



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

February 15, 2021

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
January, 2022 Randolph/Holbrook
Joint Water System, PWS #424001

Gentlemen:

Enclosed please find all reports as referenced above for the month of January, 2022. Should there be any questions, please do not hesitate to call me.

Sincerely,

William Cookerly
Chief Plant Operator

Enclosures

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



Compliance Determination for Filtered Systems - Monthly Report

I. PWS INFORMATION:

PWSID#: 4244001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: RANDOLPH
 Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period → Month: JANUARY Year: 2022

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>186</u>	= A	Total # of filtered water turbidity measurements for month (SWTR - Form F)
<u>186</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. Check box <input checked="" type="checkbox"/> 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 Disinfectant 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	1.73	6	1.66	11	1.71	16	2.09	21	1.25	26	1.64	31	1.63
2	1.71	7	1.44	12	2.10	17	1.90	22	1.71	27	1.93	Residual Measured <input checked="" type="checkbox"/> Free Cl ₂ <input type="checkbox"/> Total Cl ₂ <input type="checkbox"/> Combined Cl ₂	
3	1.90	8	1.64	13	2.06	18	2.25	23	1.71	28	1.85		
4	1.23	9	2.14	14	2.03	19	1.84	24	1.59	29	1.77		
5	1.59	10	1.84	15	1.87	20	1.96	25	1.62	30	1.52		
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 <u>distribution routine & repeat</u> samples. If no residual is detected, an HPC sample must be collected and analyzed.		
Total # of HPC samples taken during month: <u>66</u>		# HPC sites > 500/mL: <u>0</u>	# HPC sites ≤ 500/mL: <u>66</u>
<u>69</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</i> of 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? <input type="checkbox"/> Yes or <input checked="" type="checkbox"/> No

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true.

2-15-2022 William Cookerly, Chief Operator
 PWS Authorized Signature
 RD-1 DP



Massachusetts Department of Environmental Protection - Drinking Water Program
TURBIDITY DATA SHEET FOR FILTERED SYSTEMS

SWTR
F

PWS INFORMATION:

PWSID#: 4244001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: RANDOLPH
Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period → Month: JANUARY Year: 2020

MEASUREMENT REPORTING:

Filtered Water Turbidity Measured: (check only one) Combined Filter Effluent Individual Filter Effluent Clearwell Plant Effluent

Filtration Technology: Conventional Direct Alternative Slow Sand Diatomaceous Earth
Monthly Turbidity (95%) NTU Limit = 0.3 Max Day Turbidity NTU Limit = 1
Monthly Turbidity (95%) NTU Limit = 1 Max Day Turbidity NTU Limit = 5

Day	Max Filtered Water Turbidity Result (NTU)	Number of Turbidity Measurements	Number of Turbidity Measurements < Monthly (95%) NTU Limit	Number of Turbidity Measurements > Max Day NTU Limit
	.06	6	6	0
	.06	6	6	0
	.07	6	6	0
	.05	6	6	0
	.06	6	6	0
	.08	6	6	0
	.07	6	6	0
	.04	6	6	0
	.04	6	6	0
	.05	6	6	0
	.08	6	6	0
	.08	6	6	0
	.07	6	6	0
	.06	6	6	0
	.08	6	6	0
	.07	6	6	0
	.07	6	6	0
	.08	6	6	0
	.06	6	6	0
	.04	6	6	0
	.04	6	6	0
	.07	6	6	0
	.06	6	6	0
	.06	6	6	0
	.05	6	6	0
	.07	6	6	0
	.07	6	6	0
	.09	6	6	0
	.08	6	6	0
	.05	6	6	0
	.07	6	6	0
Totals:		186	186	0

Turbidity Meeting 95% Limit:
B/A = 100%
(Enter on SWTR - Form G)

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

Use of this document is authorized only for the purpose of reporting data to the DEP. It is not to be used for any other purpose without the written permission of the DEP.

PWS Authorized Signature: William Cook
Date: 2-2-2022 Title: Chief Plant Operator



Massachusetts Department of Environmental Protection - Drinking Water Program
CT Determination for Filtered Systems

