked="" type="checkbox"/> Combined Filter Effluent	<input type="checkbox"/> Individual Filter Effluent
	<input type="checkbox"/> Clearwell	<input type="checkbox"/> Plant Effluent
Filtration Technology:	<input checked="" type="checkbox"/> Conventional	<input type="checkbox"/> Direct
	<input type="checkbox"/> Alternative	
	Monthly Turbidity (95%) NTU Limit = 0.3	Max Day Turbidity NTU Limit = 1.0
	<input type="checkbox"/> Slow Sand	<input type="checkbox"/> Diatomaceous Earth
	Monthly Turbidity (95%) NTU Limit = 1.0	Max Day Turbidity NTU Limit = 5.0

Day	Max Filtered Water Turbidity Result ² (NTU)	Number of Turbidity Measurements ³	Number of Turbidity Measurements ≤ Monthly (95%) NTU Limit ⁴	Number of Turbidity Measurements > Max Day NTU Limit ⁵
1	0.05	6	6	0
2	0.03	6	6	0
3	6.05	6	6	0
4	0.03	6	6	0
5	0.06	6	6	0
6	0.03	6	6	0
7	0.11	6	6	0
8	0.05	6	6	0
9	0.06	6	6	0
10	0.04	6	6	0
11	0.04	6	6	0
12	0.04	6	6	0
13	0.04	6	6	0
14	0.03	6	6	0
15	0.05	6	6	0
16	0.04	6	6	0
17	0.06	6	6	0
18	0.03	6	6	0
19	0.05	6	6	0
20	0.03	6	6	0
21	0.03	4	4	0
22	0.03	6	6	0
23	0.03	6	6	0
24	0.03	6	6	0
25	0.03	6	6	0
26	0.03	6	6	0
27	0.02	6	6	0
28	0.03	6	6	0
29				
30				
31				
Totals:		166	166	% Turbidity Meeting 95% Limit B/A X 100 % = X (Enter on SWTR - Form G)
		A	B	

- May be used by systems serving less than 10,000 persons, subject to DEP approval.
- Enter the Maximum Filtered Water Turbidity Result recorded each day, at the 4th hour or other approved interval.
- Enter the Total # of Turbidity measurements taken for each day. Measurements must be taken at a minimum of 4-hour intervals (i.e. 6 readings per day). For continuous monitors count each 4-hour period as 1 measurement. Record the actual turbidity result at the specified interval of time. Do not average turbidity measurements. If DEP approved, 15-minute readings (i.e. 96 readings per day) may be submitted. Filtered turbidity data must be kept on file for DEP review.
- Out of the # of turbidity measurements taken and recorded in the previous column, enter the number of turbidity measurements that were less than or equal to the Monthly (95%) NTU Limit for the filtration technology used.
- If at any time the filtered turbidity Max Day NTU Limit is exceeded, the DEP must be notified no later than the end of the next business day. For each exceedance, record the turbidity value(s) and date(s) on SWTR - Form G.

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

PWS Authorized Signature: [Signature] Date: 3/23/23 Title: plant operator
 Phone #: _____ Fax: _____ Email: _____

In accordance with 310 CMR 22.15(2), if mailing paper reports, TWO copies of this report must be received by your MassDEP Regional Office no later than 10 days after the end of the month in which the results are received or no later than 10 days after the end of the monitoring period, whichever is sooner. Please note: Electronic reporting (eDEP) deadline is the same as above.



CT Determination for Filtered Systems

I. PWS INFORMATION:

PWSID#: 4244001 PWS Name: Randolph-Holliston Joint Water PWS Town: Randolph
 Treatment Plant Name: Randolph Water Plant Reporting Period → Month: February Year: 2023
 Disinfectant¹: Chlorine Gas/Electro Eff. Sequence of Application: 1st 2nd 3rd 4th 5 6th

II. DAILY REPORTING: All measurements taken during peak hourly flow.

Day	Peak Hourly Flow ² (gpm)	Disinfectant Concentration ³ C (mg/L)	Disinfectant Contact Time ⁴ T (min.)	CT calc (= C x T)	pH ⁵	Water Temp ⁶ (°C)	CT ⁷ 99.9	Inactivation Ratio ⁸ (CT calc / CT 99.9)	Inactivation Ratio ⁹ < 1.0
1	2400	1.93	50	96.5	6.4	5.5	23	4.2	<input type="checkbox"/> Yes
2	2400	1.97	50	98.5	6.4	5.5	23	4.3	<input type="checkbox"/> Yes
3	2400	1.95	50	97.5	6.3	5.5	23	4.2	<input type="checkbox"/> Yes
4	2400	2.00	50	100	6.4	3.3	25	4.0	<input type="checkbox"/> Yes
5	2400	1.83	50	91.5	6.3	3.9	28.2	4.2	<input type="checkbox"/> Yes
6	2400	1.68	50	84	6.3	3.9	22	3.8	<input type="checkbox"/> Yes
7	2400	1.84	50	92	6.4	4.4	23	4.0	<input type="checkbox"/> Yes
8	2400	2.13	50	106.5	6.4	4.4	23	4.6	<input type="checkbox"/> Yes
9	2400	2.14	50	107	6.4	5.0	23	4.7	<input type="checkbox"/> Yes
10	2400	2.15	50	107.5	6.3	5.5	23	4.7	<input type="checkbox"/> Yes
11	2400	2.00	50	103	6.3	6.1	23	4.5	<input type="checkbox"/> Yes
12	2400	2.02	50	101	6.4	6.7	22	4.6	<input type="checkbox"/> Yes
13	2400	2.30	50	115	6.4	6.7	22	5.2	<input type="checkbox"/> Yes
14	2400	2.26	50	113	6.4	6.1	23	4.9	<input type="checkbox"/> Yes
15	2400	2.10	50	105	6.4	6.1	23	4.6	<input type="checkbox"/> Yes
16	2400	2.05	50	102.5	6.3	6.7	22	4.7	<input type="checkbox"/> Yes
17	2400	1.96	50	98	6.3	6.7	22	4.5	<input type="checkbox"/> Yes
18	2400	2.16	50	108	6.4	7.2	21	5.1	<input type="checkbox"/> Yes
19	2400	2.10	50	105	6.4	7.8	20	5.3	<input type="checkbox"/> Yes
20	2400	1.93	50	96.5	6.3	7.2	21	4.8	<input type="checkbox"/> Yes
21	2400	2.03	50	101.5	6.4	7.2	21	4.8	<input type="checkbox"/> Yes
22	2400	1.53	50	76.5	6.4	7.2	20	3.8	<input type="checkbox"/> Yes
23	2400	1.93	50	96.5	6.4	6.7	22	4.7	<input type="checkbox"/> Yes
24	2400	1.97	50	96	6.4	7.2	21	4.6	<input type="checkbox"/> Yes
25	2400	2.09	50	104.5	6.4	5.5	23	4.5	<input type="checkbox"/> Yes
26	2400	2.04	50	102	6.4	6.1	22	4.6	<input type="checkbox"/> Yes
27	2400	1.99	50	99.5	6.4	5.5	23	4.3	<input type="checkbox"/> Yes
28	2400	2.01	50	100.5	6.4	6.1	22	4.6	<input type="checkbox"/> Yes
29			50						<input type="checkbox"/> Yes
30			50						<input type="checkbox"/> Yes
31			50						<input type="checkbox"/> Yes

