RANDOLPH-HOLBROOK JOINT WATER BOARD

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

50 North Franklin Street
Holbrook, MA 02343

Town of Randolph

January 10, 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
December, 2021 Randolph/Holbrook
Joint Water System, PWS #424001

Gentlemen:

Enclosed please find all reports as referenced above for the month of December, 2021 along with the SUVA's for October and November. Should there be any questions, please do not hesitate to call me.

Sincerely,

William Cookerly

William Cookerly
Chief Plant Operator

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

Massachusetts Department of Environmental Protection - Drinking Water Program

SWTR G

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: DECEMBER Year: 2021

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).

186	= A	Total # of filtered water turbidity measurements for month (SWTR – Form F)
186	= B	Total # of filtered water turbidity measurements less than or equal to the specified limits for the filtration technology used. (SWTR – Form F)
100	= (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 ☑ 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	1.64	6	1.70	11	1.81	16	1.92	21	1.76	26	1.68	31	1.96
2	1.81	7	1.92	12	1.94	17	1.87	22	1.77	27	1.43		
3	1.88	8	1.73	13	1.74	18	1.97	23	1.91	28	1.51		
4	1.84	9	2.14	14	1.57	19	1.90	24	1.83	29	1.81		
5	1.70	10	1.63	15	1.82	20	1.96	25	1.77	30	1.99		

Residual Measured
☑ Free Cl_2
☐ Total Cl_2
☐ Combined Cl_2

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

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

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

Total # of HPC samples taken during month: 62 # HPC sites > 500/mL: 0 # HPC sites ≤ 500/mL: 62

66	= 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)
0	= b	# of sites HPC samples were analyzed *instead* of Cl_2 residual measurements
0	= c	# of sites where no Cl_2 residual was detected and no HPC sample was analyzed
0	= d	# of sites where no Cl_2 residual was detected and HPC > 500 CFU/mL
0	= 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 = 0 Previous Month % V = 0 Is V > 5% for 2 months? ☐ Yes or ☒ 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,

PWS Authorized Signature: William Cooke by Chief Operator 1-11-2022

Massachusetts Department of Environmental Protection - Drinking Water Program

SWTR F

TURBIDITY DATA SHEET FOR FILTERED SYSTEMS

I. PWS INFORMATION

PWSID#: 4244001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: RANDOLPH

Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period → Month: DECEMBER Year: 2021

II. DAILY REPORTING

Filtered Water Turbidity Measured: (check only one) ☑ Combined Filter Effluent ☐ Individual Filter Effluent[1] ☐ Clearwell ☐ Plant Effluent

Filtration Technology:		
☑ Conventional ☐ Direct ☐ Alternative	Monthly Turbidity (95%) NTU Limit = 0.3	Max Day Turbidity NTU Limit = 1
☐ Slow Sand ☐ Diatomaceous Earth	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 Measurments > Max Day NTU Limit
	.08	6	6	0
	.08	6	6	0
	.10	6	6	0
	.10	6	6	0
	.11	6	6	0
	.09	6	6	0
	.09	6	6	0
	.08	6	6	0
	.07	6	6	0
	.04	6	6	0
	.04	6	6	0
	.08	6	6	0
	.08	6	6	0
	.03	6	6	0
	.03	6	6	0
	.04	6	6	0
	.07	6	6	0
	.08	6	6	0
	.04	6	6	0
	.05	6	6	0
	.05	6	6	0
	.04	6	6	0
	.04	6	6	0
	.03	6	6	0
	.03	6	6	0
	.03	6	6	0
	.03	6	6	0
	.04	6	6	0
	.03	6	6	0
	.03	6	6	0
	.03	6	6	0
Totals		186 (A)	186 (B)	% Turbidity Meeting 95% Limit: B/A X 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 at time the filtered turbidity Max Day NTU Limit is exceeded, the DEP must be notified no later than the end of the next business day. For each exceedance, record the turbidity value(s) and date(s) on SWTR - Form G

I [illegible] under penalty of law that I am the person authorized [illegible] the information contained herein is true, [illegible] complete to the best of my knowledge.

PWS Authorized Signature: William Cokely

Date: 1-3-2022 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-Holbrook Joint Water PWS Town: Randolph

Treatment Plant Name: Randolph Water Plant Reporting Period → Month: DECEMBER Year: 2021

Disinfectant[1]: Chlorine Gas/Entire 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	1.64	50	82	6.25	5.8	17	4.8	☐ Yes
2	2,400	1.81	50	90.5	6.10	6.0	17	5.3	☐ Yes
3	2,400	1.88	50	94	6.10	6.0	17	5.5	☐ Yes
4	2,400	1.84	50	92	6.05	6.0	17	5.4	☐ Yes
5	2,400	1.70	50	85	6.10	5.7	17	5.0	☐ Yes
6	2,400	1.70	50	85	6.15	5.5	17	5.0	☐ Yes
7	2,400	1.92	50	96	6.15	5.8	17	5.7	☐ Yes
8	2,400	1.73	50	86.5	6.05	5.3	17	5.1	☐ Yes
9	2,400	2.14	50	107	6.20	5.2	17	6.3	☐ Yes
10	2,400	1.63	50	81.5	6.20	5.2	17	4.8	☐ Yes
11	2,400	1.81	50	90.5	6.10	5.0	17	5.3	☐ Yes
12	2,400	1.94	50	97	6.15	4.8	17	5.7	☐ Yes
13	2,400	1.74	50	87	6.15	4.9	17	5.1	☐ Yes
14	2,400	1.57	50	78.5	6.10	5.1	17	4.6	☐ Yes
15	2,400	1.82	50	91	6.10	5.1	17	5.4	☐ Yes
16	2,400	1.92	50	96	6.00	5.2	17	5.7	☐ Yes
17	2,400	1.87	50	93.5	6.05	4.8	17	5.5	☐ Yes
18	2,400	1.97	50	98.5	5.90	4.8	17	5.8	☐ Yes
19	2,400	1.90	50	95	6.10	5.0	17	5.6	☐ Yes
20	2,400	1.96	50	98	6.15	5.4	17	5.8	☐ Yes
21	2,400	1.76	50	88	6.00	5.4	17	5.2	☐ Yes
22	2,400	1.77	50	88.5	6.05	5.9	17	5.2	☐ Yes
23	2,400	1.91	50	95.5	5.95	5.9	17	5.6	☐ Yes
24	2,400	1.83	50	91.5	6.15	5.3	17	5.4	☐ Yes
25	2,400	1.77	50	88.5	6.15	5.3	17	5.2	☐ Yes
26	2,400	1.68	50	84	6.20	5.7	17	4.9	☐ Yes
27	2,400	1.43	50	71.5	6.20	5.7	17	4.2	☐ Yes
28	2,400	1.51	50	75.5	6.10	5.8	17	4.4	☐ Yes
29	2,400	1.81	50	90.5	6.15	5.0	17	5.3	☐ Yes
30	2,400	1.99	50	99.5	6.20	5.0	17	5.9	☐ Yes
31	2,400	1.96	50	98	6.15	5.2	17	5.8	☐ Yes

1. Use a separate form for each disinfectant/sampling point. Enter disinfectant and sequence position, e.g. "ozone/1st" or "ClO_2/3rd". 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 Connerty