SWTR
I

I. PWS INFORMATION:

PWSID#: 4244001 PWS Name: Randolph Hollow Brook Joint Water PWS Town: Randolph
 Treatment Plant Name: Randolph Water Plant Reporting Period → Month: JANUARY Year: 2022
 Disinfectant¹: Chlorine Gas/Volter 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	2,400	1.73	50	86.5	6.10	5.0	17	5.1	<input type="checkbox"/> Yes
2	2,400	1.71	50	85.5	6.05	4.3	17	5.0	<input type="checkbox"/> Yes
3	2,400	1.90	50	95	6.05	4.3	17	5.6	<input type="checkbox"/> Yes
4	2,400	1.23	50	61.5	6.15	5.1	17	3.6	<input type="checkbox"/> Yes
5	2,400	1.59	50	79.5	6.00	4.9	17	4.7	<input type="checkbox"/> Yes
6	2,400	1.66	50	83	6.10	4.2	17	4.9	<input type="checkbox"/> Yes
7	2,400	1.44	50	72	6.15	4.7	17	4.2	<input type="checkbox"/> Yes
8	2,400	1.64	50	82	6.05	5.0	17	4.8	<input type="checkbox"/> Yes
9	2,400	2.14	50	107	5.90	4.5	17	6.3	<input type="checkbox"/> Yes
10	2,400	1.84	50	92	6.10	4.2	17	5.4	<input type="checkbox"/> Yes
11	2,400	1.71	50	85.5	6.00	4.0	17	5.0	<input type="checkbox"/> Yes
12	2,400	2.10	50	105	5.90	4.3	17	6.2	<input type="checkbox"/> Yes
13	2,400	2.06	50	103	5.90	4.7	17	6.1	<input type="checkbox"/> Yes
14	2,400	2.03	50	101.5	6.10	4.0	17	6.0	<input type="checkbox"/> Yes
15	2,400	1.87	50	93.5	6.00	3.9	17	5.5	<input type="checkbox"/> Yes
16	2,400	2.09	50	104.5	5.85	3.8	17	6.2	<input type="checkbox"/> Yes
17	2,400	1.90	50	95	5.90	3.9	17	5.6	<input type="checkbox"/> Yes
18	2,400	2.25	50	112.5	5.90	4.2	17	6.6	<input type="checkbox"/> Yes
19	2,400	1.84	50	92	6.10	4.0	17	5.4	<input type="checkbox"/> Yes
20	2,400	1.96	50	98	5.85	4.6	17	5.8	<input type="checkbox"/> Yes
21	2,400	1.75	50	87.5	6.05	4.7	17	5.2	<input type="checkbox"/> Yes
22	2,400	1.71	50	85.5	6.10	4.5	17	5.0	<input type="checkbox"/> Yes
23	2,400	1.71	50	85.5	6.10	4.8	17	5.0	<input type="checkbox"/> Yes
24	2,400	1.59	50	79.5	6.15	4.8	17	4.7	<input type="checkbox"/> Yes
25	2,400	1.62	50	81	6.20	5.0	17	4.8	<input type="checkbox"/> Yes
26	2,400	1.64	50	82	6.10	5.0	17	4.8	<input type="checkbox"/> Yes
27	2,400	1.93	50	96.5	6.10	4.9	17	5.7	<input type="checkbox"/> Yes
28	2,400	1.85	50	92.5	6.00	4.8	17	5.4	<input type="checkbox"/> Yes
29	2,400	1.77	50	88.5	6.10	4.6	17	5.2	<input type="checkbox"/> Yes
30	2,400	1.52	50	76	6.20	4.6	17	4.5	<input type="checkbox"/> Yes
31	2,400	1.63	50	81.5	6.20	4.2	17	4.8	<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: William Corbett
 Date: 2-2-2022 Title: Chief 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 :	4244001-01T	Reporting Period ² :	JANUARY, 2022

II. Chemical & Operational Information

Chemical Name ⁴ :	POLYALUMINUM CHLORIDE	Purchased Strength ⁸ :	1.0	Target Range/min ¹² :	14
Manufacturer ⁵ :	HOLLAND COMPANY	Purchased Density (lbs/gal) ⁹ :	10.3	Target Dose ¹³ :	18
Product Name ⁶ :	PCH-180	Dilution Factor or Mix Ratio ¹⁰ :	NA	Alarm Setting (low) ¹⁴ :	NA
Reason for Adding Chemical ⁷ :	COAGULATION	NSF Approved (Y/N) ¹¹ :	Y	Alarm Setting (high) ¹⁴ :	NA
		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 ¹⁶		Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁸	Chemical Dosage ¹⁹ (mg/L)	Parameters Measured ⁴ , Results, Units and Method ²⁰ - (G)rab or Continuous (A)nalyzer ²¹			O&M Notes/Comments ²²	
	<input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Volume ¹⁷ (gal/day)	Weight ¹⁷ (lbs/day)	a. RAW Ph DAILY AVG			b.	c.			
1	<input checked="" type="checkbox"/>	2.9	130		1,339	18	6.90	<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	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.
2	<input checked="" type="checkbox"/>	2.7	115		1,185	17	7.00				
3	<input checked="" type="checkbox"/>	2.8	135		1,391	20	6.85				
4	<input checked="" type="checkbox"/>	3.1	130		1,339	17	6.90				
5	<input checked="" type="checkbox"/>	2.6	122		1,257	19	6.95				
6	<input checked="" type="checkbox"/>	2.8	108		1,112	16	6.80				
7	<input checked="" type="checkbox"/>	2.8	120		1,236	18	6.85				
8	<input checked="" type="checkbox"/>	2.7	105		1,082	16	6.75				
9	<input checked="" type="checkbox"/>	2.8	105		1,082	15	6.90				
10	<input checked="" type="checkbox"/>	2.8	115		1,185	17	6.80				
11	<input checked="" type="checkbox"/>	2.7	100		1,030	15	7.00				
12	<input checked="" type="checkbox"/>	2.8	108		1,112	16	6.80				
13	<input checked="" type="checkbox"/>	2.8	113		1,164	17	6.85				
14	<input checked="" type="checkbox"/>	2.8	110		1,133	16	6.80				
15	<input checked="" type="checkbox"/>	2.8	120		1,236	18	6.85				
16	<input checked="" type="checkbox"/>	2.6	120		1,236	19	6.80				
17	<input checked="" type="checkbox"/>	2.8	125		1,236	18	6.85				
18	<input checked="" type="checkbox"/>	2.8	115		1,185	17	6.90				
19	<input checked="" type="checkbox"/>	2.7	145		1,494	22	6.85				
20	<input checked="" type="checkbox"/>	2.8	122		1,257	18	6.95				
21	<input checked="" type="checkbox"/>	2.8	103		1,061	15	6.90				
22	<input checked="" type="checkbox"/>	2.8	105		1,082	15	6.75				
23	<input checked="" type="checkbox"/>	2.8	110		1,133	16	6.80				
24	<input checked="" type="checkbox"/>	2.8	105		1,082	15	6.80				
25	<input checked="" type="checkbox"/>	2.8	105		1,082	15	6.90				
26	<input checked="" type="checkbox"/>	2.8	92		948	13	6.95				
27	<input checked="" type="checkbox"/>	2.8	116		1,195	17	6.85				
28	<input checked="" type="checkbox"/>	2.8	107		1,107	16	6.80				
29	<input checked="" type="checkbox"/>	2.7	124		1,277	19	6.80				
30	<input checked="" type="checkbox"/>	2.8	129		1,329	19	6.85				
31	<input checked="" type="checkbox"/>	2.8	105		1,082	15	6.85				
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:

