



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

November 10, 2022

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

Gentlemen:

Enclosed please find all reports as referenced above for the month of October, 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#: 1244001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: RANDOLPH
 Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period → Month: OCTOBER 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) × 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 if "None"

Date	Value	Date Reported to DEP	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	<u>1.83</u>	6	<u>2.05</u>	11	<u>1.96</u>	16	<u>2.50</u>	21	<u>1.87</u>	26	<u>1.64</u>	31	<u>2.14</u>
2	<u>2.00</u>	7	<u>2.10</u>	12	<u>2.20</u>	17	<u>2.18</u>	22	<u>1.79</u>	27	<u>2.00</u>	Residual Measured <input checked="" type="checkbox"/> Free Cl ₂ <input type="checkbox"/> Total Cl ₂ <input type="checkbox"/> Combined Cl ₂	
3	<u>2.02</u>	8	<u>2.00</u>	13	<u>2.14</u>	18	<u>2.21</u>	23	<u>1.87</u>	28	<u>2.12</u>		
4	<u>2.15</u>	9	<u>1.98</u>	14	<u>2.10</u>	19	<u>1.72</u>	24	<u>2.00</u>	29	<u>2.01</u>		
5	<u>2.19</u>	10	<u>1.90</u>	15	<u>2.60</u>	20	<u>1.79</u>	25	<u>2.07</u>	30	<u>2.05</u>		
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) Residuals < 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: 80 # HPC sites > 500/mL: 0 # HPC sites ≤ 500/mL: 0

<u>80</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 instead 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 = Previous Month % V = Is V > 5% for 2 months? YES NO

I certify under penalty of law that I am the person authorized to sign this report and the information contained herein is true. PWS Authorized Signature: Nathan Cooksey 11-14-2022



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: OCTOBER Year: 2022

DETAIL 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
	.04	6	6	0
	.05	6	6	0
	.05	6	6	0
	.04	6	6	0
	.04	6	6	0
	.06	6	6	0
	.05	6	6	0
	.05	6	6	0
	.04	6	6	0
	.04	6	6	0
	.06	6	6	0
	.06	6	6	0
	.05	6	6	0
	.04	6	6	0
	.05	6	6	0
	.05	6	6	0
	.06	6	6	0
	.06	6	6	0
	.06	6	6	0
	.04	6	6	0
	.04	6	6	0
	.06	6	6	0
	.04	6	6	0
	.06	6	6	0
	.05	6	6	0
	.04	6	6	0
	.07	6	6	0
	.06	6	6	0
	.05	6	6	0
	.07	6	6	0
	.04	6	6	0
Totals:		186	186	0

% Turbidity Meeting 95% Limit
 B/A x 100% = X
 (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

Unauthorized use, reproduction, or distribution of this document is prohibited. For more information, contact the DEP at 617-991-2000.