Date: 1-3-2022 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]:	4244001
Treatment Plant Name[2]:	RANDOLPH WATER PLANT	Treatment Plant ID#[2]:	4244001-01T	Reporting Period[3]: Month	DECEMBER
				Year	2021

II. Chemical & Operational Information

Chemical Name[4]:	POLYALUMINUM CHLORIDE	Purchased Strength[8]:	10	Target Range/min[12]:	>14
Manufacturer[5]:	HOLLAND COMPANY	Purchased Density (lbs/gal)[9]:	10.3	Target Dose[13]:	6.18
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]:			NA

III. Daily Reporting

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

Day	Treated Water[16] ☐Gallons ☑MG	Measured Chemical Used: Volume[17] (gal/day)	Measured Chemical Used: Weight[17] (lbs/day)	Calculated Chemical Used (lbs)[18]	Chemical Dosage[19] (mg/L)	Parameters Measured*, Results, Units and Method[20] - (G)rab or Continuous (A)nalyzer[21]: a.	b.	c.	O&M Notes/Comments[22]
						RAW PH DAILY AVG ☑G ☐A	☐G ☐A	☐G ☐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	120		1,236	18	6.90			
2	2.8	133		1,370	19	6.90			
3	2.9	137		1,411	19	7.05			
4	2.8	130		1,339	19	7.00			
5	2.7	145		1,494	22	7.10			
6	2.8	135		1,391	20	7.00			
7	2.9	125		1,288	18	6.95			
8	2.8	133		1,370	19	6.90			
9	2.8	163		1,679	24	6.85			
10	2.8	145		1,494	21	6.95			
11	2.8	160		1,648	23	6.90			
12	2.8	130		1,339	19	6.85			
13	2.8	145		1,494	21	6.80			
14	2.8	155		1,597	23	6.95			
15	2.7	139		1,432	21	7.05			
16	2.9	167		1,720	23	7.00			
17	2.8	124		1,277	18	7.00			
18	2.7	140		1,442	21	7.05			
19	2.9	110		1,133	16	7.00			
20	2.8	105		1,082	15	6.90			
21	2.8	120		1,236	18	6.90			
22	2.7	134		1,380	20	6.80			
23	2.8	106		1,092	15	6.85			
24	2.8	110		1,133	16	6.80			
25	2.8	120		1,236	18	7.00			
26	2.7	120		1,236	18	7.00			
27	2.8	110		1,133	16	6.95			
28	2.8	125		1,288	18	6.90			
29	2.7	120		1,236	18	6.95			
30	2.8	118		1,215	17	6.85			
31	2.8	130		1,339	19	6.90			
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. 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 & Date[24]: William Cokely 1-3-2022

Print Name: William Cokely Title: Plant Operator

Massachusetts Department of Environmental Protection – Drinking Water Program **C-ADD**

CHEMICAL ADDITION REPORT – 310 CMR 11.15(4) Chemical Addition Reporting Requirements

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]:	4240001
Treatment Plant Name[2]:	RANDOLPH WATER PLANT	Treatment Plant ID#[2]:	4244400-01T	Reporting Period[3]: Month	DECEMBER
				Year	2021

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] ☐Gallons ☑MG	Measured Chemical Used: Volume[17] (gal/day)	Measured Chemical Used: Weight[17] (lbs/day)	Calculated Chemical Used (lbs)[18]	Chemical Dosage[19] (mg/L)	Parameters Measured*, Results, Units and Method[20] - (G)rab or Continuous (A)nalyzer[21]: a. FREE Cl2 DAILY AVG ☐G ☐A	b. FREE Cl2 DAILY MINIMUM ☐G ☐A	c. ☐G ☐A	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.
1	2.8		81		3.5	2.03	1.64		
2	2.8		87		3.7	2.08	1.81		
3	2.9		88		3.6	2.22	1.88		
4	2.8		88		3.8	2.23	1.84		
5	2.7		90		4.0	2.27	1.70		
6	2.8		93		4.0	2.30	1.70		
7	2.9		90		3.7	2.28	1.92		
8	2.8		81		3.5	2.43	1.73		
9	2.8		82		3.5	2.52	2.14		
10	2.8		83		3.6	2.07	1.63		
11	2.8		80		3.4	2.44	1.81		
12	2.8		80		3.4	2.20	1.94		
13	2.8		81		3.5	2.18	1.74		
14	2.8		80		3.4	2.33	1.57		
15	2.7		97		4.3	2.45	1.82		
16	2.9		88		3.6	2.28	1.92		
17	2.8		86		3.7	2.25	1.87		
18	2.7		92		4.1	2.30	1.97		
19	2.9		97		4.0	2.34	1.90		
20	2.8		99		4.2	2.46	1.96		
21	2.8		95		4.1	2.24	1.76		
22	2.7		78		3.5	2.22	1.77		
23	2.8		82		3.5	2.19	1.91		
24	2.8		85		3.6	2.30	1.83		
25	2.8		92		3.9	2.10	1.77		
26	2.7		87		3.9	2.05	1.68		
27	2.8		88		3.8	2.06	1.43		
28	2.8		90		3.9	2.38	1.51		
29	2.7		92		4.1	2.40	1.81		
30	2.8		91		3.9	2.47	1.99		
31	2.8		91		3.9	2.43	1.96		
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 From Chlorine Feed & Water Grab Sample 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 & Date[24]: William Cookerly 1-3-2022

Print Name: William Cookerly Title: Chief Operator

Massachusetts Department of Environmental Protection – Drinking Water Program **C-ADD**

CHEMICAL ADDITION REPORT – 310 CMR 11.15(4) Chemical Addition Reporting Requirements

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]:	4240001
Treatment Plant Name[2]:	RANDOLPH WATER PLANT	Treatment Plant ID#[2]:	4244001-017	Reporting Period[3]: Month	DECEMBER
				Year	2021

II. Chemical & Operational Information

Chemical Name[4]:	CALCIUM HYDROXIDE	Purchased Strength[8]:	0.85	Target Range/min[12]:	NA
Manufacturer[5]:	CARMEUSE LIME & STONE	Purchased Density (lbs/gal)[9]:	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]:			NA

III. Daily Reporting

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

Day	Treated Water[16] ☐Gallons ☐MG	Measured Chemical Used: Volume[17] (gal/day)	Measured Chemical Used: Weight[17] (lbs/day)	Calculated Chemical Used (lbs)[18]	Chemical Dosage[19] (mg/L)	Parameters Measured*, Results, Units and Method[20] - (G)rab or Continuous (A)nalyzer[21]: a. FINISHED PH ☑G ☐A	b. ☐G ☐A	c. ☐G ☐A	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.
1	2.5		100		4.8	7.10			
2	2.5		100		4.8	7.00			
3	2.5		100		4.8	7.00			
4	2.5		100		4.8	7.10			
5	2.5		100		4.8	6.95			
6	2.6		100		4.6	6.95			
7	2.7		100		4.4	6.90			
8	2.6		100		4.6	6.90			
9	2.6		100		4.6	6.95			
10	2.5		100		4.8	6.95			
11	2.6		100		4.6	7.00			
12	2.6		100		4.6	6.90			
13	2.7		100		4.4	7.00			
14	2.8		100		4.3	7.00			
15	2.7		100		4.4	7.05			
16	2.8		100		4.3	6.90			
17	2.7		100		4.4	7.05			
18	2.6		100		4.6	6.90			
19	2.8		100		4.3	6.95			
20	2.7		100		4.4	7.00			
21	2.7		100		4.4	6.95			
22	2.6		100		4.6	7.05			
23	2.7		100		4.4	7.05			
24	2.7		100		4.4	7.00			
25	2.8		100		4.3	7.00			
26	2.7		100		4.4	7.05			
27	2.7		100		4.4	6.95			
28	2.8		100		4.3	6.95			
29	2.7		100		4.4	6.95			
30	2.8		100		4.3	7.10			
31	2.6		100		4.6	7.00			
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. 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 & Date[24]: William Cokely 1-3-2022