a. Raw Ph Daily Average Test Kit

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 & Date²⁴:
 William Cookley 2-2-2022

Print Name:
 William Cookley Chief Operator



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

C-ADD

PWS Information - Refer to MassDEF "Chemical Addition Report Guidance and Instructions" for details.					
PWS Name ¹ :	RANDOLPH-HOLBROOK JOINT WATER		Town ¹ :	RANDOLPH-HOLBROOK	
Treatment Plant Name ² :	RANDOLPH WATER PLANT		Treatment Plant ID ² :	424400-01T	Reporting Period ² :
					JANUARY 2022 Month Year

II. Chemical & Operational Information					
Chemical Name ⁴ :	CHLORINE		Purchased Strength ⁴ :	1.0	Target Range/min ¹² :
Manufacturer ⁴ :	AXIALL, LLC		Purchased Density (lbs/gal) ⁴ :	12.3	Target Dose ¹³ :
Product Name ⁴ :	CHLORINE		Dilution Factor or Mix Ratio ¹⁰ :	NA	Alarm Setting (low) ¹⁴ :
Reason for Adding Chemical ⁷ :	DISINFECTANT		NSF Approved (Y/N) ¹¹ :	Y	Alarm Setting (high) ¹⁴ :
			Date of last anti-siphon valve inspection/replacement ¹⁵ :		NA

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

Day	Treated Water ¹⁶ Gallons DMG	Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁸	Chemical Dosage ¹⁹ (mg/L)	Parameters Measured ²⁰ , 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. FREE CL ₂ DAILY AVE		c.	
						EQ □ A	□ G □ A		
1	2.9		95	3.9	2.16	1.73			
2	2.7		89	4.0	2.21	1.71			
3	2.8		91	3.9	2.16	1.90			
4	3.1		94	3.6	2.00	1.23			
5	2.6		84	3.9	2.17	1.59			
6	2.8		80	3.4	2.11	1.66			
7	2.8		82	3.5	1.89	1.44			
8	2.7		90	4.0	2.32	1.64			
9	2.8		84	3.6	2.59	2.14			
10	2.8		85	4.1	2.26	1.84			
11	2.7		87	3.9	2.15	1.71			
12	2.8		76	3.3	2.41	2.10			
13	2.8		89	3.8	2.38	2.06			
14	2.8		88	3.8	2.40	2.03			
15	2.8		81	3.5	2.37	1.87			
16	2.6		82	3.8	2.44	2.09			
17	2.8		85	3.6	2.45	1.90			
18	2.8		80	3.4	2.49	2.25			
19	2.7		80	3.6	2.38	1.84			
20	2.8		96	4.1	2.28	1.96			
21	2.8		85	3.6	2.06	1.75			
22	2.8		90	3.9	2.11	1.71			
23	2.8		90	3.9	2.11	1.71			
24	2.8		85	3.6	1.96	1.59			
25	2.8		86	3.7	1.98	1.62			
26	2.8		82	3.5	1.98	1.64			
27	2.8		93	4.0	2.16	1.93			
28	2.8		88	3.8	2.16	1.85			
29	2.7		78	3.5	2.07	1.77			
30	2.8		79	3.4	1.90	1.52			
31	2.8		89	3.8	1.98	1.63			
Total									

Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary²²:

*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:

a. Daily Average, Free Chlorine, Finished Water, Grab Sample, Test Kit

b. 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.

c. PWS Authorized Person - Signature & Date²⁴:
 William Cookery 2-2-2022
 Print Name: William Cookery Title: Chief 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 :	4244001-01T	Reporting Period ² :	JANUARY 2020 Month Year

