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

November 3, 2020

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 and SUVA
Chemical Addition Reports
DBPR Compliance Report
October, 2020 Randolph/Holbrook
Joint Water System, PWS #424001

Gentlemen:

Enclosed please find all reports as referenced above for the month of October, 2020. Should there be any questions, please do no hesitate to call.

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: OCTOBER Year: 2020

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	2.13	6	1.98	11	2.05	16	2.11	21	2.13	26	1.90	31	2.11
2	2.03	7	2.03	12	2.02	17	1.94	22	2.01	27	2.05		
3	2.08	8	2.03	13	2.10	18	1.90	23	2.03	28	1.03		
4	1.86	9	2.22	14	1.91	19	1.98	24	1.99	29	1.82		
5	1.80	10	2.12	15	2.03	20	1.91	25	1.91	30	1.55		

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: 65 # HPC sites > 500/mL: 0 # HPC sites ≤ 500/mL: 65

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,

11-9-2020 PWS Authorized Signature: William Cooksey, Chief Operator

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: OCTOBER Year: 2020

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[2] (NTU)	Number of Turbidity Measurements[3]	Number of Turbidity Measurements ≤ Monthly (95%) NTU Limit[4]	Number of Turbidity Measurments > Max Day NTU Limit[5]
	.06	6	6	0
	.06	6	6	0
	.07	6	6	0
	.06	6	6	0
	.06	6	6	0
	.06	6	6	0
	.06	6	6	0
	.05	6	6	0
	.07	6	6	0
	.07	6	6	0
	.06	6	6	0
	.06	6	6	0
	.06	6	6	0
	.07	6	6	0
	.07	6	6	0
	.08	6	6	0
	.07	6	6	0
	.05	6	6	0
	.05	6	6	0
	.06	6	6	0
	.05	6	6	0
	.07	6	6	0
	.07	6	6	0
	.06	6	6	0
	.06	6	6	0
	.06	6	6	0
	.05	6	6	0
	.07	6	6	0
	.06	6	6	0
	.06	6	6	0
	.07	6	6	0
Totals		186 (A)	186 (B)	% Turbidity Meeting 95% Limit: B/A × 100% = X (Enter on SWTR - Form G)

1. May be used by systems serving less than 10,000 persons, subject to DEP approval.
2. Enter the Maximum Filtered Water Turbidity Result recorded each day, at the 4th hour or other approved interval.
3. 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.
4. 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.
5. 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 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 Coskery