PWS Authorized Signature: William Cooksey
 Date: 11-1-2022 Title: Chief Operator



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

SWTR
I

I. PWS INFORMATION:

PWSID#: 4244001 PWS Name: Randolph-Hillbrook Joint Water PWS Town: Randolph
 Treatment Plant Name: Randolph Water Plant Reporting Period → Month: OCTOBER Year: 2022
 Disinfectant¹: Chlorine Gas/Ester 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	1.83	50	91.5	6.30	14.0	17	5.4	<input type="checkbox"/> Yes
2	2,400	2.00	50	100	6.25	14.0	17	5.9	<input type="checkbox"/> Yes
3	2,400	2.02	50	101	6.20	13.6	17	5.9	<input type="checkbox"/> Yes
4	2,400	2.15	50	107.5	6.15	13.4	17	6.3	<input type="checkbox"/> Yes
5	2,400	2.19	50	109.5	6.15	13.6	17	6.4	<input type="checkbox"/> Yes
6	2,400	2.05	50	102.5	6.10	13.0	17	6.0	<input type="checkbox"/> Yes
7	2,400	2.10	50	105	6.15	12.9	17	6.2	<input type="checkbox"/> Yes
8	2,400	2.00	50	100	6.20	12.8	17	5.9	<input type="checkbox"/> Yes
9	2,400	1.98	50	99	6.25	13.0	17	5.8	<input type="checkbox"/> Yes
10	2,400	1.90	50	95	6.30	13.0	17	5.6	<input type="checkbox"/> Yes
11	2,400	1.96	50	98	6.20	13.1	17	5.8	<input type="checkbox"/> Yes
12	2,400	2.20	50	110	6.25	13.7	17	6.5	<input type="checkbox"/> Yes
13	2,400	2.14	50	107	6.30	13.3	17	6.3	<input type="checkbox"/> Yes
14	2,400	2.10	50	105	6.20	14.0	17	6.2	<input type="checkbox"/> Yes
15	2,400	2.60	50	130	6.15	13.6	17	7.6	<input type="checkbox"/> Yes
16	2,400	2.50	50	125	6.20	13.7	17	7.4	<input type="checkbox"/> Yes
17	2,400	2.18	50	109	6.20	12.8	17	6.4	<input type="checkbox"/> Yes
18	2,400	2.21	50	110.5	6.25	12.3	17	6.5	<input type="checkbox"/> Yes
19	2,400	1.72	50	86	6.20	11.4	17	5.1	<input type="checkbox"/> Yes
20	2,400	1.79	50	89.5	6.25	11.2	17	5.3	<input type="checkbox"/> Yes
21	2,400	1.87	50	93.5	6.30	11.8	17	5.5	<input type="checkbox"/> Yes
22	2,400	1.79	50	89.5	6.25	11.9	17	5.3	<input type="checkbox"/> Yes
23	2,400	1.87	50	93.5	6.20	12.4	17	5.5	<input type="checkbox"/> Yes
24	2,400	2.00	50	100	6.20	12.6	17	5.9	<input type="checkbox"/> Yes
25	2,400	2.07	50	103.5	6.15	12.9	17	6.1	<input type="checkbox"/> Yes
26	2,400	1.64	50	82	6.30	12.0	17	4.8	<input type="checkbox"/> Yes
27	2,400	2.00	50	100	6.15	11.6	17	5.9	<input type="checkbox"/> Yes
28	2,400	2.12	50	106	6.15	11.0	17	6.2	<input type="checkbox"/> Yes
29	2,400	2.01	50	100.5	6.30	12.8	17	5.9	<input type="checkbox"/> Yes
30	2,400	2.05	50	102.5	6.20	12.8	17	6.0	<input type="checkbox"/> Yes
31	2,400	2.14	50	107	6.25	13.0	17	6.3	<input type="checkbox"/> Yes

- 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.
- Peak hourly flow means the highest pumpage hour during the day, not the absolute peak flow at any instant.
- The residual disinfectant concentration(s) ("C") of the water before or at the first customer must be measured each day during peak hourly flow.
- 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.
- 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.
- 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.
- Use Inactivation Tables at 310 CMR 22.20A Tables 1.1 – 1.6, 2.1 and/or 3.1
- 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.
- 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 Cookerly
 Date: 11-1-2022 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 Name¹: RANDOLPH-HOLBROOK JW Town¹: RANDOLPH-Holbrook PWSID¹: 424001
 Treatment Plant Name²: RANDOLPH WATER PLANT Treatment Plant ID#²: 4244001-01T Reporting Period³: OCTOBER 2022
 Month: _____ Year: _____

II. Chemical & Operational Information

Chemical Name⁴: POLYALUMINUM CHLORIDE Purchased Strength⁸: 1.0 Target Range/min¹²: 14
 Manufacturer⁵: HOLLAND COMPANY Purchased Density (lbs/gal)⁹: 10.3 Target Dose¹³: 18
 Product Name⁶: PCH-180 Dilution Factor or Mix Ratio¹⁰: NA Alarm Setting (low)¹⁴: NA
 Reason for Adding Chemical⁷: COAGULATION NSF Approved (Y/N)¹¹: Y Alarm Setting (high)¹⁴: NA
 Date of last anti-siphon valve inspection/replacement¹⁵: NA