II. Chemical & Operational Information

Chemical Name ⁴ :	CALCIUM HYDROXIDE	Purchased Strength ⁵ :	0.85	Target Range/min ¹² :	NA
Manufacturer ⁶ :	CARMEUSE LIME & STONE	Purchased Density (lbs/gal) ⁵ :	18.7	Target Dose ¹³ :	NA
Product Name ⁶ :	HYDRATED LIME	Dilution Factor or Mix Ratio ¹⁰ :	NA	Alarm Setting (low) ¹⁴ :	NA
Reason for Adding Chemical ⁷ :	Ph ADJUSTMENT	NSF Approved (Y/N) ¹¹ :	Y	Alarm Setting (high) ¹⁴ :	NA
		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 ¹⁸		Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁹	Chemical Dosage ¹⁸ (mg/l)	Parameters Measured ²⁰ , Results, Units and Method ²⁰ - (G)rab or Continuous (A)nalyzer ²⁰			O&M Notes/Comments ²²
	<input type="checkbox"/> Gallons	<input type="checkbox"/> MG	Volume ¹⁷ (gal/day)	Weight ¹⁷ (lbs/day)			a. FINISHED Ph	b.	c.	
1			2.8	100	4.3	7.10	<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	100	4.4	7.00				
3			2.7	100	4.4	7.10				
4			3.1	100	3.9	6.90				
5			2.6	100	4.6	7.10				
6			2.7	100	4.4	7.10				
7			2.6	100	4.6	7.05				
8			2.5	100	4.8	7.10				
9			2.7	100	4.4	6.90				
10			2.8	100	4.3	6.95				
11			2.7	100	4.4	7.00				
12			2.7	100	4.4	7.05				
13			2.8	100	4.3	7.05				
14			2.8	100	4.3	6.95				
15			2.8	100	4.3	6.90				
16			2.6	100	4.6	6.90				
17			2.8	100	4.3	7.00				
18			2.8	100	4.3	7.05				
19			2.7	100	4.4	7.05				
20			2.8	100	4.3	7.00				
21			2.8	100	4.3	7.00				
22			2.8	100	4.3	7.10				
23			2.8	100	4.3	7.05				
24			2.8	100	4.3	6.90				
25			2.8	100	4.3	6.95				
26			2.8	100	4.3	7.05				
27			2.8	100	4.3	7.15				
28			2.8	100	4.3	7.05				
29			2.7	100	4.4	7.10				
30			2.8	100	4.3	7.00				
31			2.8	100	4.3	7.10				
Total					Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary ²³ :					

¹⁸Describe 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:

a. Finished Water Ph, Daily Average, Test Kit

b. *[Signature]* 2-2-2020

c. *[Signature]*

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 & Date²⁴:

Print Name: *William Cookerly* Title: *Chief 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 :	4244001-DIT	Reporting Period ³ :	JANUARY 2022
			Month	Year	

II. Chemical & Operational Information

Chemical Name ⁴ :	SODIUM BISULFATE	Purchased Strength ⁵ :	10-15	Target Range/min ¹² :	NA
Manufacturer ⁶ :	CARUS CORPORATION	Purchased Density (lbs/gal) ⁹ :	12.03	Target Dose ¹³ :	NA
Product Name ⁶ :	CARUS 3350	Dilution Factor or Mix Ratio ¹⁰ :	0.33	Alarm Setting (low) ¹⁴ :	NA
Reason for Adding Chemical ⁷ :	CORROSION INHIBITOR	NSF Approved (Y/N) ¹¹ :	Y	Alarm Setting (high) ¹⁴ :	NA
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 ¹⁶ <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁸	Chemical Dosage ¹⁹ (mg/l)	Parameters Measured ²⁰ , Results, Units and Method ²⁰ - (G)rab or Continuous (A)nalyzer ²¹			O&M Notes/Comments ²²	
		Volume ¹⁷ (gal/day)	Weight ¹⁷ (lbs/day)			a. <i>FURNISHED PH</i>	b.	c.		
1	2.8		50		2.1	7.10	<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	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.
2	2.7		50		2.2	7.00				
3	2.7		50		2.2	7.10				
4	3.1		50		1.9	6.90				
5	2.6		50		2.3	7.10				
6	2.7		50		2.2	7.10				
7	2.6		50		2.3	7.05				
8	2.5		50		2.4	7.10				
9	2.7		50		2.2	6.90				
10	2.8		50		2.1	6.95				
11	2.7		50		2.2	7.00				
12	2.7		50		2.2	7.05				
13	2.8		50		2.1	7.05				
14	2.8		50		2.1	6.95				
15	2.8		50		2.1	6.90				
16	2.6		50		2.3	6.90				
17	2.8		50		2.1	7.00				
18	2.8		50		2.1	7.05				
19	2.7		50		2.2	7.05				
20	2.8		50		2.1	7.00				
21	2.8		50		2.1	7.00				
22	2.8		50		2.1	7.10				
23	2.8		50		2.1	7.05				
24	2.8		50		2.1	6.90				
25	2.8		50		2.1	6.95				
26	2.8		50		2.1	7.05				
27	2.8		50		2.1	7.15				
28	2.8		50		2.1	7.05				
29	2.7		50		2.2	7.10				
30	2.8		50		2.1	7.00				
31	2.8		50		2.1	7.10				

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:

a. *Furnished PH, Daily Coverage, Test Kit*

b.

c.