Date: 11-3-2020 Title: Chief Plant Operator

Submit to your ... DEP Regional Office

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: OCTOBER Year: 2020

Disinfectant[1]: Chlorine Gas/Filter 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	2.13	50	106.5	5.80	16.7	17	6.3	☐ Yes
2	2,400	2.03	50	101.5	5.95	16.5	17	6.0	☐ Yes
3	2,400	2.08	50	104	6.00	16.8	17	6.1	☐ Yes
4	2,400	1.86	50	93	6.05	16.8	17	5.5	☐ Yes
5	2,400	1.80	50	90	5.90	15.1	17	5.3	☐ Yes
6	2,400	1.98	50	99	5.90	15.0	17	5.8	☐ Yes
7	2,400	2.03	50	101.5	5.95	15.4	17	6.0	☐ Yes
8	2,400	2.03	50	101.5	5.80	15.0	17	6.0	☐ Yes
9	2,400	2.22	50	111	5.90	14.0	17	6.5	☐ Yes
10	2,400	2.12	50	106	5.90	14.0	17	6.2	☐ Yes
11	2,400	2.05	50	102.5	6.05	14.8	17	6.0	☐ Yes
12	2,400	2.02	50	101	6.05	14.9	17	5.9	☐ Yes
13	2,400	2.10	50	105	5.90	15.2	17	6.2	☐ Yes
14	2,400	1.91	50	95.5	5.95	14.0	17	5.6	☐ Yes
15	2,400	2.03	50	101.5	5.95	13.2	17	6.0	☐ Yes
16	2,400	2.11	50	105.5	6.05	13.0	17	6.2	☐ Yes
17	2,400	1.94	50	97	6.10	12.9	17	5.7	☐ Yes
18	2,400	1.90	50	95	6.10	12.9	17	5.6	☐ Yes
19	2,400	1.98	50	99	6.15	12.8	17	5.8	☐ Yes
20	2,400	1.91	50	95.5	5.95	12.8	17	5.6	☐ Yes
21	2,400	2.13	50	106.5	6.00	13.2	17	6.3	☐ Yes
22	2,400	2.01	50	100.5	6.05	12.6	17	5.9	☐ Yes
23	2,400	2.03	50	101.5	6.15	12.6	17	6.0	☐ Yes
24	2,400	1.99	50	99.5	6.05	12.8	17	5.9	☐ Yes
25	2,400	1.91	50	95.5	6.00	13.2	17	5.6	☐ Yes
26	2,400	1.90	50	95	6.15	12.6	17	5.6	☐ Yes
27	2,400	2.05	50	102.5	6.05	12.8	17	6.0	☐ Yes
28	2,400	1.03	50	51.5	5.80	12.2	17	3.0	☐ Yes
29	2,400	1.82	50	91	6.05	12.5	17	5.4	☐ Yes
30	2,400	1.55	50	77.5	6.05	12.0	17	4.6	☐ Yes
31	2,400	2.11	50	105.5	6.10	12.4	17	6.2	☐ 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 Cooke

Date: 11-4-2020 Title: Chief Plant Operator

Massachusetts Department of Environmental Protection – Drinking Water Program

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

C-ADD

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

PWS Name[1]:	RANDOLPH-HOLBROOK JW	Town[1]:	RANDOLPH-Holbrook	PWSID[1]:	4244001
Treatment Plant Name[2]:	RANDOLPH WATER PLANT	Treatment Plant ID#[2]:	4244001-01T	Reporting Period[3]: Month	OCTOBER
				Year	2020

II. Chemical & Operational Information

Chemical Name[4]:	POLYALUMINUM CHLORIDE	Purchased Strength[8]:	1.0	Target Range/min[12]:	> 14
Manufacturer[5]:	HOLLAND COMPANY	Purchased Density (lbs/gal)[9]:	10.3	Target Dose[13]:	< 18
Product Name[6]:	PCH-180	Dilution Factor or Mix Ratio[10]:	NA	Alarm Setting (low)[14]:	NA
Reason for Adding Chemical[7]:	COAGULATION	NSF Approved (Y/N)[11]:	Y	Alarm Setting (high)[14]:	NA
		Date of last anti-siphon valve inspection/replacement[15]:			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. RAW Ph DAILY AVG ☑G ☐A	b. ☐G ☐A	c. ☐G ☐A	O&M Notes/Comments[22]
1	2.8	114		1,174	17	7.05			
2	2.6	94		968	15	7.15			
3	2.8	110		1,133	16	7.05			
4	2.6	100		1,030	16	7.05			
5	2.8	132		1,360	19	7.10			
6	2.8	134		1,380	20	7.05			
7	2.8	128		1,318	19	7.10			
8	2.8	128		1,318	19	7.15			
9	2.7	110		1,131	17	7.15			
10	2.9	143		1,473	20	7.05			
11	2.9	122		1,275	17	7.10			
12	2.7	105		1,082	16	7.10			
13	2.9	125		1,288	18	7.15			
14	2.9	124		1,277	17	7.05			
15	2.8	106		1,092	15	7.15			
16	2.9	125		1,288	18	7.00			
17	2.8	122		1,257	18	7.10			
18	2.8	108		1,112	16	7.15			
19	2.9	102		1,051	14	7.20			
20	2.9	146		1,504	21	7.10			
21	2.9	122		1,257	17	7.10			
22	2.9	124		1,277	17	7.05			
23	2.8	124		1,277	18	7.05			
24	2.7	101		1,040	15	7.15			
25	2.7	129		1,329	20	7.20			
26	2.7	129		1,329	20	7.20			* 10-28-2020
27	2.5	80		824	16	7.10			PCH-180 FEED PUMP SYSTEM SIPHONING
28	2.5	343		3,533	56	7.10			UPON START UP OF PLANT AFTER
29	2.9	109		1,123	15	7.15			BASIN CLEANING.
30	2.8	125		1,288	18	7.20			
31	2.8	114		1,174	17	7.10			
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 Cookerly