Print Name: William Cokely Title: Chief Operator

Massachusetts Department of Environmental Protection – Drinking Water Program **C-ADD**

CHEMICAL ADDITION REPORT – 310 CMR 11.15(4) Chemical Addition Reporting Requirements

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]:	4240001
Treatment Plant Name[2]:	RANDOLPH WATER PLANT	Treatment Plant ID#[2]:	4240001-01T	Reporting Period[3]: Month	DECEMBER
				Year	2021

II. Chemical & Operational Information

Chemical Name[4]:	SODIUM BISULFATE	Purchased Strength[8]:	.10-.15	Target Range/min[12]:	NA
Manufacturer[5]:	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]:			NA

III. Daily Reporting

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

Day	Treated Water[16] ☐Gallons ☑MG	Measured Chemical Used: Volume[17] (gal/day)	Measured Chemical Used: Weight[17] (lbs/day)	Calculated Chemical Used (lbs)[18]	Chemical Dosage[19] (mg/L)	Parameters Measured*, Results, Units and Method[20] - (G)rab or Continuous (A)nalyzer[21]: a. FINISHED PH ☑G ☐A	b. ☐G ☐A	c. ☐G ☐A	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.
1	2.5		50		2.4	7.10			
2	2.5		50		2.4	7.00			
3	2.5		50		2.4	7.00			
4	2.5		50		2.4	7.10			
5	2.5		50		2.4	6.95			
6	2.6		50		2.3	6.95			
7	2.7		50		2.2	6.90			
8	2.6		50		2.3	6.90			
9	2.6		50		2.3	6.95			
10	2.5		50		2.4	6.95			
11	2.6		50		2.3	7.00			
12	2.6		50		2.3	6.90			
13	2.7		50		2.2	7.00			
14	2.8		50		2.1	7.00			
15	2.7		50		2.2	7.05			
16	2.8		50		2.1	6.90			
17	2.7		50		2.2	7.05			
18	2.6		50		2.3	6.90			
19	2.8		50		2.1	6.95			
20	2.7		50		2.2	7.00			
21	2.7		50		2.2	6.95			
22	2.6		50		2.3	7.05			
23	2.7		50		2.2	7.05			
24	2.7		50		2.2	7.00			
25	2.8		50		2.1	7.00			
26	2.7		50		2.2	7.05			
27	2.7		50		2.2	6.95			
28	2.8		50		2.1	6.95			
29	2.7		50		2.2	6.95			
30	2.8		50		2.1	7.10			
31	2.6		50		2.3	7.00			
Total			50	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. Finished 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 & Date[24]: William Cookerly 1-3-2022

Print Name: William Cookerly Title: Chief Operator

Massachusetts Department of Environmental Protection - Drinking Water Program TT

DBPR TT Compliance Report

I. PWS INFORMATION

PWS ID #: 4244001 City / Town: RANDOLPH

PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Class: COM [X] NTNC [ ] TNC [ ]

DEP LOCATION (LOC) ID#	DEP Location Name	Date Collected	Collected By
015/10300	RAW WATER/COMBINED FILTER EFFLUENT	12-6-2021	Bill Cookerly

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]
1-21	1	43	35	[ ] YES [ ] NO		1.23
2-21	1	38	35	[ ] YES [ ] NO		1.09
3-21	1	38	35	[ ] YES [ ] NO		1.09
4-21	1	35	35	[ ] YES [ ] NO		1.00
5-21	1	42	35	[ ] YES [ ] NO		1.20
6-21	1	38	35	[ ] YES [ ] NO		1.09
7-21	1	42	35	[ ] YES [ ] NO		1.20
8-21	1	46	35	[ ] YES [ ] NO		1.31
9-21	1	43	35	[ ] YES [ ] NO		1.23
10-21	1	45	35	[ ] YES [ ] NO		1.29
11-21	1	43	35	[ ] YES [ ] NO		1.23
12-21	1	43	35	[ ] YES [ ] NO		1.23
				[ ] YES [ ] NO		
					Sum of Past 12 Months:	14.19
					Compliance Value (Sum of Past 12 Months/ 12):	1.18

I certify under penalties of law that I am the person authorized to sign 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: 1-6-2022

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 – (Treated Water TOC ÷ Raw Water TOC)) x 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	
[ ] Accepted _____ [ ] Disapproved _____		

Massachusetts Department of Environmental Protection – Drinking Water Program

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

TOC

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 ☑ NTNC ☐ TNC ☐

	DEP LOCATION (LOC) ID#	DEP Location Name	Sample Information	Date Collected: Date	Date Collected: Time	Collected By
A	01S	Great Pond WTP - Raw Water	☐ (M)ultiple ☑ (S)ingle ☑ (R)aw ☐ (F)inished	12/06/2021	09:00	Bill Cookerly
B	10300	Combined Filter Effluent	☐ (M)ultiple ☑ (S)ingle ☐ (R)aw ☑ (F)inished	12/06/2021	09:00	Bill Cookerly

	Routine or Special Sample		Original, Resubmitted or Confirmation Report	If Resubmitted Report, list below: (1) Reason for Resubmission	(2) Collection Date of Original Sample
A	☑ RS	☐ SS	☑ Original ☐ Resubmitted ☐ Confirmation	☐ Resample ☐ Reanalysis ☐ Report Correction	
B	☑ RS	☐ SS	☑ Original ☐ Resubmitted ☐ Confirmation	☐ Resample ☐ Reanalysis ☐ Report Correction	

	SAMPLE NOTES
A	
B	

II. ANALYTICAL LABORATORY INFORMATION:

Primary Lab MA Cert. #: M-MA022 Primary Lab Name: Analytical Balance Subcontracted?(Y/N) Y

Analysis Lab MA Cert. #: M-RI002 Analysis Lab Name: ESS Lab

TOC Analyzed by (check one): ☐ PWS ☑ Lab Samples Acidified? ☑ Yes ☐ No

	TOC Result (mg/L)	Result Qualifier	MDL (mg/L)	MRL (mg/L)	Dilution Factor	Lab Method	Date Analyzed	Primary Lab Sample ID#	Analytical Lab or PWS Sample ID#
A	5.08		0.500	0.500	1	5310B	12/07/2021	A1L0181-01	
B	2.91		0.500	0.500	1	5310B	12/07/2021	A1L0181-02	

Surface or GWUDI systems >= 500 persons.
Monthly source (raw) water TOC sampling is required at each surface/GWUDI source to qualify for and remain on reduced THM/HAA5 monitoring.
Each source must maintain a running annual average source (raw) water TOC level of ≤ 4.0 mg/L (calculated quarterly).
TOC analysis does not require the use of a Massachusetts or EPA certified laboratory.