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 & Date²⁴:

William Cook 2-2-2022

Print Name: *William Cook* Title: *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>015/20300</u>	<u>RAW WATER/COMBINED FILTER EFFLUENT</u>	<u>1-3-2022</u>	<u>Bill Coakley</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
2-21	1	38	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.09
3-21	1	38	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.09
4-21	1	35	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.00
5-21	1	42	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.20
6-21	1	38	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.09
7-21	1	42	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.20
8-21	1	46	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.31
9-21	1	43	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.23
10-21	1	45	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.29
11-21	1	43	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.23
12-21	1	43	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.23
1-22	1	39	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.11
Sum of Past 12 Months:						<u>14.07</u>
Compliance Value (Sum of Past 12 Months/ 12):						<u>1.17</u>

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

PWS Authorized Signature: William Coakley
 Date: 2-15-2022

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

I. 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, 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
Analysis Lab MA Cert. #: M-RI002 Analysis Lab Name: ESS Lab Subcontracted?(Y/N) Y

Table for TOC Analyzed by (check one): PWS [] Lab [x]. Columns include TOC Result (mg/L), 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.

Table for Alkalinity Analyzed by (check one): PWS [] Lab [x]. Columns include ALKALINITY Result (mg/L as CaCO3), 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.

Table with columns: LAB SAMPLE COMMENTS, Result Qualifier, Result Qualifier Description. Includes rows A and B.

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: 1/20/2022

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.

DEP REVIEW STATUS (Initial & Date)
[] 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: A2A0035
 Date Received: 01/03/2022

Sampled By: Bill Cookerly
 Location: Raw Water

Date Sampled: 1/3/22 9:00
 Matrix: Surface Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Detection Limit	DW/MCL/Recommended Limit #	Result
<i>Test Parameters</i>				LAB-ID#: <u>A2A0035-01</u>		
Dissolved Organic Carbon (Average)	5310B	1/4/2022	mg/L	0.500	--	4.62
SUVA	4153	1/4/2022	/100 ml	N/A	--	0.0206
UV 254	5910B	1/4/2022	abs/cm	0.002	--	0.095

Sampled By: Bill Cookerly
 Location: Combined Filter Effluent

Date Sampled: 1/3/22 9:00
 Matrix: Drinking Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Detection Limit	DW/MCL/Recommended Limit #	Result
<i>Test Parameters</i>				LAB-ID#: <u>A2A0035-02</u>		
Dissolved Organic Carbon (Average)	5310B	1/4/2022	mg/L	0.500	--	3.05
SUVA	4153	1/4/2022	/100 ml	N/A	--	0.0146
UV 254	5910B	1/4/2022	abs/cm	0.002	--	0.044

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

Approved By: *Lanely Hobbins*

Work Order Narrative:

No unusual observations noted.

Subcontracted Analyses:

BSS Laboratory - Cranston, RI (M-RI002)

Dissolved Organic Carbon 5310B; UVA 254

REVIEWED
 By mgargasz at 11:01 pm, Jan 12, 2022



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

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III. DAILY REPORTING¹

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	0.051000	0.131000	0.049000	0.138000	0.090000	0.089000	0.078000	0.093000
2	0.052000	0.128000	0.055000	0.124000	0.027000	0.061000	0.142000	
3	0.054000		0.054000		0.035000		0.129000	0.071000
4	0.051000	0.333000	0.050000	0.103000	0.181000	0.105000	0.047000	0.046000
5	0.054000	0.280000	0.052000	0.073000	0.052000	0.087000	0.052000	0.086000
6	0.058000	0.152000	0.054000	0.142000	0.033000	0.105000	0.081000	
7	0.055000	0.122000	0.054000		0.026000		0.104000	0.159000
8	0.061000		0.052000	0.114000	0.029000	0.212000	0.052000	0.110000
9	0.057000	0.199000	0.055000	0.304000	0.089000	0.124000	0.046000	0.080000
10	0.060000	0.148000	0.057000	0.313000	0.063000	0.162000	0.119000	
11	0.057000	0.144000	0.065000		0.072000		0.143000	0.165000
12	0.063000		0.063000	0.111000	0.104000	0.131000	0.118000	0.222000
13	0.056000	0.170000	0.056000	0.179000	0.027000	0.153000	0.138000	0.107000
14	0.059000	0.118000	0.056000	0.132000	0.095000	0.121000	0.102000	
15	0.057000	0.188000	0.060000		0.071000		0.125000	0.069000
16	0.065000		0.058000	0.249000	0.131000	0.189000	0.172000	0.323000
17	0.058000	0.304000	0.063000	0.142000	0.107000	0.085000	0.167000	0.143000
18	0.058000	0.121000	0.077000	0.119000	0.128000	0.073000	0.205000	
19	0.060000	0.130000	0.062000		0.077000		0.188000	0.209000
20	0.065000		0.060000	0.219000	0.126000	0.127000	0.106000	0.134000
21	0.063000	0.332000	0.064000	0.149000	0.064000	0.100000	0.089000	0.094000
22	0.064000	0.184000	0.066000	0.244000	0.028000	0.340000	0.057000	0.315000
23	0.067000	0.290000	0.070000	0.209000	0.034000	0.189000	0.053000	0.167000
24	0.075000	0.192000	0.077000	0.158000	0.092000	0.132000	0.156000	0.155000
25	0.075000	0.182000	0.075000	0.236000	0.037000	0.124000	0.122000	0.095000
26	0.074000	0.190000	0.076000	0.129000	0.056000	0.119000	0.085000	0.112000
27	0.069000	0.126000	0.072000	0.129000	0.037000	0.069000	0.047000	0.129000
28	0.065000	0.143000	0.069000	0.134000	0.031000	0.105000	0.190000	0.138000
29	0.064000	0.171000	0.069000	0.160000	0.025000	0.102000	0.034000	0.120000
30	0.068000	0.203000	0.072000	0.269000	0.035000	0.155000	0.052000	0.200000
31	0.068000	0.267000	0.076000	0.184000	0.064000	0.051000	0.259000	0.065000

- 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:

William Gokery
 Chief Operator

Date: 2/14/2022

Title:

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.