Print Name: William Cookerly Title: Chief Plant Operator

Massachusetts Department of Environmental Protection – Drinking Water Program

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

C-ADD

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

PWS Name[1]:	RANDOLPH-HOLBROOK JOINT WATER	Town[1]:	RANDOLPH-HOLBROOK	PWSID[1]:	4244001
Treatment Plant Name[2]:	RANDOLPH WATER PLANT	Treatment Plant ID#[2]:	4244001-01T	Reporting Period[3]:	SEPTEMBER (Month) 2020 (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] ☐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 FINISHED ☒G ☐A	b. FREE Cl2 FINISHED ☒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		84		3.6	2.30	2.13		
2	2.6		80		3.7	2.20	2.03		
3	2.8		87		3.7	2.20	2.08		
4	2.6		79		3.6	2.11	1.86		
5	2.8		83		3.6	2.05	1.80		
6	2.8		83		3.6	2.15	1.98		
7	2.8		90		3.9	2.03	2.03		
8	2.8		89		3.8	2.21	2.03		
9	2.7		89		4.0	2.36	2.22		
10	2.9		91		3.8	2.19	2.12		
11	2.9		84		3.3	2.20	2.05		
12	2.7		84		3.7	2.17	2.02		
13	2.9		87		3.6	2.20	2.10		
14	2.9		90		3.7	2.09	1.91		
15	2.8		89		3.8	2.21	2.03		
16	2.9		83		3.4	2.33	2.11		
17	2.8		85		3.6	2.12	1.94		
18	2.8		82		3.7	2.18	1.90		
19	2.9		90		3.7	2.16	1.98		
20	2.9		84		3.5	2.18	1.91		
21	2.9		91		3.8	2.32	2.13		
22	2.9		89		3.7	2.09	2.01		
23	2.8		82		3.5	2.19	2.03		
24	2.7		85		3.8	2.11	1.99		
25	2.7		82		3.6	2.14	1.91		
26	2.7		85		3.8	2.10	1.90		
27	2.1		69		4.0	2.19	2.05		Plant down for Basin Cleaning
28	2.5		68		3.3	2.17	1.03		
29	2.9		95		3.9	2.11	1.82		
30	2.8		85		3.6	2.10	1.55		
31	2.8		98		4.2	2.21	2.11		
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, Test Kit

b. Daily Minimum Free Chlorine, Finished Water, Grab-Sample, 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 & Date[24]: William Cookerly 11-5-2020

Print Name: WILLIAM COOKERLY Title: Chief 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 JW	Town[1]:	RANDOLPH-HOLBROOK	PWSID[1]:	4244001		
Treatment Plant Name[2]:	RANDOLPH WATER PLANT	Treatment Plant ID#[2]:	4244001-01T	Reporting Period[3]:	OCTOBER (Month)	2020 (Year)	