Surface or GWUDI sources using conventional filtration shall each month (unless monitoring is reduced): take one TOC sample at each treatment plant no later than the point of combined filter effluent turbidity monitoring representative of the treated (finished) water, one TOC source (raw) sample prior to any treatment, and one alkalinity source (raw) water sample - at a time representative of normal

Alkalinity Analyzed by (check one): ☐ PWS ☑ Lab

	ALKALINITY Result (mg/L as CaCO3)	Result Qualifier	MDL (mg/L)	MRL (mg/L)	Dilution Factor	Lab Method	Date Analyzed	Primary Lab Sample ID#	Analytical Lab or PWS Sample ID#
A	26.0		4.0			2320B	12/18/2021	A1L0181-01	A1L0181-01
B									

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

	LAB SAMPLE COMMENTS	Result Qualifier	Result Qualifier Description
A			
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: 12/22/2021

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

DEP REVIEW STATUS (Initial & Date)	Review Comments		☐ WQTS Data Entered
☐ Accepted ☐ Disapproved			

Analytical Balance
Division of Thielsch Engineering

BAL LABORATORY

CERTIFICATE OF ANALYSIS

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

Project Name: DOC SUVA
Work Order Number: A1L0179
Date Received: 12/06/2021

Sampled By: Bill Cookerly
Location: Raw Water

Date Sampled: 12/6/21 9:00
Matrix: Surface Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL/ Rec Limit#	Result
Test Parameters				LAB-ID#: A1L0179-01		
Dissolved Organic Carbon (Average)	5310B	12/8/2021	mg/L	0.500	—	5.22
SUVA	4153	12/8/2021	/100 ml	N/A	—	0.0208
UV 254	5910B	12/7/2021	abs/cm	0.002	—	0.108

Sampled By: Bill Cookerly
Location: Combined Filter Effluent

Date Sampled: 12/6/21 9:00
Matrix: Drinking Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL/ Rec Limit#	Result
Test Parameters				LAB-ID#: A1L0179-02		
Dissolved Organic Carbon (Average)	5310B	12/8/2021	mg/L	0.500	—	3.38
SUVA	4153	12/8/2021	/100 ml	N/A	—	0.0170
UV 254	5910B	12/7/2021	abs/cm	0.002	—	0.058

NA = Not Applicable
ND = Not Detected
< = Less Than
> = Greater Than
* = Detection Limit
Rec Limit# = Recommended Limit

Approved By: Lawrence Slawler

Work Order Narrative:

No unusual observations noted.

REVIEWED
By SLawler at 11:39 am, Dec 17, 2021

Massachusetts Department of Environmental Protection - Drinking Water Program

TURBIDITY - INDIVIDUAL FILTER MONITORING

For Conventional or Direct Filtered Systems

SWTR
J

I. PWS INFORMATION

PWS ID#: 4244001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: Randolph

Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period: Month: Dec Year: 2022

Total # of Filters at Treatment Plant[1]: 8

II. MONTHLY REPORTING

Filtered Water Turbidity Measured: ☑ Individual Filter Effluent (IFE) or ☐ Combined Filter Effluent (CFE)[2]

Analytical Method: ☐ SM 2130B ☐ EPA 180.1 ☐ GLI Method 2 (Great Lakes)

1.	**Was each filter monitored continously?** If continous monitoring equipment is installed and if it functioned continously throughout the month, the correct answer is "yes". If continous monitoring equipment is not installed or did not function continously throughout the month, the correct answer is "no".	Yes
2.	**Were measurements recorded every 15 minutes?** If measurements on each filter were performed throughout the month and the measurements were recorded every 15 minutes when water was being filtered, the correct answer is "yes". If there was a failure in any continous monitor, the correct answer is "no".	Yes
3.	**Was there a failure of continous turbidity monitoring equipment?** If grab samples were obtained due to an equipment failure, the correct answer is "yes". If there was no equipment failure during the month, the correct answer is "no". Systems serving a population of at least 10,000 must conduct grab samples every 4 hours in lieu of continous monitoring, but for no more than 5 working days following the failure of equipment. Systems serving a population less than 10,000 may use grab samples for up to 14 working days. List filter # and date(s) grab samples collected: Comment:	No
4.	**Were individual filter levels greater than 1.0 NTU in two consecutive measurements?** If "yes", systems serving a population of at least 10,000 must produce a filter profile within 7 days of the exceedance or report the obvious reason for the exceedance in the table below. The filter profile is not required to be submitted unless requested, only report that the filter profile has been done. Systems serving a population less than 10,000 shall report exceedance information in the table below. List date(s) a filter profile was produced:	No
5.	**Were individual filter levels greater than 0.5 NTU in two consecutive measurements after the filter has been online for more than 4 hours?** If "yes", systems serving a population of at least 10,000 must produce a filter profile within 7 days of the exceedance or report the obvious reason for the exceedance in the table below. The filter profile is not required to be submitted unless requested, only report that the filter profile has been done. *Systems that serve a population less than 10,000 have no required action.* List date(s) a filter profile was produced:	Yes
6.	**Were individual filter levels greater than 1.0 NTU in two consecutive measurements in three consecutive months?** If "yes", the system must conduct a self-assessment of the filter within 14 days of the exceedance. The system is to report that a self-assessment has been completed. Systems with 2 filters that monitor CFE in lieu of IFE must do both filters. *Refer to 310 CMR 22.20D(6)(b)(2) and 310 CMR 22.20F(7)(d)(2) for required filter self-assessment report content.* List date(s) a filter self-assessment was triggered: Report(s) completed:	No
7.	**Were individual filter levels greater than 2.0 NTU in two consecutive measurements in two consecutive months?** If "yes", systems serving a population of at least 10,000 must schedule a Comprehensive Performance Evaluation (CPE) within 30 days of the exceedance and submit the report within 90 days. A system serving a population less than 10,000 must schedule a CPE within 60 days of the exceedance and submit the report within 120 days. List date(s) the CPE was triggered:	No

For each "Yes" response to question #4, #5, #6 or #7 above: Report the following information in the table below.

Filter #	Turbidity Result (NTU)	Date	Reason for Exceedance (if known) Attach additional documents as necessary for detailed explanations.
#3	1.1, .90, .70, .62	12-5-2021	Beginning to get some floc carryover from sedimentation
#4	.84, .72, .66	12-5-2021	basin. Backwashing as much as possible. Plant shut down
✓			for basin cleaning 12-7-2021. As a side
Filter Profiles			note. — would give anything to have all filters redone
Included.			entirely top to bottom. We're stuck with the sed. basin
			we have. Many thanks — Bill Cooke

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[1]