1. Use a separate form for each disinfectant/sampling point. Enter disinfectant and sequence position, e.g. "ozone/1st" or "ClO₂/3rd". If more than one disinfectant sampling point, you must also complete SWTR Form H and calculate the cumulative inactivation ratio SUM (CTcalc/CT99.9) to determine compliance.
2. Peak hourly flow means the highest pumpage hour during the day, not the absolute peak flow at any instant.
3. The residual disinfectant concentration(s) ("C") of the water before or at the first customer must be measured each day during peak hourly flow.
4. The disinfectant contact time(s) ("T") must be determined for each day during peak hourly flow. The time T used in calculating CT, is the time it takes the water, during peak hourly flow, to move between the point of disinfection application and the point at which the residual is measured.
5. If the system uses free chlorine, the pH of the disinfected water must be measured at least once per day at each chlorine residual disinfectant concentration sampling point during peak hourly flow.
6. The temperature of the disinfected water must be measured at least once per day at each residual disinfectant concentration sampling point during peak hourly flow.
7. Use Inactivation Tables at 310 CMR 22.20A Tables 1.1 – 1.6, 2.1 and/or 3.1
8. The inactivation ratio (CTcalc/CT99.9) is determined before or at the first customer during peak hourly flow and if the (CTcalc/CT99.9) is < 1.0, the 99.9% *Giardia lamblia* inactivation requirement has not been achieved.
9. More than one "Yes" response above may indicate a SWTR Treatment Technique violation (Tier 2).

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

PWS Authorized Signature: [Signature]
 Date: 3/13/23 Title: Plant Operator



Massachusetts Department of Environmental Protection – Drinking Water Program
CHEMICAL ADDITION REPORT – 310 CMR 11.15(4) Chemical Addition Reporting Requirements

C-ADD

I. PWS Information – Refer to MassDEP "Chemical Addition Report Guidance and Instructions" for details.

PWS Name ¹ :	RANDOLPH-HOLBROOK JW	Town ¹ :	RANDOLPH-HOLBROOK	PWSID ¹ :	424001
Treatment Plant Name ² :	RANDOLPH WATER PLANT	Treatment Plant ID# ² :		Reporting Period ³ :	February 2023
				Month	Year

II. Chemical & Operational Information

Chemical Name ⁴ :	10% SODIUM BISULFATE MEDICAL PHOSPHATES	Purchased Strength ⁵ :		Target Range/min ¹² :	
Manufacturer ⁶ :	CARUS CORPORATION	Purchased Density (lbs/gal) ⁹ :		Target Dose ¹³ :	
Product Name ⁶ :	CARUS 3350	Dilution Factor or Mix Ratio ¹⁰ :		Alarm Setting (low) ¹⁴ :	
Reason for Adding Chemical ⁷ :	CORROSION INHIBITOR	NSF Approved (Y/N) ¹¹ :		Alarm Setting (high) ¹⁴ :	
Date of last anti-siphon valve inspection/replacement ¹⁵ :					

III. Daily Reporting Note: Water quality data reported on C-ADD form may be considered for compliance purposes.

Day	Treated Water ¹⁴ <input type="checkbox"/> Gallons <input type="checkbox"/> MG	Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁵	Chemical Dosage ¹⁸ (mg/L)	Parameters Measured ⁸ , Results, Units and Method ²⁰ - (G)rab or Continuous (A)nalyzer ²¹			O&M Notes/Comments ²² PWS note any equipment breakdown, off-line status, changes in purchased product or batch mixing day, measured parameters or dosages that are out of target range, etc.
		Volume ¹⁷ (gal/day)	Weight ¹⁷ (lbs/day)			a. Finished pH <input type="checkbox"/> G <input type="checkbox"/> A	b. <input type="checkbox"/> G <input type="checkbox"/> A	c. <input type="checkbox"/> G <input type="checkbox"/> A	
1	2.4		50		2.5	6.9			
2	2.7		50		2.2	6.9			
3	2.0		50		3.0	6.9			
4	2.4		50		2.5	6.9			
5	2.7		50		2.2	6.9			
6	2.8		50		2.1	6.9			
7	2.8		50		2.1	7.0			
8	2.5		50		2.4	7.0			
9	2.5		50		2.4	6.9			
10	2.2		50		2.7	6.8			
11	2.5		50		2.4	6.8			
12	2.5		50		2.4	6.8			
13	2.5		50		2.4	6.9			
14	2.5		50		2.4	6.9			
15	2.4		50		2.5	7.0			
16	2.4		50		2.5	6.9			
17	2.5		50		2.4	6.9			
18	2.5		50		2.4	6.9			
19	2.5		50		2.4	6.9			
20	2.4		50		2.5	6.9			
21	1.6		50		3.7	6.9			
22	2.6		50		2.3	7.0			
23	2.5		50		2.4	7.0			
24	2.5		50		2.4	7.0			
25	2.4		50		2.5	7.0			
26	2.4		50		2.5	7.0			
27	2.4		50		2.5	7.0			
28	2.3		50		2.6	6.9			
29									
30									
31									

Total Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary²³:

*Describe result (daily average, min/max, instantaneous reading, grab, etc), sample location (entry-point, before/after filters, tanks, etc.) and instrumentation used (SCADA, chart recorder, test kit, bench, etc.)²⁰:

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

a.

b.

c.

PWS Authorized Person - Signature & Date²⁴:
 3/13/23

Print Name: William Platt Title: Plant Operator



Massachusetts Department of Environmental Protection - Drinking Water Program
CHEMICAL ADDITION REPORT - 310 CMR 22.15(4) Chemical Addition Reporting

C-ADD

Requirements

I. PWS Information - Refer to "MassDEP Chemical Addition Report Guidance and Instructions" for details.

PWS Name ¹ : <i>Randolph-Holbrook JW</i>	Town ¹ : <i>Randolph</i>	PWSID ³ : <i>4244001</i>
Treatment Plant Name ² : <i>Randolph Water Plant</i>	Treatment Plant ID# ² : <i></i>	Reporting Period (Month & Year) ² : <i>February 2023</i>

II. Chemical & Operational Information

Chemical Name ⁴ : <i>Calcium Hydroxide</i>	Purchased Strength (%) ⁴ : <i></i>	Target Range/min ¹² : <i></i>
Manufacturer ⁴ : <i>Carmeuse Lime + Stone</i>	Purchased Density (lbs/gal) ⁴ : <i></i>	Target Dose ¹² : <i></i>
Product Name ⁴ : <i>Hydrated Lime</i>	Dilution Factor or Mix Ratio ¹⁰ : <i></i>	Alarm Setting (low) ¹⁴ : <i></i>
Reason for Adding Chemical ⁵ : <i>pH Adjustment</i>	NSF Approved (Y/N) ¹¹ : <i></i>	Alarm Setting (high) ¹⁴ : <i></i>
Date of last anti-siphon valve inspection/replacement ¹⁵ : <i></i>		

III. Daily Reporting

Note: Water quality data reported on C-ADD form may also be considered for compliance purposes.