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"/> Mgc	Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁶	Chemical Dosage ¹⁹ (mg/L)	Parameters Measured ¹⁷ , 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. RAW Ph	b.	c.	
1	2.8	123		1,267	18	7.05			
2	2.7	127		1,308	19	7.00			
3	2.8	121		1,246	18	6.95			
4	2.7	124		1,277	19	6.90			
5	2.7	120		1,236	18	6.90			
6	2.8	115		1,185	17	6.85			
7	2.9	175		1,583	25	6.90			
8	2.8	170		1,751	25	6.90			
9	2.8	170		1,751	25	7.00			
10	2.8	163		1,679	24	6.90			
11	2.8	154		1,586	22	6.95			
12	2.6	113		1,164	18	7.00			
13	2.9	140		1,442	20	7.05			
14	2.8	115		1,185	17	7.05			
15	2.8	148		1,524	22	7.00			
16	2.7	132		1,360	20	6.95			
17	2.8	130		1,339	19	7.10			
18	2.8	100		1,030	15	7.00			
19	2.9	117		1,205	16	6.95			
20	2.8	118		1,215	17	6.90			
21	2.8	135		1,391	20	6.95			
22	2.9	159		1,638	22	7.00			
23	2.8	141		1,452	21	7.00			
24	2.8	132		1,360	19	7.05			
25	2.8	130		1,339	19	7.00			
26	2.8	110		1,133	16	7.05			
27	2.8	122		1,257	18	7.10			
28	2.8	120		1,236	18	7.05			
29	2.8	111		1,143	16	7.10			
30	2.8	126		1,298	18	7.00			
31									
Total									

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

²³Describe 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
 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 Cooksey 11-1-2022
 Print Name: William Cooksey 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 JOINT WATER	Town ¹ :	RANDOLPH-HOLBROOK	PWSID ¹ :	424001
Treatment Plant Name ² :	RANDOLPH WATER PLANT	Treatment Plant ID# ² :	4244001-01T	Reporting Period ² :	OCTOBER 2022
			Month	Year	

II. Chemical & Operational Information

Chemical Name ⁴ :	CHLORINE	Purchased Strength ⁸ :	1.0	Target Range/min ¹² :	0.20
Manufacturer ⁵ :	AXIALL, LLC	Purchased Density (lbs/gal) ⁹ :	12.3	Target Dose ¹³ :	NA
Product Name ⁶ :	CHLORINE	Dilution Factor or Mix Ratio ¹⁰ :	NA	Alarm Setting (low) ¹⁴ :	1.0
Reason for Adding Chemical ⁷ :	DISINFECTANT	NSF Approved (Y/N) ¹¹ :	Y	Alarm Setting (high) ¹⁴ :	3.0
			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		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) analyzer ²¹			O&M Notes/Comments ²²
	<input checked="" type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Volume ¹⁷ (gal/day)	Weight ¹⁷ (lbs/day)	Chemical Dosage ¹⁹ (mg/L)			a. FREE CL ₂ DAILY AVG	b. FREE CL ₂ DAILY MAXIMUM	c.	
								<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.
1	2.8		91		3.9	2.22	1.83			
2	2.7		89		4.0	2.20	2.00			
3	2.8		93		4.0	2.32	2.02			
4	2.7		88		3.9	2.37	2.15			
5	2.7		87		3.9	2.30	2.19			
6	2.8		76		3.3	2.23	2.05			
7	2.9		87		3.6	2.19	2.01			
8	2.8		86		3.7	2.21	2.00			
9	2.8		85		3.6	2.15	1.98			
10	2.8		87		3.7	2.22	1.90			
11	2.8		86		3.7	2.18	1.96			
12	2.6		89		4.1	2.32	2.20			
13	2.9		87		3.6	2.28	2.14			
14	2.8		100		4.3	2.62	2.10			
15	2.8		115		4.9	2.79	2.60			
16	2.7		106		4.7	2.65	2.50			
17	2.8		103		4.4	2.53	2.18			
18	2.8		83		3.6	2.67	2.21			
19	2.9		80		3.3	2.32	1.72			
20	2.8		77		3.3	1.98	1.79			
21	2.8		88		3.8	2.01	1.87			
22	2.9		84		3.5	1.99	1.79			
23	2.8		84		3.6	1.98	1.87			
24	2.8		82		3.5	2.08	2.00			
25	2.8		79		3.4	2.12	2.07			
26	2.8		82		3.5	2.22	1.64			
27	2.8		85		3.6	2.21	2.00			
28	2.8		84		3.6	2.23	2.12			
29	2.8		85		3.6	2.25	2.01			
30	2.8		86		3.7	2.19	2.05			
31	2.8		86		3.7	2.31	2.14			
Total					Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary ²³ :					