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	0.061000	0.287000	0.053000	0.157000	0.075000	0.202000	0.061000	0.256000
2	0.054000	0.142000	0.022000	0.065000	0.129000	0.070000	0.035000	0.052000
3	0.056000	0.114000	0.030000	0.075000	0.151000	0.175000	0.085000	0.081000
4	0.059000	0.107000	0.031000	0.047000	0.135000	0.196000	0.115000	0.210000
5	0.056000	0.115000	0.123000	0.092000	**0.544000**	0.201000	**0.721000**	0.191000
6	0.157000	0.181000	0.176000	0.164000	**0.316000**	**0.304000**	**0.390000**	**0.315000**
7	0.177000	0.156000	0.168000	0.122000	0.222000		0.280000	0.249000
8	0.057000	0.083000	**0.378000**		0.086000	0.177000	0.227000	0.062000
9	0.083000		0.054000	0.057000	0.031000	0.056000	0.032000	0.071000
10	0.056000	0.109000	0.026000	0.214000	0.024000	0.068000	0.028000	0.053000
11	0.064000	0.106000	0.031000	0.095000	0.026000		0.030000	
12	0.067000		0.037000		0.025000	0.139000	0.030000	0.153000
13	0.066000	0.143000	0.034000	0.166000	0.028000	0.087000	0.039000	0.080000
14	0.061000	0.134000	0.031000	0.093000	0.034000	0.065000	0.042000	0.069000
15	0.069000	0.110000	0.040000	0.094000	0.035000		0.036000	
16	0.077000		0.046000		0.032000	0.117000	0.030000	0.102000
17	0.068000	0.132000	0.037000	0.122000	0.023000	0.038000	0.031000	0.085000
18	0.056000	0.124000	0.043000	0.089000	0.028000	0.091000	0.034000	
19	0.059000		0.048000		0.035000		0.033000	0.087000
20	0.057000	0.123000	0.043000	0.119000	0.031000	0.083000	0.040000	0.103000
21	0.050000	0.098000	0.042000	0.066000	0.027000	0.034000	0.055000	
22	0.053000		0.045000		0.031000		0.060000	0.089000
23	0.050000	0.105000	0.042000	0.113000	0.030000	0.055000	0.051000	0.065000
24	0.049000	0.132000	0.043000	0.105000	0.053000	0.071000	0.037000	
25	0.055000		0.048000		0.037000		0.042000	0.067000
26	0.050000	0.109000	0.050000	0.156000	0.101000	0.066000	0.112000	0.104000
27	0.049000	0.119000	0.051000	0.096000	0.162000	0.081000	0.194000	
28	0.098000		0.051000		0.060000		0.186000	0.068000
29	0.053000	0.150000	0.053000	0.204000	0.135000	0.070000	0.054000	0.048000
30	0.051000	0.098000	0.050000	0.227000	0.126000	0.126000	0.164000	
31	0.063000		0.054000		0.029000		0.133000	0.051000

1. 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.
2. 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.
3. Enter the highest daily 15-minute interval turbidity measurement recorded for the filter specified.
4. 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 Cooley

Date: 1/5/2022 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
TURBIDITY - INDIVIDUAL FILTER MONITORING
For Conventional or Direct Filtered Systems

SWTR
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III. DAILY REPORTING[1]

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	0.046000	0.122000	0.049000	0.083000	0.034000	0.143000	0.057000	0.212000
2	0.103000	0.169000	0.130000	0.103000	0.027000	0.142000	0.024000	0.100000
3	0.056000	0.094000	0.118000	0.076000	0.024000	0.100000	0.023000	0.113000
4	0.099000	0.133000	0.066000	0.089000	0.055000	0.087000	0.057000	0.094000
5	0.077000	0.145000	0.188000	0.070000	0.050000	0.088000	0.100000	0.088000
6	0.079000	0.125000	0.112000	0.101000	0.035000	0.093000	0.155000	0.112000
7	0.081000	0.105000	0.135000	0.133000	0.061000	0.062000	0.148000	0.080000
8	0.218000	0.073000	0.215000	0.061000	0.028000	0.071000	0.215000	0.051000
9	0.032000	0.065000	0.026000		0.032000		0.031000	
10	0.039000		0.023000	0.077000	0.028000	0.069000	0.026000	0.072000
11	0.034000	0.169000	0.024000	0.189000	0.029000	0.096000	0.030000	0.104000
12	0.034000	0.121000	0.027000	0.087000	0.031000	0.079000	0.035000	0.113000
13	0.036000	0.206000	0.024000	0.103000	0.036000		0.042000	
14	0.036000		0.028000		0.028000	0.111000	0.032000	0.082000
15	0.034000	0.131000	0.023000	0.145000	0.029000	0.119000	0.039000	0.122000
16	0.038000	0.150000	0.029000	0.098000	0.027000	0.101000	0.039000	0.085000
17	0.037000	0.085000	0.026000		0.031000		0.044000	
18	0.041000		0.025000	0.085000	0.030000	0.084000	0.043000	0.104000
19	0.038000	0.115000	0.027000	0.113000	0.031000	0.120000	0.050000	0.076000
20	0.040000	0.115000	0.037000		0.041000		0.060000	
21	0.038000		0.026000	0.091000	0.031000	0.106000	0.047000	0.209000
22	0.240000	0.086000	0.023000	0.050000	0.027000	0.056000	0.046000	0.084000
23	0.033000	0.088000	0.025000		0.031000		0.051000	
24	0.034000		0.027000	0.079000	0.027000	0.091000	0.046000	0.127000
25	0.032000	0.120000	0.043000	0.086000	0.030000	0.098000	0.049000	0.105000
26	0.035000	0.124000	0.050000		0.031000		0.053000	
27	0.036000		0.053000	0.127000	0.028000	0.207000	0.047000	0.120000
28	0.038000	0.083000	0.049000	0.078000	0.028000	0.105000	0.047000	0.075000
29	0.037000	0.187000	0.044000	0.079000	0.031000		0.054000	
30	0.038000		0.033000		0.029000	0.082000	0.049000	0.105000
31	0.038000	0.106000	0.058000	0.087000	0.028000	0.287000	0.053000	0.142000

1. 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.

2. 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.

3. Enter the highest daily 15-minute interval turbidity measurement recorded for the filter specified.

4. 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 Cooksley

Date: 1/5/2022 **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.