Day	Treated Water ¹⁷		Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁶	Chemical Dosage (mg/L) ¹⁸	Parameters Measured ⁷ , Results, Units and Method - (G)rab or Continuous (A)nalyzer ¹¹						O&M Notes/Comments ²²
	<input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Volume (gal/day) ¹⁷	Weight (lbs/day) ¹⁷	a. Finish pH			b.		c.				
1		2.4	50		2.5	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
2		2.7	50		2.2	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
3		2.0	50		3.0	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
4		2.4	50		2.5	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
5		2.7	50		2.2	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
6		2.8	50		2.1	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
7		2.8	50		2.1	7.0	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
8		2.5	50		2.4	7.0	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
9		2.5	50		2.4	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
10		2.2	50		2.7	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
11		2.5	50		2.4	6.8	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
12		2.5	50		2.4	6.8	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
13		2.5	50		2.4	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
14		2.5	50		2.4	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
15		2.4	50		2.5	7.0	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
16		2.4	50		2.5	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
17		2.5	50		2.4	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
18		2.5	50		2.4	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
19		2.5	50		2.4	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
20		2.4	50		2.5	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
21		1.6	50 50		2.5	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A			Basin Cleaning - 02/23/23	
22		2.6	50		2.3	7.0	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
23		2.5	50		2.4	7.0	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
24		2.5	50		2.4	7.0	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
25		2.4	50		2.5	7.0	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
26		2.4	50		2.5	7.0	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
27		2.4	50		2.5	7.0	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
28		2.3	50		2.6	6.9	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
29													
30													
31													
Total	0	0	0		Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary²² : <i></i>								

*Describe result (daily average, min/max, instantaneous reading, grab, etc.) sample location (entry-point, before/after filters, tanks, etc.) and instrumentation used (SCADA, chart recorder, test kit, bench, etc.)²⁰

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

PWS Authorized Person - Signature & Date²¹: *[Signature]* 3/13/23
 Print Name: *William Platt*
 Plant Operator



Massachusetts Department of Environmental Protection - Drinking Water Program

CHEMICAL ADDITION REPORT - 310 CMR 22.15(4) Chemical Addition Reporting

C-ADD

Requirements

I. PWS Information - Refer to "MassDEP Chemical Addition Report Guidance and Instructions" for details.

PWS Name ¹ : <u>Randolph - Holbrook JW</u>	Town ² : <u>Randolph</u>	PWSID ³ : <u>4244001</u>
Treatment Plant Name ⁴ : <u>Randolph Water Plant</u>	Treatment Plant ID# ⁵ : <u></u>	Reporting Period (Month & Year) ⁶ : <u>February 2023</u>

II. Chemical & Operational Information

Chemical Name ¹ : <u>Polyaluminum Chloride</u>	Purchased Strength (%): <u></u>	Target Range/min ² : <u></u>
Manufacturer ³ : <u>Holland Company</u>	Purchased Density (lbs/gal) ⁴ : <u></u>	Target Dose ⁵ : <u></u>
Product Name ⁶ : <u>PCH-180</u>	Dilution Factor or Mix Ratio ⁷ : <u></u>	Alarm Setting (low) ⁸ : <u></u>
Reason for Adding Chemical ⁹ : <u>Coagulation</u>	NSF Approved (Y/N) ¹⁰ : <u>Y</u>	Alarm Setting (high) ¹¹ : <u></u>
Date of last anti-siphon valve inspection/replacement ¹² : <u></u>		

III. Daily Reporting

Note: Water quality data reported on C-ADD form may also be considered for compliance purposes.

Day	Treated Water ¹⁸		Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁹	Chemical Dosage (mg/L) ²⁰	Parameters Measured ²¹ , Results, Units and Method - (G)rab or Continuous (A)nalyzer ²²						O&M Notes/Comments ²³
	<input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Volume (gal/day) ¹⁷	Weight (lbs/day) ¹⁷	a. Raw pH			b.		c.				
				<input checked="" type="checkbox"/> G <input type="checkbox"/> A			<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A				
1	2.7	126	1298	19	7.0								
2	3.0	90	927	12	6.9								
3	2.3	121	1246	21	6.9								
4	2.7	175	1802	26	7.0								
5	2.9	163	1679	23	7.0								
6	3.1	135	1390	18	6.9								
7	3.1	140	1442	18	7.0								
8	2.8	85	978	14	7.0								
9	2.8	115	1184	17	6.9								
10	2.5	124	1277	20	6.9								
11	2.7	110	1133	17	6.9								
12	2.8	106	1092	15	6.9								
13	2.8	115	1184	17	6.9								
14	2.7	97	999	15	7.0								
15	2.8	106	1092	15	7.0								
16	2.7	107	1102	16	6.9								
17	2.8	103	1061	15	6.9								
18	2.8	92	948	13	6.9								
19	2.8	126	1298	18	6.9								
20	2.7	110	1133	17	7.0								
21	2.2	100	1030	18	6.9							Basin Wash - off line 3-11	
22	2.8	109	1123	16	7.0								
23	2.8	107	1102	16	7.0								
24	2.8	115	1184	17	6.9								
25	2.7	100	1030	15	7.0								
26	2.8	130	1334	19	7.0								
27	2.7	130	1334	20	7.0								
28	2.8	128	1318	19	7.0								
29													
30													
31													
Total	0	0	0		Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary ²⁴ : <u></u>								

*Describe result (daily average, min/max, instantaneous reading, grab, etc.) sample location (entry-point, before/after filters, tanks, etc.) and instrumentation used (SCADA, chart recorder, test kit, bench, etc.)²⁵

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

PWS Authorized Person - Signature & Date²⁶: [Signature] 3/13/23

Print Name: William Platt

Plant Operator



Massachusetts Department of Environmental Protection - Drinking Water Program
CHEMICAL ADDITION REPORT - 310 CMR 22.15(4) Chemical Addition Reporting

C-ADD

Requirements

I. PWS Information - Refer to "MassDEP Chemical Addition Report Guidance and Instructions" for details.

PWS Name:	Randolph - Holbrode TW	Town:	Randolph	PWSID:	4244051
Treatment Plant Name:	Randolph Water Plant	Treatment Plant ID#:		Reporting Period (Month & Year):	February 2023

II. Chemical & Operational Information

Chemical Name:	Chlorine	Purchased Strength (%):		Target Range/min ¹² :	
Manufacturer:	AXIALLY LLC	Purchased Density (lbs/gal):		Target Dose ¹³ :	
Product Name:	Chlorine	Dilution Factor or Mix Ratio ¹⁶ :		Alarm Setting (low) ¹⁴ :	
Reason for Adding Chemical:	Disinfection	NSF Approved (Y/N) ¹⁵ :		Alarm Setting (high) ¹⁴ :	
Date of last anti-siphon valve inspection/replacement ¹⁴ :					

III. Daily Reporting

Note: Water quality data reported on C-ADD form may also be considered for compliance purposes.