*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
- b. Daily Minimum, Free Chlorine, Finished Water, Test Kit
- 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 Cooker 11-1-2022
 Print Name: William Cooker, 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 :	4244001-0TT	Reporting Period ² :	OCTOBER 2022

II. Chemical & Operational Information

Chemical Name ⁴ :	CALCIUM HYDROXIDE	Purchased Strength ⁶ :	0.85	Target Range/min ¹² :	NA
Manufacturer ⁵ :	CARMEUSE LIME & STONE	Purchased Density (lbs/gal) ⁸ :	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 ¹⁶ <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁵	Chemical Dosage ¹⁸ (mg/L)	Parameters Measured ¹⁷ , 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 checked="" 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	2.6		100		4.6	6.90			
2	2.5		100		4.8	7.00			
3	2.6		100		4.6	6.80			
4	2.4		100		5.0	6.90			
5	2.5		100		4.8	7.00			
6	2.5		100		4.8	6.80			
7	2.6		100		4.6	6.80			
8	2.5		100		4.8	6.90			
9	2.6		100		4.6	6.90			
10	2.6		100		4.6	6.85			
11	2.6		100		4.6	6.80			
12	2.5		100		4.8	6.90			
13	2.7		100		4.4	6.80			
14	2.7		100		4.4	6.80			
15	2.6		100		4.8	6.85			
16	2.6		100		4.8	6.90			
17	2.6		100		4.8	6.80			
18	2.6		100		4.8	6.85			
19	2.7		100		4.4	6.80			
20	2.6		100		4.6	6.85			
21	2.6		100		4.6	6.85			
22	2.7		100		4.4	6.90			
23	2.6		100		4.6	6.85			
24	2.6		100		4.6	6.90			
25	2.6		100		4.6	6.80			
26	2.6		100		4.6	6.90			
27	2.5		100		4.8	6.85			
28	2.6		100		4.6	6.85			
29	2.6		100		4.6	6.85			
30	2.6		100		4.6	6.85			
31	2.6		100		4.6	6.80			
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.)²⁴:

a. Finished Water Ph, Daily Average 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 Coakley 11-1-2022
 Print Name: William Coakley 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 :	424001-01T	Reporting Period ³ :	OCTOBER 2022
				Month	Year

II. Chemical & Operational Information

Chemical Name ⁴ :	SODIUM BISULFATE	Purchased Strength ⁵ :	10-15	Target Range/min ¹² :	NA
Manufacturer ⁵ :	CARUS CORPORATION	Purchased Density (lbs/gal) ⁶ :	12.03	Target Dose ¹³ :	NA
Product Name ⁵ :	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 :		NA	