Filter #3		Filter #4	
12/5/2021	0.032	12/5/2021	0.147
12/5/2021 0:15	0.032	12/5/2021 0:15	0.154
12/5/2021 0:30	0.031	12/5/2021 0:30	0.159
12/5/2021 0:45	0.031	12/5/2021 0:45	0.166
12/5/2021 1:00	0.03	12/5/2021 1:00	0.161
12/5/2021 1:15	0.03	12/5/2021 1:15	0.141
12/5/2021 1:30	0.03	12/5/2021 1:30	0.095
12/5/2021 1:45	0.03	12/5/2021 1:45	0.182
12/5/2021 2:00	0.029	12/5/2021 2:00	0.103
12/5/2021 2:15	0.029	12/5/2021 2:15	0.075
12/5/2021 2:30	0.029	12/5/2021 2:30	0.072
12/5/2021 2:45	0.029	12/5/2021 2:45	0.06
12/5/2021 3:00	0.029	12/5/2021 3:00	0.049
12/5/2021 3:15	0.029	12/5/2021 3:15	0.042
12/5/2021 3:30	0.029	12/5/2021 3:30	0.038
12/5/2021 3:45	0.029	12/5/2021 3:45	0.036
12/5/2021 4:00	0.029	12/5/2021 4:00	0.035
12/5/2021 4:15	0.029	12/5/2021 4:15	0.035
12/5/2021 4:30	0.029	12/5/2021 4:30	0.035
12/5/2021 4:45	0.029	12/5/2021 4:45	0.035
12/5/2021 5:00	0.028	12/5/2021 5:00	0.035
12/5/2021 5:15	0.028	12/5/2021 5:15	0.035
12/5/2021 5:30	0.03	12/5/2021 5:30	0.035
12/5/2021 5:45	0.03	12/5/2021 5:45	0.035
12/5/2021 6:00	0.03	12/5/2021 6:00	0.034
12/5/2021 6:15	0.03	12/5/2021 6:15	0.034
12/5/2021 6:30	0.03	12/5/2021 6:30	0.034
12/5/2021 6:45	0.03	12/5/2021 6:45	0.034
12/5/2021 7:00	0.031	12/5/2021 7:00	0.034
12/5/2021 7:15	0.03	12/5/2021 7:15	0.033
12/5/2021 7:30	0.031	12/5/2021 7:30	0.038
12/5/2021 7:45	0.032	12/5/2021 7:45	0.035
12/5/2021 8:00	0.032	12/5/2021 8:00	0.034
12/5/2021 8:15	0.032	12/5/2021 8:15	0.034
12/5/2021 8:30	0.033	12/5/2021 8:30	0.034
12/5/2021 8:45	0.032	12/5/2021 8:45	0.033
12/5/2021 9:00	0.032	12/5/2021 9:00	0.033
12/5/2021 9:15	0.033	12/5/2021 9:15	0.033
12/5/2021 9:30	0.032	12/5/2021 9:30	0.032
12/5/2021 9:45	0.032	12/5/2021 9:45	0.032
12/5/2021 10:00	0.032	12/5/2021 10:00	0.033
12/5/2021 10:15	0.033	12/5/2021 10:15	0.032
12/5/2021 10:30	0.033	12/5/2021 10:30	0.032
12/5/2021 10:45	0.036	12/5/2021 10:45	0.032
12/5/2021 11:00	0.04	12/5/2021 11:00	0.033
12/5/2021 11:15	0.043	12/5/2021 11:15	0.034
12/5/2021 11:30	0.05	12/5/2021 11:30	0.034
12/5/2021 11:45	0.05	12/5/2021 11:45	0.035
12/5/2021 12:00	0.061	12/5/2021 12:00	0.036
12/5/2021 12:15	0.064	12/5/2021 12:15	0.037
12/5/2021 12:30	0.068	12/5/2021 12:30	0.036

FILTER #3		FILTER #4	
12/5/2021 12:45	0.074	12/5/2021 12:45	0.04
12/5/2021 13:00	0.081	12/5/2021 13:00	0.041
12/5/2021 13:15	0.095	12/5/2021 13:15	0.042
12/5/2021 13:30	0.095	12/5/2021 13:30	0.042
12/5/2021 13:45	0.094	12/5/2021 13:45	0.042
12/5/2021 14:00	0.099	12/5/2021 14:00	0.044
12/5/2021 14:15	0.103	12/5/2021 14:15	0.046
12/5/2021 14:30	0.122	12/5/2021 14:30	0.049
12/5/2021 14:45	0.144	12/5/2021 14:45	0.053
12/5/2021 15:00	0.147	12/5/2021 15:00	0.061
12/5/2021 15:15	0.17	12/5/2021 15:15	0.07
12/5/2021 15:30	0.187	12/5/2021 15:30	0.076
12/5/2021 15:45	0.201	12/5/2021 15:45	0.085
12/5/2021 16:00	0.219	12/5/2021 16:00	0.102
12/5/2021 16:15	0.236	12/5/2021 16:15	0.115
12/5/2021 16:30	0.223	12/5/2021 16:30	0.122
12/5/2021 16:45	0.244	12/5/2021 16:45	0.142
12/5/2021 17:00	0.261	12/5/2021 17:00	0.15
12/5/2021 17:15	0.297	12/5/2021 17:15	0.168
12/5/2021 17:30	0.307	12/5/2021 17:30	0.19
12/5/2021 17:45	0.332	12/5/2021 17:45	0.214
12/5/2021 18:00	0.384	12/5/2021 18:00	0.25
12/5/2021 18:15	0.429	12/5/2021 18:15	0.284
12/5/2021 18:30	**0.509**	12/5/2021 18:30	0.29
12/5/2021 18:45	0.473	12/5/2021 18:45	0.306
12/5/2021 19:00	0.467	12/5/2021 19:00	0.277
12/5/2021 19:15	**0.544**	12/5/2021 19:15	0.282
12/5/2021 19:30	0.46	12/5/2021 19:30	0.286
12/5/2021 19:45	0.484	12/5/2021 19:45	0.314
12/5/2021 20:00	0.463	12/5/2021 20:00	0.318
12/5/2021 20:15	0.465	12/5/2021 20:15	0.327
12/5/2021 20:30	0.442	12/5/2021 20:30	0.313
12/5/2021 20:45	**0.585**	12/5/2021 20:45	0.347
12/5/2021 21:00	**1.09**	12/5/2021 21:00	**0.622**
12/5/2021 21:15	**0.879**	12/5/2021 21:15	**0.596**
12/5/2021 21:30	**0.713**	12/5/2021 21:30	0.484
12/5/2021 21:45	**0.622**	12/5/2021 21:45	0.415
12/5/2021 22:00	**0.558**	12/5/2021 22:00	0.375
12/5/2021 22:15	0.201	12/5/2021 22:15	0.392
12/5/2021 22:30	0.289	12/5/2021 22:30	0.344
12/5/2021 22:45	0.258	12/5/2021 22:45	**0.841**
12/5/2021 23:00	0.12	12/5/2021 23:00	**0.715**
12/5/2021 23:15	0.07	12/5/2021 23:15	**0.66**
12/5/2021 23:30	0.045	12/5/2021 23:30	**0.721**
12/5/2021 23:45	0.038	12/5/2021 23:45	0.455

10:00 PM backwash

1:00 AM backwash

Massachusetts Department of Environmental Protection - Drinking Water Program

CHLORINE/CHLORAMINES - MONTHLY REPORT

Cl

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 APPROVED SAMPLE SITE INFORMATION[1]			CHLORINE RESULT[2] (mg/L)	COLLECTION AND ANALYSIS[3]:		COLLECTED AND ANALYZED BY:
DEP Sample Type[1,4]	DEP Location Code #[1]	DEP Approved SAMPLE LOCATION[1]		DATE	TIME	
RS	001	TOWN HALL	1.62	12/6/2021	07:08	T Duggan
RS	004	COTTAGE VARIETY	1.68	12/6/2021	07:57	T. Duggan
RS	008E	STEWARTS POWER EQUIPMENT	.04	12/6/2021	07:35	T. Duggan
RS	006	COMMUNITY CENTER	.30	12/6/2021	09:08	T. Duggan
RS	001	TOWN HALL	1.59	12/13/2021	07:08	T. Duggan
RS	004	COTTAGE VARIETY	1.63	12/13/2021	08:02	T. Duggan
RS	008E	STEWARTS POWER EQUIPMENT	.03	12/13/2021	08:40	T. Duggan
RS	006	COMMUNITY CENTER	.93	12/13/2021	07:35	T. Duggan
RS	001	TOWN HALL	1.50	12/20/2021	07:08	T. Duggan
RS	004	COTTAGE VARIETY	1.69	12/20/2021	08:05	T. Duggan
RS	008E	STEWARTS POWER EQUIPMENT	.03	12/20/2021	08:42	T. Duggan
RS	006	COMMUNITY CENTER	.40	12/20/2021	07:40	T. Duggan
RS	001	TOWN HALL	1.28	12/27/2021	07:20	J. Maclane
RS	004	COTTAGE VARIETY	1.41	12/27/2021	07:40	J. Maclane
RS	OO8E	STEWARTS POWER EQUIPMENT	.02	12/27/2021	07:55	J. Maclane
RS	006	COMMUNITY CENTER	.73	12/27/2021	08:30	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 Month[5]: 66 Average Chlorine Result of All Samples For Month[5] (mg/L): 1.36