Day	Treated Water ⁶		Measured Chemical Used		Calculated Chemical Used (lbs) ⁹	Chemical Dosage (mg/L) ⁹	Parameters Measured ⁷ , Results, Units and Method - (G)rab or Continuous (A)nalyzer ¹¹						O&M Notes/Comments ²²	
	<input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Volume (gal/day) ¹⁷	Weight (lbs/day) ¹⁷	a. Free Cl (Avg)			b. Free Cl (Min)		c.					
								<input checked="" type="checkbox"/> G <input type="checkbox"/> A		<input checked="" type="checkbox"/> G <input type="checkbox"/> A		<input type="checkbox"/> G <input type="checkbox"/> A		
1		2.7		60		2.7	2.16	1.93						
2		3.0		80		3.2	2.18	1.97						
3		2.3		82		4.3	2.17	1.95						
4		2.7		80		3.6	2.26	2.00						
5		2.4		78		3.2	2.12	1.83						
6		3.1		76		2.9	2.03	1.68						
7		3.1		75		2.9	2.15	1.84						
8		2.8		85		3.6	2.36	2.13						
9		2.8		89		3.8	2.34	2.14						
10		2.5		86		4.1	2.38	2.15						
11		2.7		86		3.8	2.33	2.06						
12		2.8		93		4.0	2.32	2.02						
13		2.8		90		3.8	2.49	2.30						
14		2.7		90		4.0	2.46	2.26						
15		2.8		87		3.7	2.36	2.10						
16		2.7		82		3.6	2.27	2.05						
17		2.8		81		3.5	2.32	1.96						
18		2.8		88		3.8	2.29	2.16						
19		2.8		89		3.8	2.25	2.10						
20		2.7		78		3.5	2.26	1.93						
21		2.2		57		3.1	2.15	2.03					Basin Cleaning - at PLANT 3/24	
22		2.8		83		3.6	2.37	1.53						
23		2.8		86		3.7	2.08	1.93						
24		2.8		87		3.7	2.21	1.92						
25		2.7		85		3.8	2.27	2.09						
26		2.8		84		3.6	2.20	2.04						
27		2.7		81		3.6	2.17	1.99						
28		2.8		81		3.5	2.25	2.01						
29														
30														
31														
Total	0	0	0			Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary ²¹ :								

*Describe result (daily average, min/max, instantaneous reading, grab, etc.) sample location (entry-point, before/after filters, tanks, etc.) and instrumentation used (SCADA, chart recorder, test kit, bench, etc.)²⁰

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

PWS Authorized Person - Signature & Date¹⁸: *[Signature]* 3/13/23
 Print Name: William Platt
 Plant Operator



Massachusetts Department of Environmental Protection - Drinking Water Program
TURBIDITY - INDIVIDUAL FILTER MONITORING
 For Conventional or Direct Filtered Systems

SWTR

(Page 2 of 2)

DAILY REPORTING

Day	Filter Number: 1		Filter Number: 2		Filter Number: 3		Filter Number: 4	
	³ Max Day NTU	⁴ Max after 4 Hours NTU	³ Max Day NTU	⁴ Max after 4 Hours NTU	³ Max Day NTU	⁴ Max after 4 Hours NTU	³ Max Day NTU	⁴ Max after 4 Hours NTU
1	0.495	0.026	0.324	0.031	0.281	0.281	0.233	0.122
2	0.121	0.026	0.178	0.030	0.259	0.100	0.182	0.065
3	0.210	0.026	0.170	0.029	0.041	-	0.028	-
4	0.025	-	0.031	-	0.133	0.038	0.236	0.088
5	0.207	0.027	0.284	0.032	0.330	0.248	0.376	0.222
6	0.593	0.029	0.236	0.044	0.292	0.239	0.296	0.246
7	0.169	0.048	0.217	0.101	0.296	-	0.128	-
8	0.088	0.027	0.079	-	0.340	0.248	0.244	0.244
9	0.249	0.041	0.187	0.123	0.211	0.100	0.177	0.107
10	0.125	0.024	0.258	0.032	0.146	0.070	0.151	0.048
11	0.187	0.025	0.160	0.032	0.033	-	0.031	-
12	0.024	-	0.032	-	0.156	0.036	0.215	0.087
13	0.185	0.026	0.179	0.033	0.167	0.075	0.207	0.196
14	0.184	0.025	0.216	0.032	0.203	0.041	0.182	0.024
15	0.257	0.025	0.186	0.031	0.032	-	0.043	-
16	0.024	-	0.033	-	0.133	0.034	0.182	0.080
17	0.154	0.026	0.173	0.033	0.127	0.027	0.184	0.177
18	0.126	0.026	0.195	0.033	0.138	0.057	0.156	0.047
19	0.138	0.025	0.138	0.032	0.030	-	0.030	-
20	0.024	-	0.032	-	0.138	0.030	0.116	0.028
21	0.144	0.036	0.151	0.055	0.100	0.047	0.140	0.070
22	0.090	0.026	0.113	0.032	0.056	-	0.065	-
23	0.026	-	0.034	-	0.077	0.029	0.152	0.139
24	0.041	0.026	0.067	0.033	0.052	0.033	0.095	0.044
25	0.040	0.026	0.059	0.033	0.064	0.053	0.122	0.051
26	0.059	0.025	0.103	0.032	0.026	-	0.031	-
27	0.024	-	0.031	-	0.043	0.025	0.094	0.044
28	0.035	0.024	0.046	0.031	0.102	0.053	0.144	0.082
29								
30								
31								

- Systems shall conduct continuous turbidity monitoring of the filter effluent for each individual filter at the filtration facility and record turbidity measurements every 15-minutes. Record the actual turbidity result at the specified interval of time. Do not average turbidity measurements. Individual filter turbidity records must be retained for 3 years and kept on file for MassDEP review.
- Systems serving less than 10,000: If the treatment system has only one or two filters, the supplier may conduct continuous monitoring of the CFE turbidity in lieu of individual filter effluent (IFE) turbidity monitoring. If there are two filters, a continuous turbidity monitor can be installed on the combined filter effluent. If a CFE problem appears, follow-up action must then be completed on both filters.
- Enter the highest daily 15-minute interval turbidity measurement recorded for the filter specified.
- Enter the highest daily 15-minute interval turbidity measurement recorded at the end of the first four hours of continuous filter operation after the filter has been backwashed or otherwise taken offline.