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

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III. 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	0.030000	0.083000	0.064000	0.084000	0.029000		0.055000	
2	0.034000		0.029000		0.028000	0.096000	0.055000	0.117000
3	0.030000	0.348000	0.076000	0.122000	0.027000	0.221000	0.049000	0.144000
4	0.030000	0.097000	0.053000	0.036000	0.029000	0.087000	0.058000	0.104000
5	0.035000		0.057000		0.030000		0.058000	
6	0.033000	0.180000	0.094000	0.063000	0.029000	0.130000	0.054000	0.160000
7	0.032000	0.169000	0.041000	0.137000	0.027000	0.147000	0.052000	0.130000
8	0.031000	0.124000	0.040000	0.118000	0.028000	0.134000	0.060000	
9	0.037000	0.098000	0.087000		0.039000		0.058000	0.165000
10	0.045000		0.092000	0.103000	0.030000	0.146000	0.166000	0.144000
11	0.055000	0.039000	0.077000	0.142000	0.030000	0.215000	0.056000	0.139000
12	0.082000	0.168000	0.069000	0.125000	0.027000	0.107000	0.061000	
13	0.040000	0.121000	0.096000		0.032000		0.057000	0.195000
14	0.043000		0.108000	0.118000	0.031000	0.248000	0.062000	0.155000
15	0.040000	0.213000	0.098000	0.125000	0.027000	0.119000	0.059000	0.178000
16	0.037000	0.197000	0.098000	0.132000	0.028000	0.215000	0.064000	
17	0.187000	0.037000	0.108000		0.032000		0.060000	0.165000
18	0.040000		0.469000		0.171000	0.101000	0.065000	0.220000
19	0.039000	0.355000	0.136000	0.272000	0.027000	0.122000	0.061000	0.156000
20	0.038000	0.129000	0.103000	0.092000	0.030000	0.165000	0.065000	
21	0.040000	0.132000	0.099000	0.135000	0.035000	0.034000	0.328000	0.077000
22	0.044000	0.125000	0.154000	0.150000	0.031000	0.126000	0.066000	0.257000
23	0.072000	0.138000	0.201000	0.132000	0.033000	0.152000	0.071000	0.182000
24	0.047000	0.214000	0.083000	0.191000	0.038000	0.157000	0.079000	0.182000
25	0.047000	0.173000	0.076000	0.091000	0.038000	0.137000	0.079000	0.260000
26	0.044000	0.087000	0.082000	0.082000	0.038000	0.131000	0.077000	0.230000
27	0.041000	0.128000	0.084000	0.135000	0.033000	0.061000	0.074000	0.134000
28	0.056000	0.152000	0.045000	0.088000	0.030000	0.114000	0.069000	0.153000
29	0.045000	0.147000	0.108000	0.175000	0.030000	0.101000	0.070000	0.201000
30	0.041000	0.193000	0.130000	0.216000	0.200000	0.200000	0.075000	0.194000
31	0.048000	0.068000	0.225000	0.077000	0.190000	0.190000	0.079000	0.230000

- 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: 2/14/2022

Title: Chief Operator

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.



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

CI

I. PWS INFORMATION:

PWS ID #: **4133000** PWS Name: **TOWN OF HOLBROOK** City/Town: **HOLBROOK** 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
 Notes:

DEP Sample Type ¹	DEP Location Code # ¹	DEP APPROVED SAMPLE SITE INFORMATION ¹		CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³		COLLECTED AND ANALYZED BY:
		DEP Approved SAMPLE LOCATION ¹	DEP Approved SAMPLE LOCATION ¹		DATE	TIME	
RS	001	TOWN HALL		1.22	1/3/2022	07:20	J. Maclane
RS	004	COTTAGE VARIETY		1.40	1/3/2022	07:55	J Maclane
RS	008E	STEWARTS POWER EQUIPMENT		.04	1/3/2022	07:40	J. Maclane
RS	006	COMMUNITY CENTER		.37	1/3/2022	09:00	J Maclane
RS	001	TOWN HALL		1.88	1/10/2022	07:08	T. Duggan
RS	004	COTTAGE VARIETY		2.02	1/10/2022	08:05	T. Duggan
RS	008E	STEWARTS POWER EQUIPMENT		.03	1/10/2022	07:42	T. Duggan
RS	006	COMMUNITY CENTER		.57	1/10/2022	07:42	T. Duggan
RS	001	TOWN HALL		1.60	1/19/2022	07:30	J. Maclane
RS	004	COTTAGE VARIETY		1.35	1/19/2022	08:00	J. Maclane
RS	008E	STEWARTS POWER EQUIPMENT		.06	1/19/2022	07:45	J. Maclane
RS	006	COMMUNITY CENTER		.55	1/19/2022	07:45	J. Maclane
RS	001	TOWN HALL		1.32	1/24/2022	07:20	J. Maclane
RS	004	COTTAGE VARIETY		1.48	1/24/2022	08:10	J. Maclane
RS	008E	STEWARTS POWER EQUIPMENT		.02	1/24/2022	07:45	J. Maclane
RS	006	COMMUNITY CENTER		1.05	1/24/2022	07:45	J. Maclane
RS	001	TOWN HALL		1.17	1/31/2022	07:30	J. Maclane
RS	004	COTTAGE VARIETY		1.36	1/31/2022	07:50	J. Maclane
RS	008E	STEWARTS POWER EQUIPMENT		.05	1/31/2022	08:40	J. Maclane
RS	004	COTTAGE VARIETY		.47	1/31/2022	08:50	J. Maclane