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 Corkery 1-6-2022

DEP Review Status:	☐ Accepted ☐ Disapproved	Review Comments:	

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 ☐ I 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[5]	DEP Approved SAMPLE LOCATION[1]		DATE	TIME	
RS	003	TOWER HILL SCHOOL — ADAMS STREET	1.60	12/1/21	10:45AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL — 20 HURLEY DRIVE	1.59		9:30AM	
RS	005	MARTIN E. YOUNG SCHOOL - COURTNEY DRIVE	1.49		9:15AM	
RS	006	COMFORT INN — 1574 NORTH MAIN STREET	1.82		11:30AM	
RS	008	NORTH MIDDLE SCHOOL — HIGH STREET	1.48		11:15AM	
RS	011	MOBIL STATION — 90 MAZZEO DRIVE	1.49		9:45AM	
RS	012	7-11 FOOD SHOP — 670 NORTH STREET	1.30		8:30AM	
RS	014	CVS PHARMACY — 777 NORTH MAIN STREET	NO ACCESS	DUE	TO COVID-19	
	QUAE	A&P AUTO — 317 North Main Street	1.71		8:00AM	
RS	016	OAK GROVE STANDPIPE	1.28		10:15AM	
RS	017	SOUTH MAIN STREET STANDPIPE	1.22		9:00AM	

[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] SWTP, systems w/ IPC must be collected at distribution sites with zero chlorine residual and results reported on the DEP Monthly/Quarterly Report form and on the appropriate SWTP 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 RS/ROUTINE 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. CERTIFICATION REQUIRED: Total # of Samples Collected for Month[6]: 66 Average Chlorine Result of All Samples For Month[6] (mg/L): 1.36

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 1-6-2022

DEP Review Status: ☐ Accepted ☐ Disapproved Review Comments:

CHLORINE/CHLORAMINES - MONTHLY REPORT

I. PWS INFORMATION:

PWS ID #: 4224000 | PWS Name: RANDOLPH WATER DEPARTMENT | City/Town: RANDOLPH | Class: COM ☒ NTNC ☐ TNC ☐

II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DWPP 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 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]	DEP Approved SAMPLE LOCATION[1]		DATE	TIME	
RS	003	TOWER HILL SCHOOL — ADAMS STREET	1.53	12-6-21	10:40	
RS	004	JFK SCHOOL — 20 HURLEY DRIVE	1.84		8:30	
RS	005	MARTIN E. YOUNG SCHOOL-COURTNEY DRIVE	1.42		7:45	
RS	006	COMFORT INN — 1974 NORTH MAIN STREET	1.93		11:10	
RS	008	NORTH MIDDLE SCHOOL — HIGH STREET	1.75		10:50	
RS	011	MOBIL STATION — 90 MAZZEO DRIVE	1.66		10:15	
RS	012	7-11 FOOD SHOP — 878 NORTH STREET	.70		8:00	
RS	014 A	ENTRANCE — 279 NORTH MAIN STREET	NO ACCESS	DUE TO	COVID-19	
	014E	AMP AVE-317 NORTH MAIN STREET	1.90		11:45	
RS	016	OAK GROVE STANDPIPE	1.30		11:15 AM	
RS	017	SOUTH MAIN STREET STANDPIPE	1.11		10:50 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' MRDL must be collected at distribution sites with zero chlorine residual and results reported on the DWPP 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 chlorination 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 Month[5]: 66 | Average Chlorine Result of All Samples For Month[5] (mg/L): 1.36

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: 12/6/21

DEP Review Status: ☐ Accepted ☐ Disapproved | Review Comments:

William Cooke 1-6-2022

CHLORINE/CHLORAMINES - MONTHLY REPORT

I. PWS INFORMATION:

PWS ID #: 4244000 | PWS Name: RANDOLPH WATER DEPARTMENT | City/Town: RANDOLPH | Class: CWS ☒ NTNC ☐ TNC ☐

II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DEP 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 APPROVED SAMPLE SITE INFORMATION[2]			CHLORINE RESULT[3] (mg/L)	COLLECTION AND ANALYSIS[3]		COLLECTED AND ANALYZED BY:
DEP Sample Type[4]	DEP Location Code[5]	DEP Approved SAMPLE LOCATION[2]		DATE	TIME	
RS	003	TOWER HILL SCHOOL — ADAMS STREET	1.51	12/13/21	10:30 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL — 20 HURLEY DRIVE	1.68		7:30 AM	
RS	006	MARTIN E. YOUNG SCHOOL - COURTNEY DRIVE	1.40		9:00 AM	
RS	008	COMFORT INN — 1874 NORTH MAIN STREET	1.88		11:30 AM	
RS	008	NORTH MIDDLE SCHOOL — HIGH STREET	1.56		11:00 AM	
RS	011	MOBIL STATION — 93 MAZZEO DRIVE	1.55		9:30 AM	
RS	012	7-11 FOOD SHOP — 878 NORTH STREET	.99		8:30 AM	
RS	014	ENTERPRISE — 779 NORTH MAIN STREET	NO ACCESS	DUE TO	COVID-19	
	014ME	AXP AUTO - 317 NORTH MAIN STREET	1.55		8:00 AM	
RS	016	OAK GROVE STANDPIPE	1.43		10:15 AM	
RS	017	SOUTH MAIN STREET STANDPIPE	1.29		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] Chlorination 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 Month[6]: 66 | Average Chlorine Result of All Samples For Month[6] (mg/L): 1.36

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 Corkery 1-6-2022

DEP Review Status: ☐ Accepted ☐ Disapproved | Review Comments:

CHLORINE/CHLORAMINES - MONTHLY REPORT

I. PWS INFORMATION:

PWS ID #: 4244000 | PWS Name: RANDOLPH WATER DEPARTMENT | City/Town: RANDOLPH | Class: GWM ☒ NTNC ☐ TNC ☐

II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DEP 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 APPROVED SAMPLE SITE INFORMATION[1]			CHLORINE RESULT[3] (mg/L)	COLLECTION AND ANALYSIS[3]:		COLLECTED AND ANALYZED BY:
DEP Sample Type[4]	DEP Location Code[2]	DEP Approved SAMPLE LOCATION[1]		DATE	TIME	
RS	003	TOWER HILL SCHOOL — ADAMS STREET	1.91	12-20-21	10:00 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL—20 HURLEY DRIVE	1.80		7:30 AM	
RS	005	MARTIN E. YOUNG SCHOOL-COURTNEY DRIVE	1.41		9:00 AM	
RS	006	COMFORT INN —1374 NORTH MAIN STREET	1.87		11:00 AM	
RS	008	NORTH MIDDLE SCHOOL —HIGH STREET	1.89		10:30 AM	
RS	011	MOBIL STATION—90 MAZZEO DRIVE	1.75		9:30 AM	
RS	012	7-11 FOOD SHOP—670 NORTH STREET	.90		8:30 AM	
RS	014 A	ENTERPRISE—279 NORTH MAIN STREET	NO ACCESS	DUE TO	COVID-19	
	014AE	AAA AUTO-317 NORTH MAIN ST.	1.87		8:00 AM	
RS	016	OAK GROVE STANDPIPE	1.44		9:45 AM	
RS	017	SOUTH MAIN STREET STANDPIPE	1.24		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).
[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 Month[5]: 66 | Average Chlorine Result of All Samples For Month[5] (mg/L): 1.36