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

PWS Authorized Signature: _____

Date: 3/13/23

Title: Plant Operator



Massachusetts Department of Environmental Protection - Drinking Water Program
 TURBIDITY - INDIVIDUAL FILTER MONITORING
 For Conventional or Direct Filtered Systems

SWTR
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(Page 2 of 2)

DAILY REPORTING

Day	Filter Number: 5		Filter Number: 6		Filter Number: 7		Filter Number: 8	
	³ Max Day NTU	⁴ Max after 4 Hours NTU	³ Max Day NTU	⁴ Max after 4 Hours NTU	³ Max Day NTU	⁴ Max after 4 Hours NTU	³ Max Day NTU	⁴ Max after 4 Hours NTU
1	0.223	0.024	0.341	0.111	0.034	—	0.031	—
2	0.024	—	0.023	—	0.156	0.034	0.180	0.031
3	0.171	0.023	0.176	0.035	0.177	0.033	0.206	0.030
4	0.131	0.024	0.176	0.045	0.100	0.034	0.148	0.028
5	0.216	0.025	0.237	0.675	0.033	—	0.031	—
6	0.025	—	0.050	—	0.173	0.036	0.216	0.033
7	0.280	0.026	0.380	0.146	0.175	0.035	0.252	0.035
8	0.254	0.025	0.245	0.107	0.125	0.034	0.175	0.031
9	0.158	0.025	0.227	0.048	0.034	—	0.031	—
10	0.024	—	0.023	—	0.110	0.034	0.143	0.031
11	0.163	0.025	0.142	0.031	0.100	0.034	0.128	0.030
12	0.141	0.025	0.146	0.034	0.144	0.035	0.203	0.024
13	0.024, 0.162	0.025	0.168	0.044	0.034	—	0.032	—
14	0.024	—	0.031	—	0.156	0.034	0.167	0.031
15	0.218	0.025	0.173	0.036	0.199	0.034	0.243	0.031
16	0.166	0.025	0.165	0.027	0.123	0.035	0.150	0.029
17	0.155	0.026	0.183	0.044	0.034	—	0.031	—
18	0.025	—	0.025	—	0.139	0.036	0.182	0.035
19	0.217	0.025	0.159	0.031	0.099	0.033	0.146	0.030
20	0.129	0.025	0.184	0.038	0.108	0.034	0.129	0.030
21	0.023	—	0.029	—	0.048, 0.33	—	0.032	—
22	0.493	0.027	0.145	0.045	0.126	0.033	0.149	0.033
23	0.111	0.026	0.163	0.025	0.066	0.035	0.102	0.032
24	0.126	0.025	0.136	0.024	0.034	—	0.033	—
25	0.025	—	0.025	—	0.097	0.035	0.087	0.032
26	0.125	0.025	0.142	0.027	0.067	0.034	0.094	0.031
27	0.083	0.024	0.125	0.026	0.090	0.033	0.070	0.030
28	0.067	0.024	0.080	0.023	0.032	—	0.030	—
29								
30								
31								

- Systems shall conduct continuous turbidity monitoring of the filter effluent for each individual filter at the filtration facility and record turbidity measurements every 15-minutes. Record the actual turbidity result at the specified interval of time. Do not average turbidity measurements. Individual filter turbidity records must be retained for 3 years and kept on file for MassDEP review.
- Systems serving less than 10,000: If the treatment system has only one or two filters, the supplier may conduct continuous monitoring of the CFE turbidity in lieu of individual filter effluent (IFE) turbidity monitoring. If there are two filters, a continuous turbidity monitor can be installed on the combined filter effluent. If a CFE problem appears, follow-up action must then be completed on both filters.
- Enter the highest daily 15-minute interval turbidity measurement recorded for the filter specified.
- Enter the highest daily 15-minute interval turbidity measurement recorded at the end of the first four hours of continuous filter operation after the filter has been backwashed or otherwise taken offline.

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

PWS Authorized Signature: [Signature]
 Date: 3/13/23 Title: Chief Plant Operator
 Plant Operator



DBPR TT Compliance Report

I. PWS INFORMATION

PWS ID #: 4244001 City/Town: RANDOLPH
 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Class: COM NTNC TNC

DEP LOCATION (LOC) ID#	DEP Location Name	Date Collected	Collected By
<u>015/10300</u>	<u>RAW WATER/COMBINED FILTER EFFLUENT</u>		
SAMPLE NOTES:			

II. COMPLIANCE CALCULATIONS

Month	# of Paired Samples	A: % Removal of TOC ¹	B: Required % Removal of TOC ²	Met Alternative Compliance Criteria	Alternative Criteria Result(s) ³ (See Below)	A ÷ B ⁴
<u>3/22</u>	<u>1</u>	<u>63</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.80</u>
<u>4/22</u>	<u>1</u>	<u>43</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.23</u>
<u>5/22</u>	<u>1</u>	<u>49</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.40</u>
<u>6/22</u>	<u>1</u>	<u>31</u>	<u>30</u>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<u>TWSUVA</u>	<u>1.00</u>
<u>7/22</u>	<u>1</u>	<u>37</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.06</u>
<u>8/22</u>	<u>1</u>	<u>29</u>	<u>35</u>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<u>TWSUVA</u>	<u>1.00</u>
<u>9/22</u>	<u>1</u>	<u>36</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.03</u>
<u>10/22</u>	<u>1</u>	<u>41</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.17</u>
<u>11/22</u>	<u>1</u>	<u>38</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.09</u>
<u>12/22</u>	<u>1</u>	<u>32</u>	<u>35</u>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<u>TWSUVA</u>	<u>1.00</u>
<u>1/23</u>	<u>1</u>	<u>35</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.00</u>
<u>2/23</u>	<u>1</u>	<u>33</u>	<u>35</u>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<u>TWSUVA</u>	<u>1.00</u>
Sum of Past 12 Months:						
Compliance Value (Sum of Past 12 Months/ 12):						

PWS Authorized Signature: [Signature]Date: 3/13/23

Mail ONE copy of this report to your DEP Regional Office no later than 10 days after the end of the month in which you received this report or no later than 10 days after the end of the reporting period, whichever is sooner.

¹ Percent Removal: $(1 - (\text{Treated Water TOC} \div \text{Raw Water TOC})) \times 100$. If > 1 paired sample sets in any month report the average of all individual percent TOC removals (Example: % TOC Removal = (Average of Set 1 + Average of Set 2) ÷ 2).

² From table at 310 CMR 22.07E(10)(b)2.

³ As listed at 310 CMR 22.07E(10)(a)2 and 310 CMR 22.07E(10)(a)3, summarized as follows:

Alternative Compliance Criteria	Code Value	Result(s) to Report (RAA = Running Annual Average)
Source Water TOC < 2.0 mg/L	SWTOC	RAA of source water TOC
Treated Water < 2.0 mg/L	TWTOC	RAA of treated water TOC
Source Water TOC < 4.0 mg/L AND Alkalinity > 60 mg/L (as CaCO ₃) AND TTHM/HAA5 ≤ 0.040/0.030 mg/L	COMBO	RAA of source water TOC, RAA of source water alkalinity, RAA of TTHM and HAA5
TTHM/HAA5 ≤ 0.040/0.030 mg/L AND only using chlorine	TTHM/HAA5	RAA of TTHM and HAA5
Source Water SUVA ≤ 2.0 L/mg-m	SWSUVA	RAA of treated water SUVA
Treated Water SUVA ≤ 2.0 L/mg-m	TWSUVA	RAA of treated water SUVA
Softening that lowers alkalinity to < 60 mg/L (as CaCO ₃)	SOFT60	RAA of treated water alkalinity
Softening that removes ≥ 10 mg/L (as CaCO ₃) of hardness	SOFT10	RAA of hardness (as CaCO ₃) removal

Note: All supplemental measurements and calculations used to meet the alternative criteria must be attached to this report.