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.
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 Month⁶: **69** Average Chlorine Result of All Samples For Month⁶ (mg/L): **1.42**
 Primary Certified Operator Signature and Date: *William Colby* 2-2-2022

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.
 DEP Review Status: Accepted Disapproved Review Comments:



CHLORINE/CHLORAMINES - MONTHLY REPORT

1. PWS INFORMATION:

PWS ID #: 4244000 PWS Name: RANDOLPH WATER DEPARTMENT

City/Town: RANDOLPH

Class: COW NTNC TNC

II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DEPR 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 D1269-06

Notes:

DEP Sample Type	DEP APPROVED SAMPLE SITE INFORMATION		CHLORINE RESULT (mg/L)	COLLECTION AND ANALYSIS		COLLECTED AND ANALYZED BY
	DEP Location Code	DEP Approved Sample Location		DATE	TIME	
RS	003	TOWNER HILL SCHOOL - ADAMS STREET	2.06	1/16/22	10:00 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.95		7:30 AM	
RS	006	MARTIN E. YOUNG SCHOOL - COURTNEY DRIVE	1.60		8:00 AM	
RS	008	CLAYBURN INN - 1874 NORTH MAIN STREET	1.93		11:00 AM	
RS	008	NORTH MIDDLE SCHOOL - HIGH STREET	2.11		10:30 AM	
RS	011	MOBIL STATION - 66 MAZZEO DRIVE	1.99		9:30 AM	
RS	012	7-11 FOOD SHOP - 676 NORTH STREET	1.03		9:00 AM	
RS	014	EVERKASE - 777 NORTH MAIN STREET	NO ACCESS	DUE TO COVID-19		
RS	016	ASP AUTO - 317 NORTH MAIN ST OAK GROVE STANDPIPE	2.11 1.27		8:30 AM 9:45 AM	
RS	017	SOUTH MAIN STREET STANDPIPE	1.28		8:15 AM	

DEPR Sample Type, Location Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan. SWTR systems that have been collected and analyzed also with zero chlorine residual and results reported on the DEP Analytical Monthly Report form and on the appropriate SWTR Form. Sample Type RS/Residual Chlorine Residual (mg/L) as measured in the field (approximately 100% recovery) at the same time and location in the distribution system as total coliforms are sampled, report this value as 0 (zero). All analytical data must be reported on the DEP Analytical Monthly Report, DEPR Sampling Report, DEPR Sampling Report, or DEPR Sampling Report (as determined by DEP). If you collect representative samples within the distribution system during the month, you must also measure for a detectable chlorine residual at the repeat site and include these samples. DEPR includes raw water (RW) or plant tap (PT) chlorine residual samples in your calculations.

DEPR ANALYSIS INFORMATION: Total Cl of Samples Collected for WWSRF: 69 Average Chlorine Residual of All Samples for WWSRF (mg/L): 1.72

I certify under penalty of law that I am the person authorized to fill out this report and the information furnished herein is true, accurate and complete to the best of my knowledge.

Signature: William G. Kelly
Title: Water Utility Director

DEPR Review Status: Approved Disapproved Review Comments:



CHLORINE CHLORAMINES - MONTHLY REPORT

1. PWS INFORMATION:

PWS ID #: 4244000 PWS Name: RANDOLPH WATER DEPARTMENT City/Town: RANDOLPH Class: CMW NTNG TNG

II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DEP's 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 D1289-06

Notes:

DEP Sample Type	DEP APPROVED SAMPLE SITE INFORMATION		CHLORINE RESULT (mg/L)	COLLECTION AND ANALYSIS		COLLECTED AND ANALYZED BY:
	DEP Location Code #	DEP Approved Sample Location		DATE	TIME	
RS	003	TOWER HILL SCHOOL ... ADAMS STREET	1.58	1/31/22	10:45 AM	A. PIERRE-LOUIS
RS	004	JPK SCHOOL ... 20 HURLEY DRIVE	1.55		8:00 AM	
RS	005	MARTIN E. YOUNG SCHOOL-COURTNEY DRIVE	1.30		8:30 AM	
RS	006	CLAYBANK INN ... 1374 NORTH MAIN STREET	1.59		11:45 AM	
RS	008	NORTH MIDDLE SCHOOL ... HIGH STREET	1.66		11:15 AM	
RS	011	MOBIL STATION ... 80 MAZZEO DRIVE	1.39		10:15 AM	
RS	012	7 ... 11 FOOD SHOP ... 078 NORTH STREET	1.11		9:45 AM	
RS	014	EVERLY ... 177 NORTH MAIN STREET	NO ACCESS	NOVE	COVID-19	
RS	014E	AXY AVE - 317 NORTH MAIN STREET	1.76	TO	9:15 AM	
RS		OAK GROVE STANDPIPE	1.29			
RS		SOUTH MAIN STREET STANDPIPE	1.35		8:15 AM	