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 1-6-2022

DEP Review Status: ☐ Accepted ☐ Disapproved | Review Comments:

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 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 ☐ I 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[5]	DEP Approved SAMPLE LOCATION[1]		DATE	TIME	
RS	003	TOWER HILL SCHOOL — ADAMS STREET	1.50	12-27-21	10:00 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL — 20 HURLEY DRIVE	1.56		7:30 AM	
RS	008	MARTIN E. YOUNG SCHOOL-COURTNEY DRIVE	1.29		8:00 AM	
RS	009	COMFORT INN — 1974 NORTH MAIN STREET	1.50		11:00 AM	
RS	008	NORTH MIDDLE SCHOOL — HIGH STREET	1.57		10:30 AM	
RS	011	MOBIL STATION — 99 MAZZEO DRIVE	1.25		9:30 AM	
RS	012	7-11 FOOD SHOP — 676 NORTH STREET	.90		9:00 AM	
RS	014 A	SUNOCO — 779 NORTH MAIN STREET	NO ACCESS	DUE TO	COVID-19	
	014RE	AXP AUTO - 317 North Main Street	1.62		8:30 AM	
RS	016	OAK GROVE STANDPIPE	1.33		9:15 AM	
RS	017	SOUTH MAIN STREET STANDPIPE	1.23		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] SWTP systems' MPC must be achieved at distribution sites with zero chlorine residual and results reported on the DEP Disinfection/Total 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, UP-Upstream Repeat, DP-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 Month[6]: 66 Average Chlorine Result of All Samples For Month[6] (mg/L): 1.36

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 Pierre-Louis 1-6-2022

DEP Review Status: ☐ Accepted ☐ Disapproved Review Comments:

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): 2021 Monitoring Period (QUARTER): ☐Q1 (Jan-Mar) ☐Q2 (Apr-Jun) ☐Q3 (Jul-Sep) ☒Q4 (Oct- Dec)

II. FOR SYSTEMS USING CHLORINATION

A. Trihalomethanes (TTHM)

Total Number of TTHM 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: 66 OCT	Monthly Averages: (report all 3 months per quarter)	1.06 mg/L	Quarterly Average:	1.23 mg/L
	Month 2: 70 NOV		1.27 mg/L		
	Month 3: 66 DEC		1.36 mg/L		
Was the Running Annual Average MRDL (4.0 mg/L) exceeded? Yes ☐ No ☒				Running Annual Average:	1.16 mg/L

D. Total Organic Carbon – raw (TOC) *(Required for SW or GWUDI systems >499 seeking or approved to reduce THM/HAA5 monitoring.)*

Plant Name: *(Attach additional sheet(s) to report more than 1 plant)*

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 (4.0 mg/L) threshold exceeded? Yes ☐ No ☐				Running Annual Average:	mg/L

III. FOR SYSTEMS USING OZONATION *– attach additional sheet(s) to report more than 1 plant*

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 ug/l) exceeded? Yes ☐ No ☐				Running Annual Average:	mg/L

F. Bromide (raw)

Required for systems seeking or approved to reduce Bromate monitoring

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

IV. FOR SYSTEMS USING CHLORINE DIOXIDE *– Report compliance information on your Chlorite/Chlorine Dioxide Daily Samples Report*

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 of my knowledge.

Primary Certified Operator Signature: William Corbett Date: 1-6-2022

DEFINITIONS	
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)	Review Comments
☐ Accepted _____ ☐ Disapproved _____	

Analytical Balance
Division of Thielsch Engineering

BAL LABORATORY

CERTIFICATE OF ANALYSIS

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

Project Name: DOC SUVA
Work Order Number: A1J0064
Date Received: 10/04/2021

Sampled By: Bill Cookerly
Location: Raw Water

Date Sampled: 10/4/21 9:00
Matrix: Drinking Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det Limit*	MCL/ Rec Limit#	Result
Test Parameters				LAB-ID#:	A1J0064-01	
Dissolved Organic Carbon (Average)	5310B	10/5/2021	mg/L	0.500	—	5.63
SUVA	4153	10/5/2021	/100 ml	N/A	—	0.0196
UV 254	5910B	10/5/2021	abs/cm	0.002	—	0.109

Sampled By: Bill Cookerly
Location: Combined Filter Effluent Grab

Date Sampled: 10/4/21 9:00
Matrix: Drinking Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det Limit*	MCL/ Rec Limit#	Result
Test Parameters				LAB-ID#:	A1J0064-02	
Dissolved Organic Carbon (Average)	5310B	10/5/2021	mg/L	0.500	—	3.17
SUVA	4153	10/5/2021	/100 ml	N/A	—	0.0166
UV 254	5910B	10/5/2021	abs/cm	0.002	—	0.052

NA = Not Applicable
ND = Not Detected
< = Less Than
> = Greater Than
* = Detection Limit
Rec Limit# = Recommended Limit

Approved By: [signature]

Work Order Narrative:

No unusual observations noted.

REVIEWED
By Amanda Cronin at 7:32 am, Nov 18, 2021

CERTIFICATE OF ANALYSIS

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

Project Name: DOC SUVA
Work Order Number: A1K0297
Date Received: 11/08/2021

Sampled By: Bill Cookerly
Location: Raw Water

Date Sampled: 11/8/21 9:00
Matrix: Surface Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL/ Rec Limit#	Result
Test Parameters				LAB-ID#: A1K0297-01		
Dissolved Organic Carbon (Average)	5310B	11/10/2021	mg/L	0.500	—	5.25
SUVA	4153	11/10/2021	/100 ml	N/A	—	0.0231
UV 254	5910B	11/9/2021	abs/cm	0.002	—	0.121

Sampled By: Bill Cookerly
Location: Combined Filter Effluent Grab

Date Sampled: 11/8/21 9:00
Matrix: Drinking Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL/ Rec Limit#	Result
Test Parameters				LAB-ID#: A1K0297-02		
Dissolved Organic Carbon (Average)	5310B	11/10/2021	mg/L	0.500	—	3.49
SUVA	4153	11/10/2021	/100 ml	N/A	—	0.0140
UV 254	5910B	11/9/2021	abs/cm	0.002	—	0.049

NA = Not Applicable
ND = Not Detected
< = Less Than
> = Greater Than
* = Detection Limit
Rec Limit# = Recommended Limit

Approved By:

Work Order Narrative:

No unusual observations noted.

REVIEWED
By mgargasz at 1:20 pm, Nov 18, 2021