⁴ For any month where the system met an alternative compliance criteria a value of 1.0 may be inserted.

DEP REVIEW STATUS (Initial & Date)	Review Comments
<input type="checkbox"/> Accepted _____ <input type="checkbox"/> Disapproved _____	



Total Organic Carbon (TOC) Report doc rev 12/2020

PWS INFORMATION: Please refer to your DEP Water Quality Sampling Schedule (WQSS) to help complete this form.

PWS ID #: 4244001 City / Town: RANDOLPH

PWS Name: RANDOLPH HOLBROOK WATER BOARD PWS Class: COM [x] NTNC [] TNC []

Table with columns: DEP LOCATION (LOC) ID#, DEP Location Name, Sample Information, Date Collected (Date, Time), Collected By. Includes rows for Great Pond WTP - Raw Water and Combined Filter Effluent.

II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab MA Cert #: M-MA022 Primary Lab Name: Analytical Balance Subcontracted?(Y/N) Y
Analysis Lab MA Cert #: M-RI002 Analysis Lab Name: ESS Laboratory

Table for TOC analysis with columns: TOC Analyzed by (check one), Samples Acidified?, TOC Result (mg/L), Result Qualifier, MDL (mg/L), MRL (mg/L), Dilution Factor, Lab Method, Date Analyzed, Primary Lab Sample ID#, Analytical Lab or PWS Sample ID#.

Surface or GWUDI systems >= 500 persons. Monthly source (raw) water TOC sampling is required at each surface/GWUDI source to qualify for and remain on reduced THM/HAA5 monitoring. Each source must maintain a running annual average source (raw) water TOC level of <= 4.0 mg/L (calculated quarterly). TOC analysis does not require the use of a Massachusetts or EPA certified laboratory.
Surface or GWUDI sources using conventional filtration shall each month (unless monitoring is reduced): take one TOC sample at each treatment plant no later than the point of combined filter effluent turbidity monitoring representative of the treated (finished) water, one TOC source (raw) sample prior to any treatment, and one alkalinity source (raw) water sample - at a time representative

Table for Alkalinity analysis with columns: Alkalinity Analyzed by (check one), ALKALINITY Result (mg/L as CaCO3), Result Qualifier, MDL (mg/L), MRL (mg/L), Dilution Factor, Lab Method, Date Analyzed, Primary Lab Sample ID#, Analytical Lab or PWS Sample ID#.

If using conventional filtration - Raw water alkalinity must be measured at the same time as the raw water TOC sample is collected. Alkalinity analysis does not require the use of a Massachusetts or EPA certified laboratory

Table for Lab Sample Comments with columns: LAB SAMPLE COMMENTS, Result Qualifier, Result Qualifier Description.

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge. Primary Certified Operator or Primary Lab Director Signature: Laurel Stoddard Date: 2/21/2023

In accordance with 310 CMR 22.15(2), if mailing paper reports, TWO copies of this report must be received by your MassDEP Regional Office no later than 10 days after the end of the month in which the results are received or no later than 10 days after the end of the monitoring period, whichever is sooner. Please note: Electronic reporting (eDEP) deadline is the

Table for DEP REVIEW STATUS (Initial & Date) with columns: Accepted, Disapproved, Review Comments, WQTS Data Entered.



CERTIFICATE OF ANALYSIS

Chris Pelleteri
 Randolph - Holbrook Joint Water Board
 50 North Franklin Street
 Holbrook, MA 02343

Project Name: DOC SUVA
 Work Order Number: A3B0174
 Date Received: 02/06/2023

Sampled By: Paul Hennessy
 Location: Raw

Date Sampled: 2/6/23 10:15
 Matrix: Surface Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Detection Limit	DWMCL/ Recommended Limit #	Result
<i>Test Parameters</i>				LAB-ID#: A3B0174-01		
Dissolved Organic Carbon (Average)	5310B	2/7/2023	mg/L	0.500	—	4.26
SUVA	4153	2/7/2023	/100 ml	N/A	—	0.0234
UV 254	5910B	2/7/2023	abs/cm	0.002	—	0.099

Sampled By: Paul Hennessy
 Location: Combined Filter Effluent

Date Sampled: 2/6/23 10:15
 Matrix: Drinking Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Detection Limit	DWMCL/ Recommended Limit #	Result
<i>Test Parameters</i>				LAB-ID#: A3B0174-02		
Dissolved Organic Carbon (Average)	5310B	2/7/2023	mg/L	0.500	—	2.75
SUVA	4153	2/7/2023	/100 ml	N/A	—	0.0232
UV 254	5910B	2/7/2023	abs/cm	0.002	—	0.063

NA = Not Applicable
 ND = Not Detected
 <= Less Than
 >= Greater Than

Approved By: _____

Work Order Narrative:

No unusual observations noted.

Subcontracted Analyses:

ESS Laboratory - Cranston, RI (M-RI002)

Dissolved Organic Carbon 5310B; UVA 254

REVIEWED
 By mgargasz at 9:40 am, Feb 15, 2023



Massachusetts Department of Environmental Protection - Drinking Water Program
CHLORINE/CHLORAMINES - MONTHLY REPORT

CI

I. PWS INFORMATION:

PWS ID #: **4244000** PWS Name: **RANDOLPH WATER DEPARTMENT** City/Town: **RANDOLPH** Class: COM NTNC TNC

II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DBPR monitoring plan to help complete this section.

Type Measured: Free Chlorine Total Chlorine Combined Chlorine
 Analytical Method: SM 4500-Cl: D E F G H ASTM D1253-86

Notes:

DEP Sample Type ^{1,4}	DEP Location Code # ¹	DEP APPROVED SAMPLE SITE INFORMATION ¹	DEP Approved SAMPLE LOCATION ¹	CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³ DATE	TIME	COLLECTED AND ANALYZED BY
RS	003	TOWER HILL SCHOOL - ADAMS STREET		1.93	2/1/23	10:00am	A. PIERRE - LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE		1.73		9:30am	
RS	005	MARTIN E. YOUNG - 30 LOU COURTNEY DRIVE		1.44		9:00am	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET		1.90		11:55am	
RS	008	COMMUNITY MIDDLE SCHOOL - 225 HIGH ST		1.96		10:45am	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE		1.62		9:45am	
RS	012	7 - 11 FOOD SHOP - 676 NORTH STREET		1.47		8:30am	
RS	014 AE	AXP AUTO - 317 NORTH MAIN ST		1.87		8:00am	
RS	016	OAK GROVE STANDPIPE		1.33		10:15am	
RS	017	SOUTH MAIN STREET STANDPIPE		1.17		9:15am	