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	2.4		100		5.0	7.15			
2	2.4		100		5.0	7.20			
3	2.6		100		4.6	7.20			
4	2.4		100		5.0	7.15			
5	2.4		100		5.0	7.15			
6	2.5		100		4.8	7.10			
7	2.5		100		4.8	7.15			
8	2.5		100		4.8	7.20			
9	2.5		100		4.8	7.15			
10	2.6		100		4.6	7.05			
11	2.6		100		4.6	7.05			
12	2.5		100		4.8	7.20			
13	2.7		100		4.4	7.15			
14	2.7		100		4.4	7.20			
15	2.6		100		4.6	7.10			
16	2.7		100		4.4	7.15			
17	2.7		100		4.4	7.15			
18	2.6		100		4.6	7.05			
19	2.7		100		4.4	7.05			
20	2.7		100		4.4	7.00			
21	2.7		100		4.4	7.15			
22	2.7		100		4.4	7.00			
23	2.6		100		4.6	7.05			
24	2.6		100		4.6	7.15			
25	2.6		100		4.6	7.15			
26	2.6		100		4.6	7.00			
27	2.0		75		4.5	7.05			Plant down for Basin Cleaning
28	2.4		100		5.0	7.00			
29	2.8		100		4.3	7.15			
30	2.7		100		4.4	7.10			
31	2.6		100		4.6	7.10			
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 Cookerly 11-5-2020

Print Name: WILLIAM COOKERLY Title:

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]:	4244001-01T	Reporting Period[3]:	OCTOBER (Month) 2020 (Year)

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[c], 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	2.4		50		2.5	7.15			
2	2.4		50		2.5	7.20			
3	2.6		50		2.3	7.20			
4	2.4		50		2.5	7.15			
5	2.4		50		2.5	7.15			
6	2.5		50		2.4	7.10			
7	2.5		50		2.4	7.15			
8	2.5		50		2.4	7.20			
9	2.5		50		2.4	7.15			
10	2.6		50		2.3	7.05			
11	2.6		50		2.3	7.			
12	2.5		50		2.4	7.20			
13	2.7		50		2.2	7.15			
14	2.7		50		2.2	7.20			
15	2.6		50		2.3	7.10			
16	2.7		50		2.2	7.15			
17	2.7		50		2.2	7.15			
18	2.6		50		2.3	7.05			
19	2.7		50		2.2	7.05			
20	2.7		50		2.2	7.00			
21	2.7		50		2.2	7.15			
22	2.7		50		2.2	7.00			
23	2.6		50		2.3	7.05			
24	2.6		50		2.3	7.15			
25	2.6		50		2.3	7.15			
26	2.5		50		2.3	7.00			
27	2.0		35		2.1	7.05			Plant down for Basin Cleaning
28	2.4		50		2.5	7.00			
29	2.8		50		2.1	7.15			
30	2.7		50		2.2	7.10			
31	2.8		50		2.3	7.10			
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 Cookerly 11-5-2020

Print Name: William Cookerly Title: Chief Plant Operator

Massachusetts Department of Environmental Protection - Drinking Water Program

TOC

Total Organic Carbon Report

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

PWS ID #: 4244001 City/Town: Holbrook

PWS Name: Randolph-Holbrook Joint Water Board PWS Class: COM X NTNC NC

	DEP location ID	DEP location name	Sample Information		Collected		Collected by
					Date	Time	
A	01S	Raw Water	___ Multiple _x_ Single	_x_ Raw ___ Finished	10/05/2020	09:00	B. Cookerly
B	10300	Combined Filter Effluent	___ Multiple _x_ Single	___ Raw _x_ Finished	10/05/2020	09:00	B. Cookerly

	Routine or Special Sample	Original or Resubmitted or Confirmation Report	If resubmitted report, list below:	
			Reason for resubmission	Collection date of original sample
A	_x_ RS ___ SS	x_ Original ___ Resubmitted	_Resample _Reanalysis ___ Report Corr.	
B	_x_ RS ___ SS	x_ Original ___ Resubmitted	_Resample _Reanalysis ___ Report Corr.	