DEP Sample Type, Location, Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan. A DEP system that has not been certified as disinfection able with zero chlorine residual and results reported on the DEP Sanitization Monthly Report form are on the appropriate SDWIS Form. Coliform and Average Chlorine Residual are measured in the field (immediately upon collection) at the same time and location in the disinfection system as total coliforms are sampled. Record MPC values as 0 (zero). Sample Type: RS - Routine Chlorine Sample, RC - Routine Chlorine Sample, CP - Continuous Chlorine, CP-Additional Report, or CP-Additional Sample (as determined by DEP). ALL ANALYTICAL SAMPLES TAKEN AND ANALYZED MUST BE INCLUDED IN DETERMINING COMPLIANCE, EVEN IF THAT NUMBER IS GREATER THAN THE NUMBER REQUIRED. If you collect representative samples within the disinfection system during the month, you must also measure for a detectable chlorine residual at the repeat site and include those samples, DO NOT include raw water (RW) or plant tap (PT) chlorine residual samples in your calculations.

III. COMPLIANCE REVIEW RESPONSES: Taken off of samples collected for violation # 69 Average Chlorine Residual for violation # (mg/L): 1.42

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.

DEP Review Status: Approved Disapproved Review Comments:

Primary Certified Operator: [Signature] and Date: 2-22-2022



Massachusetts Department of Environmental Protection - Drinking Water Program
Disinfection Byproducts Rule Compliance Report

DBPR

I. PWS INFORMATION - Please refer to your DBPR Monitoring Plan to help complete this form.

PWS ID #: 4244001 City/Town: RANDOLPH
 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Class: COM NTNC TNC
 Monitoring Period (YEAR): 2022 Monitoring Period (QUARTER): Q1 (Jan-Mar) Q2 (Apr-Jun) Q3 (Jul-Sep) Q4 (Oct-Dec)

II. FOR SYSTEMS USING CHLORINATION

A. Trihalomethanes (THM)
 Total Number of THM Samples: _____ Quarterly Average: _____ µg/L
 Was the Running Annual Average MCL (80 µg/L) exceeded? Yes No Running Annual Average: _____ µg/L

B. Haloacetic Acids (HAA5)
 Total Number of HAA5 Samples: _____ Quarterly Average: _____ µg/L
 Was the Running Annual Average MCL (60 µg/L) exceeded? Yes No Running Annual Average: _____ µg/L

C. Chlorine/Chloramines

Total Number of Samples:	Month 1:	<u>69</u> <u>JAN.</u>	Monthly Averages: (report all 3 months per quarter)	<u>1.42</u> mg/L	Quarterly Average: <u>1.42</u> mg/L
	Month 2:	<u>FEB.</u>		mg/L	
	Month 3:	<u>MARCH</u>		mg/L	

 Was the Running Annual Average MRDL (4.0 mg/L) exceeded? Yes No Running Annual Average: 1.18 mg/L

D. Total Organic Carbon - raw (TOC) (Required for SW or GWUDI Plant Name: _____
systems >499 seeking or approved to reduce THM/HAA5 monitoring.)
 Total Number of Samples: _____ Monthly Averages: _____ mg/L
 (report all 3 months per quarter)
 Was the (4.0 mg/L) threshold exceeded? Yes No Quarterly Average: _____ mg/L
 Running Annual Average: _____ mg/L
(Attach additional sheet(s) to report more than 1 plant)

III. FOR SYSTEMS USING OZONATION

E. Bromate (treated) Plant Name: _____

Total Number of Samples:	Month 1:		Monthly Averages: (report all 3 months per quarter)	mg/L	Quarterly Average: _____ mg/L
	Month 2:			mg/L	
	Month 3:			mg/L	

 Was the Running Annual Average MCL (0.010 µg/l) exceeded? Yes No Running Annual Average: _____ mg/L

F. Bromide (raw) Plant Name: _____
Required for systems seeking or approved to reduce Bromate monitoring

Total Number of Samples:	Month 1:		Monthly Averages: (report all 3 months per quarter)	mg/L	Quarterly Average: _____ mg/L
	Month 2:			mg/L	
	Month 3:			mg/L	

 Was the (0.05 mg/l) threshold exceeded? Yes No Running Annual Average: _____ mg/L

IV. FOR SYSTEMS USING CHLORINE DIOXIDE

I certify under penalty 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: William Costello Date: 2-15-2022

DEFINITION	
MONTHLY AVERAGE:	Monthly average = average of all results within the current month.
QUARTERLY AVERAGE:	Quarterly Average = average result of all locations sampled during monitoring period
RUNNING ANNUAL AVERAGE:	Running Annual Average = Average of 4 quarters. Average of this quarter and three prior consecutive quarterly averages (for systems on quarterly monitoring)
TOTAL NUMBER OF SAMPLES:	Total number of samples collected during the monitoring period.

NOTE: Record and calculate all ND or <MDL results as the number zero (0).

Submit one copy of this form each quarter to your DEP regional office (by Jan 10th, April 10th, July 10th, and Oct 10th of each year)

DEP REVIEW STATUS (Initial & Date)

<input checked="" type="checkbox"/> Accepted	<input type="checkbox"/> Disapproved	Review Comments
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