¹ DEP Sample Type, Location Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan.
² SWTR systems: HPC must be collected at distribution sites with zero chlorine residual and results reported on the DEP Bacteriological Monthly Report form and on the appropriate SWTR Form.
³ Collection and Analysis: Chlorine residual shall be measured in the field (immediately upon collection) at the same time and location in the distribution system as total coliforms are sampled. Record ND values as 0 (zero).
⁴ Sample Type: RS-Routine Distribution Sample, RO-Original Site Repeat, UR-Upstream Repeat, DR-Downstream Repeat, AR-Additional Repeat, or SS-Special Sample (as determined by DEP).
⁵ All DISTRIBUTION samples taken and analyzed shall be included in determining compliance, even if that number is greater than the minimum required. If you collect repeat coliform samples within the distribution system during the month, you must also measure for a detectable chlorine residual at the repeat sites and include these samples. DO NOT include raw water (RW) or plant tap (PT) chlorine residual samples in your calculations.

III. COMPLIANCE REPORTING: Total # of Samples Collected for Month⁵: **66** Average Chlorine Result of All Samples For Month⁵ (mg/L): **1.49**

In accordance with 310 CMR 22.15(2), if mailing paper reports, TWC copies of this report must be received by your MassDEP Regional Office no later than 10 days after the end of the month in which the results are received or no later than 10 days after the end of the monitoring period, whichever is sooner. Please note: Electronic reporting (eDEP) deadline is the same as above.
 certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.
 Primary Certified Operator Signature and Date: 3/13/23

DEP Review Status: Accepted Disapproved Review Comments:



Massachusetts Department of Environmental Protection - Drinking Water Program
CHLORINE/CHLORAMINES - MONTHLY REPORT

C1

I. PWS INFORMATION:

PWS ID #: **4244000**

PWS Name: **RANDOLPH WATER DEPARTMENT**

City/Town: **RANDOLPH**

Class: COM NTNC TNC

Notes: Free Chlorine Total Chlorine Combined Chlorine

II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DBPR monitoring plan to help complete this section.

Analytical Method: SM 4500-Cl: D E F G H ASTM D1253-86

DEP Sample Type ^{1,4}	DEP Location Code # ¹	DEP Approved Sample Location ¹	CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³		COLLECTED AND ANALYZED BY:
				DATE	TIME	
RS	003	TOWER HILL SCHOOL - ADAMS STREET	1.99	8-8-23	10:35 AM	Jason Paterson
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.55		7:20 AM	
RS	005	MARTINE E. YOUNG - 30 LOU COURTNEY DRIVE	1.32		7:50 AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	2.25		11:30 AM	
RS	008	COMMUNITY MIDDLE SCHOOL - 226 HIGH ST	1.99		11:00 AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.50		9:55 AM	
RS	012	7 - 11 FOOD SHOP - 675 NORTH STREET	1.29		9:30 AM	
RS	014 AE	AXP AUTO - 317 NORTH MAIN ST	1.88		8:40 AM	
RS	016	OAK GROVE STANDPIPE	1.34		10:15 AM	
RS	017	SOUTH MAIN STREET STANDPIPE	1.35		8:10 AM	

¹ DEP Sample Type, Location Code#, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan.
² SWTR systems: HPC must be collected at distribution sites with zero chlorine residual and results reported on the DEP Bacteriological Monthly Report form and on the appropriate SWTR Form.
³ Collection and Analysis: Chlorine residual shall be measured in the field (immediately upon collection) at the same time and location in the distribution system as total coliforms are sampled. Record ND values as 0 (zero).
⁴ Sample Type: RS-Routine Distribution Sample, RO-Original Site Repeat, UR-Upstream Repeat, DR-Downstream Repeat, AR-Additional Repeat, or SS-Special Sample (as determined by DEP).
 All DISTRIBUTION samples taken and analyzed shall be included in determining compliance, even if that number is greater than the minimum required. If you collect repeat coliform samples within the distribution system during the month, you must also measure for a detectable chlorine residual at the repeat sites and include these samples. DO NOT include raw water (RW) or plant tap (PT) chlorine residual samples in your calculations.

III. COMPLIANCE REPORTING: Total # of Samples Collected for Month⁵: **66** Average Chlorine Result of All Samples For Month⁵ (mg/L): **1.49**

In accordance with 310 CMR 22.15(2), if mailing paper reports, TWO copies of this report must be received by your MassDEP Regional Office no later than 10 days after the end of the month in which the results are received or no later than 10 days after the end of the monitoring period, whichever is sooner. Please note: Electronic reporting (eDEP) deadline is the same as above.

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

Primary Certified Operator Signature and Date: *[Signature]* 3/13/23

DEP Review Status: Accepted Disapproved Review Comments: _____



Massachusetts Department of Environmental Protection - Drinking Water Program
CHLORINE/CHLORAMINES - MONTHLY REPORT

CI

I. PWS INFORMATION:

PWS ID #: **4244000** PWS Name: **RANDOLPH WATER DEPARTMENT**

City/Town: **RANDOLPH**

Class: COM NTNC TNC

II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DBPR monitoring plan to help complete this section.

Type Measured: Free Chlorine Total Chlorine Combined Chlorine

Analytical Method: SM 4500-Cl D E F G H I ASTM D1253-86

DEP Sample Type ⁴	DEP Location Code # ¹	DEP Approved Sample Location ¹	CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³ DATE	TIME	COLLECTED AND ANALYZED BY:
RS	003	TOWER HILL SCHOOL - ADAMS STREET	1.94	2/27/23	10:00 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.62		8:00 AM	
RS	005	MARTIN E. YOUNG - 30 LOU COURTNEY DRIVE	1.09		9:00 AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	1.89		11:00 AM	
RS	008	COMMUNITY MIDDLE SCHOOL - 225 HIGH ST	1.98		10:30 AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.95		9:30 AM	
RS	012	7 - 11 FOOD SHOP - 675 NORTH STREET	1.13		8:30 AM	
RS	014 AE	AXP AUTO - 317 NORTH MAIN ST	1.87		7:30 AM	
RS	016	OAK GROVE STANDPIPE	1.49		9:45 AM	
RS	017	SOUTH MAIN STREET STANDPIPE	1.44		8:45 AM	

¹ DEP Sample Type, Location Code#, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan.
² SWTR systems: HPC must be collected at distribution sites with zero chlorine residual and results reported on the DEP Bacteriological Monthly Report form and on the appropriate SWTR Form.
³ Collection and Analysis: Chlorine residual shall be measured in the field (immediately upon collection) at the same time and location in the distribution system as total coliforms are sampled. Record ND values as 0 (zero).
⁴ Sample Type: RS-Routine Distribution Sample, RO-Original Site Repeat, UR-Upstream Repeat, DR-Downstream Repeat, AR-Additional Repeat, or SS-Special Sample (as determined by DEP).
 All DISTRIBUTION samples taken and analyzed shall be included in determining compliance, even if that number is greater than the minimum required. If you collect repeat coliform samples within the distribution system during the month, you must also measure for a detectable chlorine residual at the repeat sites and include these samples. DO NOT include raw water (RW) or plant tap (PT) chlorine residual samples in your calculations.