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. FINISHED PH <input checked="" 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	2.6		50		2.3				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	2.5		50		2.4				
3	2.6		50		2.3				
4	2.4		50		2.5				
5	2.5		50		2.4				
6	2.5		50		2.4				
7	2.6		50		2.3				
8	2.5		50		2.4				
9	2.6		50		2.3				
10	2.6		50		2.3				
11	2.6		50		2.3				
12	2.5		50		2.4				
13	2.7		50		2.2				
14	2.7		50		2.2				
15	2.6		50		2.4				
16	2.6		50		2.4				
17	2.6		50		2.4				
18	2.6		50		2.4				
19	2.7		50		2.2				
20	2.6		50		2.3				
21	2.6		50		2.3				
22	2.7		50		2.2				
23	2.6		50		2.3				
24	2.6		50		2.3				
25	2.6		50		2.3				
26	2.6		50		2.3				
27	2.5		50		2.4				
28	2.6		50		2.3				
29	2.6		50		2.3				
30	2.6		50		2.3				
31	2.6		50		2.3				

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

²⁴Describe 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 Ph. Daily Average. 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 Cookerly 11-1-2022
 Print Name: William Cookerly
 Title: Chief 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>	<u>10-3-2022</u>	<u>William Corbett</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>11-21</u>	<u>1</u>	<u>43</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.23</u>
<u>12-21</u>	<u>1</u>	<u>43</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.23</u>
<u>1-22</u>	<u>1</u>	<u>39</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.17</u>
<u>2-22</u>	<u>1</u>	<u>36</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.03</u>
<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>35</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>
Sum of Past 12 Months:						<u>14.35</u>
Compliance Value (Sum of Past 12 Months/ 12):						<u>1.20</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, accurate and complete to the best extent of my knowledge.

PWS Authorized Signature: William Corbett
 Date: 11-10-2022

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 = $(\text{Average of Set 1} + \text{Average of Set 2}) \div 2$).

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 _____	



Massachusetts Department of Environmental Protection - Drinking Water Program

TOC

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, 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-RJ002 Analysis Lab Name: ESS Laboratory

Table for TOC Analyzed by (check one): PWS or Lab, Samples Acidified? Yes or No. Includes columns for TOC Result (mg/L), MDL, MRL, 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.

Table for Alkalinity Analyzed by (check one): PWS or Lab. Includes columns for ALKALINITY Result (mg/L as CaCO3), MDL, MRL, 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: 10/27/2022

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. 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: A2J0030
 Date Received: 10/03/2022

Sampled By: Bill Cookerly
 Location: Raw Water

Date Sampled: 10/3/22 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>A2J0030-01</u>		
Dissolved Organic Carbon (Average)	5310B	10/4/2022	mg/L	0.500	---	2.92
SUVA	4153	10/4/2022	/100 ml	N/A	---	0.0145
UV 254	5910B	10/4/2022	abs/cm	0.002	---	0.042

Sampled By: Bill Cookerly
 Location: Combined Filter Effluent Grab

Date Sampled: 10/3/22 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>A2J0030-02</u>		
Dissolved Organic Carbon (Average)	5310B	10/4/2022	mg/L	0.500	---	4.34
SUVA	4153	10/4/2022	/100 ml	N/A	---	0.0175
UV 254	5910B	10/4/2022	abs/cm	0.002	---	0.076

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

Approved By: *Lance Stoddard*

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 9:35 am, Oct 13, 2022



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

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 DEPR monitoring plan to help complete this section.

Type Measured: Free Chlorine Total Chlorine Combined

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

Notes:

DEP APPROVED SAMPLE SITE INFORMATION ¹		CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³		COLLECTED AND ANALYZED BY:
DEP Sample Type ⁴	DEP Location Code # ¹		DATE	TIME	
RS	001	1.10	10/3/2022	07:30	J. Maclane
RS	004	1.30	10/3/2022	08:15	J. Maclane
RS	008E	.06	10/3/2022	07:50	J. Maclane
RS	006	.04	10/3/2022	07:50	J. Maclane
RS	001	1.12	10/12/2022	07:30	J. Maclane
RS	004	1.28	10/12/2022	08:20	J. Maclane
RS	008E	.07	10/12/2022	08:40	J. Maclane
RS	006	.59	10/12/2022	07:45	J. Maclane
RS	001	1.60	10/17/2022	07:20	J. Maclane
RS	004	1.93	10/17/2022	08:05	J. Maclane
RS	008E	.04	10/17/2022	08:45	J. Maclane
RS	006	.39	10/17/2022	07:45	J. Maclane
RS	001	1.02	10/24/2022	07:30	J. Maclane
RS	004	1.20	10/24/2022	08:05	J. Maclane
RS	008E	.03	10/24/2022	08:40	J. Maclane
RS	006	.24	10/24/2022	07:45	J. Maclane
RS	001	1.26	10/31/2022	07:30	J. Maclane
RS	004	1.43	10/31/2022	08:15	J. Maclane
RS	008E	.04	10/31/2022	08:45	J. Maclane
RS	006	.47	10/31/2022	07:50	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. 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: **80** Average Chlorine Result of All Samples For Month⁵ (mg/L): **1.01**

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]
 11-10-2022

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 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 D1253-86

Notes:

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	1.77	10/3/22	10:00 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.38		9:30 AM	
RS	005	MARTIN E. YOUNG - 30 LOU COURTNEY DRIVE	.97		9:00 AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	2.20		11:00 AM	
RS	008	COMMUNITY MIDDLE SCHOOL - 225 HIGH ST	1.88		10:30 AM	
RS	011	MOBL STATION - 93 MAZZEO DRIVE	1.42		9:30 AM	
RS	012	7 - 11 FOOD SHOP - 675 NORTH STREET	1.10		7:36 AM	
RS	014 AE	AXP AUTO - 317 NORTH MAIN ST	1.68		8:00 AM	
RS	016	OAK GROVE STANDPIPE	.94		10:15 AM	
RS	017	SOUTH MAIN STREET STANDPIPE	.58		9:15 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: **80** Average Chlorine Result of All Samples For Month⁵ (mg/L): **1.01**

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: *William Costello* 11-10-2022

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

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 APPROVED SAMPLE SITE INFORMATION ¹		CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³		COLLECTED AND ANALYZED BY:
DEP Sample Type ⁴	DEP Location Code # ¹		DATE	TIME	
RS	003	1.86	10/12/22	10:00am	A. PERRE-LOUIS
RS	004	1.30		7:30am	
RS	005	1.03		9:00am	
RS	006	2.17		11:00am	
RS	008	1.97		10:30am	
RS	011	1.42		9:30am	
RS	012	.60		8:30am	
RS	014 AE	1.79		8:00am	
RS	016	1.02		9:45am	
RS	017	.98		8:45am	

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: **80**

80

Average Chlorine Result of All Samples For Month⁵ (mg/L): **1.01**

1.01

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 monitoring period 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:

William Coffey 11-10-2022

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

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		1.64	10/24/22	10:00 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE		1.12		7:30 AM	
RS	005	MARTIN E. YOUNG - 30 LOU COURTNEY DRIVE		1.22		8:30 AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET		1.95 AM		11:00 AM	
RS	008	COMMUNITY MIDDLE SCHOOL - 225 HIGH ST		1.62		10:30 AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE		1.31		9:30 AM	
RS	012	7 - 11 FOOD SHOP - 675 NORTH STREET		.17		9:00 AM	
RS	014 AE	AXP AUTO - 317 NORTH MAIN ST		1.49		8:00 AM	
RS	016	OAK GROVE STANDPIPE		1.13		9:15 AM	
RS	017	SOUTH MAIN STREET STANDPIPE		.92		8:15 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-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: **80** Average Chlorine Result of All Samples For Month⁵ (mg/L): **1.01**

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: *William Cobley* 11-10-2022
 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 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 D1253-86

Notes:

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	1.60	10/26/22	10:00 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.50		7:30 AM	
RS	005	MARTIN E. YOUNG - 30 LOU COURTNEY DRIVE	1.09		9:00 AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	1.55		11:00 AM	
RS	008	COMMUNITY MIDDLE SCHOOL - 225 HIGH ST	1.58		10:30 AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.38		9:30 AM	
RS	012	7 - 11 FOOD SHOP - 675 NORTH STREET	.48		8:00 AM	
RS	014 AE	AXP AUTO - 317 NORTH MAIN ST	1.62		8:30 AM	
RS	016	OAK GROVE STANDPIPE	.75		9:15 AM	
RS	017	SOUTH MAIN STREET STANDPIPE	.87		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: **80** Average Chlorine Result of All Samples For Month⁵ (mg/L): **1.01**

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.