	Lab sample notes:
A	
B	

II. Analytical Laboratory Information:

Primary Lab MA Cert. # M-MA022 Primary Lab name: Analytical Balance Corp. Subcontracted? _x_ Y ___ N

TOC analyzed by (check one): ___ PWS _x_ Lab Samples acidified? _x_ Yes ___ No

	TOC result (mg/L)	MDL (mg/L)	Lab Method	Date Analyzed	Analysis Lab MA Cert. #	Analysis Lab Name	Lab Sample ID #
A	5.13	0.5	SM 5310B	10/09/2020	M-RI002	ESS	52032-01
B	3.42	0.5	SM 5310B	10/09/2020	M-RI002	ESS	52032-02

Surface water or GWUDI systems ≥ 500 persons
Monthly source (raw) water TOC samplingis required at each surface/GWUDI source to qualify for and remain on reduced TTHM/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 source (raw) sample prior to any treatment, and one alkalinity source (raw) water sample - at a time representative of normal operating conditions and influent water quality.
The time between collection of raw and treated (finished) water must not exceed the time it takes to move through the plant.

Alkalinity analyzed by (check one): ___ PWS _x_ Lab

	Alkalinity result (mg/L as $CaCO_3$)	MDL (mg/L)	Lab Method	Date Analyzed	Analysis Lab MA Cert. #	Analysis Lab Name	Lab Sample ID #
A	27.0	4	SM 2320B	10/14/2020	M-MA022	Analytical Balance	52032-01
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 notes:
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.

Robert Bentley

Digitally signed by Robert Bentley
CN=Robert Bentley
O=Analytical Balance Corp.
E=bob@h2otest.net

Primary Lab Director Signature/ Date: 10/19/2020

If not submitting these results electronically, mail TWO copies 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.

DEP REVIEW STATUS (Initial & date) Accepted ___ Disapproved ___	Review comments		___ WQTS data entered

Environmental Chemistry
Site Assessment
Quality Assurance Services

Analytical Balance CORPORATION

Environmental Services
Site Sampling
Data Auditing

CERTIFICATE OF ANALYSIS

Keith Nastasia
Randolph-Holbrook Joint Water Board
50 N. Franklin Street
Holbrook, MA 02343

COLLECTED BY: B. Cookerly
TIME: 9:00
LOCATION: Raw Water
01S

REPORTED: 10/16/2020
ORDER #: G2052033
SAMPLE DATE: 10/5/2020
DATE RECEIVED: 10/5/2020
SAMPLE ID: Special
DESCRIPTION: DRINKING WATER

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL[1] / Rec. Limit[2]	Result
Test Parameters				LAB-ID#:	2052033-01	
Carbon, Total Dissolved Organic	SM 5310B	10/09/2020	mg/L	0.500	---	**4.94**
SUVA	Calculation	10/15/2020	# per 100 mL	0	0	**0.017**
UV 254	SM 5910B	10/06/2020	Abs/cm	0.002	-----	**0.084**

Unless otherwise noted, all analyses were conducted by Analytical Balance Corp. (M-MA022). TOC and UV254 analyzed by subcontract lab M-RI002.

Environmental Chemistry
Site Assessment
Quality Assurance Services

Analytical Balance CORPORATION

Environmental Services
Site Sampling
Data Auditing

CERTIFICATE OF ANALYSIS

Keith Nastasia
Randolph-Holbrook Joint Water Board
50 N. Franklin Street
Holbrook, MA 02343

COLLECTED BY: B. Cookerly
TIME: 9:00
LOCATION: Combined Filter Effluent
10300

REPORTED: 10/16/2020
ORDER #: G2052033
SAMPLE DATE: 10/5/2020
DATE RECEIVED: 10/5/2020
SAMPLE ID: Special
DESCRIPTION: DRINKING WATER

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL[1] / Rec. Limit[2]	Result
Test Parameters				LAB-ID#:	2052033-02	
Carbon, Total Dissolved Organic	SM 5310B	10/09/2020	mg/L	0.500	---	**3.36**
SUVA	Calculation	10/15/2020	# per 100 mL	0	0	**0.017**
UV 254	SM 5910B	10/06/2020	Abs/cm	0.002	-----	**0.056**

Unless otherwise noted, all analyses were conducted by Analytical Balance Corp. (M-MA022). TOC and UV254 analyzed by subcontract lab M-RI002.