III. COMPLIANCE REPORTING: Total # of Samples Collected for Month⁵: **66** Average Chlorine Result of All Samples For Month⁵ (mg/L): **1.49**

In accordance with 310 CMR 22.19(2), if mailing paper reports, TMO copies of this report must be received by your MassDEP Regional Office no later than 10 days after the end of the month in which the results are received or no later than 10 days after the end of the monitoring period, whichever is sooner. Please note: Electronic reporting (eDEP) deadline is the same as above.

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.
 Primary Certified Operator Signature and Date: W L 3/13/23
 DEP Review Status: Accepted Disapproved Review Comments:



Massachusetts Department of Environmental Protection - Drinking Water Program
COMPLIANCE DETERMINATION FOR FILTERED SYSTEMS - Monthly Report

SWTR
G

I. PWS INFORMATION

PWS ID#: 4244001 PWS Name: Randolph-Halbrook Joint Water PWS Town: Randolph
 Treatment Plant Name: Randolph Water Plant Reporting Period: Month: Feb Year: 2013

II. TURBIDITY PERFORMANCE CRITERIA

1.	Monthly Turbidity (95%) NTU Limit - The turbidity level of a system's filtered water must be less than or equal to the Monthly Turbidity NTU Limit in at least 95% of the measurements taken each month for the filtration technology used, otherwise SWTR TT Violation (Tier 2)		
	<u>166</u>	= A	Total # of filtered water turbidity measurements for month (SWTR - Form F)
	<u>166</u>	= B	Total # of filtered water turbidity measurements less than or equal to the specified limits for the filtration technology used. (SWTR - Form F)
	<u>100</u>	= (B/A) X 100	The percentage of turbidity measurements meeting the Monthly Turbidity 95% NTU Limit.

2.	Max Day NTU Limit - The turbidity level of a system's filtered water must at no time exceed the Max Day NTU Limit for the filtration technology used, otherwise SWTR TT Violation (Tier 2).		
Record the date and turbidity value for any measurements exceeding the Max Day NTU. <input checked="" type="checkbox"/> Check box if "None"			
Date	Value	Date Reported to DEP	
For each day the Max Day NTU limit is exceeded, the DEP must be notified by the end of the next business day. SWTR TT Violation (Tier 2). If DEP is not consulted within 24 hours then it is a SWTR TT (Tier 1) violation requiring public notification within 24 hours.			

III. DISINFECTION PERFORMANCE CRITERIA

1.	Point-of-Entry Minimum Disinfectant Residual Criteria - Residual Disinfectant concentration cannot be <0.2 mg/L for more than 4 hours. SWTR TT Violation (Tier 2).													
Minimum Disinfection Residual at Point-of-Entry to Distribution System														
	Day	Cl ₂ mg/L	Day	Cl ₂ mg/L	Day	Cl ₂ mg/L	Day	Cl ₂ mg/L	Day	Cl ₂ mg/L	Day	Cl ₂ mg/L	Day	Cl ₂ mg/L
	1	<u>1.93</u>	6	<u>1.68</u>	11	<u>2.06</u>	16	<u>2.05</u>	21	<u>2.03</u>	26	<u>2.04</u>	31	
	2	<u>1.97</u>	7	<u>1.84</u>	12	<u>2.02</u>	17	<u>1.96</u>	22	<u>1.53</u>	27	<u>1.99</u>	Residual Measured	
	3	<u>1.95</u>	8	<u>2.13</u>	13	<u>2.30</u>	18	<u>2.16</u>	23	<u>1.93</u>	28	<u>2.01</u>	<input checked="" type="checkbox"/> Free Cl ₂	
	4	<u>2.00</u>	9	<u>2.14</u>	14	<u>2.26</u>	19	<u>2.10</u>	24	<u>1.92</u>	29		<input type="checkbox"/> Total Cl ₂	
	5	<u>1.83</u>	10	<u>2.15</u>	15	<u>2.10</u>	20	<u>1.93</u>	25	<u>2.09</u>	30		<input type="checkbox"/> Combined Cl ₂	

If at any time the residual falls below 0.2 mg/L in the water entering the distribution system, the supplier of water must notify the Department as soon as possible, but no later than by the end of the next business day. The supplier of water also must notify the Department by the end of the next business day whether or not the residual was restored to at least 0.2 mg/L within four hours.

Date(s) Residual < 0.2 mg/L	Duration of Low Level (hrs.)	Date Reported to DEP	Date(s) Residual < 0.2 mg/L	Duration of Low Level (hrs.)	Date Reported to DEP

2. **Distribution System Disinfectant Residual Criteria** - Residual Disinfectant concentration (V) cannot be undetectable in greater than 5% of samples in a month, for any two consecutive months. SWTR TT Violation (Tier 2). Chlorine residuals must be measured at the same time and location as total coliform *distribution routine & repeat* samples. If no residual is detected, an HPC sample must be collected and analyzed.

Total # of HPC samples taken during month: <u>4256</u>			# HPC sites > 500/mL: <u>0</u>	# HPC sites ≤ 500/mL: <u>0</u>
<u>66</u>	= a	# of sites where Cl ₂ residual measurements were made, whether a residual was detected or not (should be the same # of sites reported on your monthly DBPR Cl ₂ residual report)		
<u>0</u>	= b	# of sites HPC samples were analyzed <i>instead of</i> Cl ₂ residual measurements		
<u>0</u>	= c	# of sites where no Cl ₂ residual was detected and no HPC sample was analyzed		
<u>0</u>	= d	# of sites where no Cl ₂ residual was detected and HPC > 500 CFU/mL		
<u>0</u>	= e	# of sites where no Cl ₂ residual measurement was made and HPC > 500 CFU/mL		

Water in the distribution system with a heterotrophic bacteria concentration (HPC) less than or equal to 500/mL, is deemed to have a detectable disinfectant residual for purposes of determining compliance with this requirement. When analyzed, report HPC results on your monthly DEP Bacteriological Report.

$V = \frac{(c + d + e)}{(a + b)} \times 100$	This Month % V = <u>0</u>	Previous Month % V = <u>0</u>	Is V > 5% for 2 months? <u>No</u>
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I certify under penalties of law that I am the PWS Authorized Signature: [Signature] Date: 3/13/23 Title: Plant Operator
 the information contained herein is true, accurate and complete to the best extent of my knowledge. Phone #: _____ Fax: _____ Email: _____

In accordance with 310 CMR 22.15(2), if mailing paper reports, TWO copies of this report must be received by your MassDEP Regional Office no later than 10 days after the end of the month in which the results are received or no later than 10 days after the end of the monitoring period, whichever is sooner. Please note: Electronic reporting (eDEP) deadline is the same as above.