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: *William Corbett* 11-10-2022

DEP Review Status: Accepted Disapproved Review Comments:



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

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 Location ¹	CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³ : DATE	TIME	COLLECTED AND ANALYZED BY:
RS	003	TOWER HILL SCHOOL - ADAMS STREET	1.84	10/31/22	10:00 AM	A. PIERRE - LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.52		7:30 AM	
RS	005	MARTINE E. YOUNG - 30 LOU COURTNEY DRIVE	1.02		9:00 AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	1.98		11:00 AM	
RS	008	COMMUNITY MIDDLE SCHOOL - 225 HIGH ST	1.78		10:30 AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.51		9:30 AM	
RS	012	7 - 11 FOOD SHOP - 675 NORTH STREET	.51		8:30 AM	
RS	014 AE	AXP AUTO - 317 NORTH MAIN ST	1.76		8:00 AM	
RS	016	OAK GROVE STANDPIPE	1.10		9:45 AM	
RS	017	SOUTH MAIN STREET STANDPIPE	.87		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).
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: **80** Average Chlorine Result of All Samples For Month⁵ (mg/L): **1.07**

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]
 11-10-2022

DEP Review Status: Accepted Disapproved

Review Comments:



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	
	Max Day NTU	Max after 4 Hours NTU	Max Day NTU	Max after 4 Hours NTU	Max Day NTU	Max after 4 Hours NTU	Max Day NTU	Max after 4 Hours NTU
1	.13	.04	.08	.05	.05	.04	.07	.05
2	.06	.05	.08	.04	.04	-	.04	-
3	.05	-	.03	-	.05	.04	.11	.04
4	.06	.05	.06	.04	.05	.04	.07	.04
5	.05	.03	.06	.03	.05	.03	.03	-
6	.05	.03	.03	-	.03	-	.08	.05
7	.03	-	.09	.05	.05	.04	.07	.05
8	.06	.03	.06	.03	.04	.03	.10	.05
9	.08	.03	.10	.05	.04	.03	.03	-
10	.06	.04	.07	.04	.04	-	.06	.04
11	.03	-	.03	-	.05	.03	.08	.05
12	.07	.04	.05	.03	.09	.04	.06	.03
13	.04	.03	.05	.03	.03	.02	.04	.03
14	.04	.03	.05	.03	.04	.03	.05	.04
15	.06	.04	.14	.06	.05	.04	.08	.05
16	.06	.04	.11	.04	.05	.04	.09	.06
17	.04	.03	.05	.03	.05	.03	.07	.04
18	.05	.04	.05	.04	.03	-	.04	-
19	.03	-	.10	.04	.11	.07	.13	.07
20	.08	.05	.07	.07	.05	.04	.10	.06
21	.06	.04	.05	.04	.10	.05	.09	-
22	.06	.03	.03	-	.03	-	.12	.07
23	.03	-	.11	.07	.07	.06	.16	.07
24	.09	.05	.05	.04	.10	.08	.15	.07
25	.04	.03	.06	.04	.12	.04	.03	-
26	.09	.04	.03	-	.03	-	.11	.05
27	.03	-	.07	.05	.15	.06	.10	.06
28	.10	.05	.10	.05	.06	.04	.09	.06
29	.09	.05	.10	.06	.10	.05	.13	.06
30	.08	.05	.04	-	.05	-	.05	-
31	.08	.05	.08	.06	.12	.07	.10	.06

- 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 Cookery
 Date: 11-14-2022 Title: Chief Operator