NA = Not Applicable
ND = Not Detected
'<' = Less Than
'*' = Detection Limit

Approved By: Amanda Cronin Digitally signed by Amanda Cronin CN=Amanda Cronin O=Analytical Balance Corp. E=amanda@h2olest.net
Lab Manager / Date

1. MCL = Maximum Contaminant Level as adopted by the Commonwealth of Massachusetts and represents the maximum acceptable level in drinking water.
2. Recommended limits are suggested levels of materials allowed in water. These may be for aesthetic reasons rather than for human health.
3. Currently there are no limits (recommended or mandated) for this parameter. This is merely presented for guidance.
4. If present, coliform values (in parentheses) are defined as estimated numbers.

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 ☒ NTNC ☐ TNC ☐

DEP Location (LOC) ID #	DEP Location Name	Date Collected	Collected By
015/10300	Raw Water/Combined Filter Effluent	10-5-2020	Bill Cooksey

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]
11-19	1	44	35	☐ YES ☐ NO		1.26
12-19	1	51	35	☐ YES ☐ NO		1.46
1-20	1	40	35	☐ YES ☐ NO		1.14
2-20	1	45	35	☐ YES ☐ NO		1.39
3-20	1	44	35	☐ YES ☐ NO		1.26
4-20	1	45	35	☐ YES ☐ NO		1.29
5-20	1	39	35	☐ YES ☐ NO		1.11
6-20	1	37	35	☐ YES ☐ NO		1.06
7-20	1	40	35	☐ YES ☐ NO		1.14
8-20	1	31	35	☒ YES ☐ NO	TWSUVA	1.00
9-20	1	35	35	☐ YES ☐ NO		1.00
10-20	1	33	35	☒ YES ☐ NO	TWSUVA	1.00
				☐ YES ☐ NO		
					Sum of Past 12 Months:	14.01
					Compliance Value (Sum of Past 12 Months/ 12):	1.17

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

PWS Authorized Signature: William Cooksey

Date: 11-5-2020

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

TURBIDITY - INDIVIDUAL FILTER MONITORING
For Conventional or Direct Filtered Systems

SWTR J

(Page 1 of 2)

I. PWS INFORMATION

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

Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period → Month: OCTOBER Year: 2020

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 continuously? If continuous monitoring equipment is installed and if it functioned continuously throughout the month, the correct answer is "yes". If continuous monitoring equipment is not installed or did not function continuously throughout the month, the correct answer is "no".	☑ Yes ☐ No
2.	Were measurements recorded every 15 minutes? 10/8/2020, 6PM-12AM, NO RECORDING 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 continuous monitor, the correct answer is "no".	☐ Yes ☑ No
3.	Was there a failure of continuous 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 continuous 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: SEE ATTACHMENTS FOR 10-28-2020 Comment:	☐ Yes ☑ 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: SEE ATTACHMENTS FOR 10-28-2020	☑ Yes ☐ 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: SEE ATTACHMENTS FOR 10-28-2020	☑ Yes ☐ No
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:	☐ Yes ☐ 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:	☐ Yes ☐ 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.
			Due to siphoning of coagulant after plant started up the filters were sealed and loaded with chemical and barely filtering. Thus there was no water flowing into NTU Units.
Combined filter Effluents			NTU taken during recovery: •10AM, 0.06, 0.07 •11AM, 0.06, 0.06 •11:30AM, 0.06, 0.06, •12PM 0.03, 0.03, •12:30PM 0.04, 0.04, •2PM 0.04, •3PM, 0.05

OUT OF SERVICE

Time	Filter-1	Filter-2	Filter-3	Filter-4	Filter-5	Filter-6	Filter-7	Filter-8
10/28/2020 0:10	0.459636	0.479845	0.466261	0.063024	0.342128	0.426984	0.22473	0
10/28/2020 0:25	0.38482	0.403966	0.425379	0.062928	0.367003	0.392372	0.215869	0
10/28/2020 0:40	0.348404	0.367274	0.398542	0.064292	0.33747	0.343451	0.214092	0
10/28/2020 0:55	0.329741	0.353627	0.380047	0.078717	0.307616	0.318207	0.210481	0
10/28/2020 1:10	0.322874	0.349519	0.372646	0.06723	0.287906	0.309802	0.209912	0
10/28/2020 1:25	0.32231	0.362167	0.393299	0.060786	0.288337	0.3249	0.197115	0
10/28/2020 1:40	0.339059	0.397147	0.440152	0.068784	0.283108	0.346815	0.19401	0
10/28/2020 1:55	0.379174	0.464104	0.512158	0.064638	0.288613	0.368928	0.189897	0
10/28/2020 2:10	0.423546	0.513388	0.569503	0.065636	0.30344	0.40427	0.187814	0
10/28/2020 2:25	0.462098	0.538413	0.603818	0.066425	0.318878	0.438052	0.181962	0
10/28/2020 2:40	0.475262	0.548617	0.590913	0.06659	0.345673	0.459408	0.177864	0
10/28/2020 2:55	0.484298	0.544943	1.38998	0.066131	0.360173	0.476087	0.178146	0
10/28/2020 3:10	0.49187	0.637829	0.435415	0.06273	0.368086	0.485904	0.173837	0
10/28/2020 3:25	0.509801	0.677808	0.639989	0.062493	0.370638	0.497843	0.166165	0
10/28/2020 3:40	0.520676	0.648179	0.66126	0.066482	0.374965	0.508644	0.168711	Bad
10/28/2020 3:55	0.531404	0.701619	0.622868	0.676664	0.372558	0.523779	0.161871	Bad
10/28/2020 4:10	0.542463	0.455904	0.61291	0.690497	0.374378	0.523673	0.151753	Bad
10/28/2020 4:25	0.552806	0.534511	0.572444	0.688501	0.370663	0.528699	0.1561	Bad
10/28/2020 4:40	0.566892	0.499221	0.508419	0.677071	0.36962	0.531545	0.151428	0
10/28/2020 4:55	0.575228	0.473813	0.477214	2.57969	0.368567	0.533356	0.152575	0
10/28/2020 5:10	0.58529	0.45886	0.460226	0.260142	0.36796	0.533364	0.144736	0
10/28/2020 5:25	0.590263	0.457091	0.464467	0.561479	0.367018	0.53387	0.148013	0
10/28/2020 5:40	0.596609	0.439672	0.458745	0.476374	0.366095	0.525735	0.140671	0
10/28/2020 5:55	0.597206	0.429907	0.449843	0.44769	0.368396	0.52349	0.140752	0
10/28/2020 6:10	0.609371	0.424387	0.440626	0.434537	0.366722	0.522105	0.140518	0
10/28/2020 6:25	0.61025	0.427932	0.44135	0.433591	0.365985	0.516939	0.129693	0
10/28/2020 6:40	0.605824	0.438958	0.452503	0.439294	0.365453	0.515599	0.128604	0
10/28/2020 6:55	1.98065	0.452914	0.463875	0.450378	0.366381	0.512723	0.128967	0
10/28/2020 7:10	0.555979	0.479901	0.4859	0.465395	0.367454	0.510052	0.126851	0
10/28/2020 7:25	0.459831	0.541816	0.507539	0.480258	0.366762	0.507876	0.127706	0
10/28/2020 7:40	0.574409	0.551758	0.530006	0.491975	0.361292	0.503961	0.124563	0
10/28/2020 7:55	0.582697	0.577893	0.552148	0.517117	0.352191	0.502576	0.120488	0
10/28/2020 8:10	0.58747	0.577557	0.577535	0.583526	0.346425	0.500871	0.117168	0
10/28/2020 8:25	0.610917	0.621644	0.600585	0.641967	0.334341	0.498387	0.115449	0
10/28/2020 8:40	0.611915	0.708524	0.630572	0.701896	0.318878	0.500087	0.116777	0
10/28/2020 8:55	0.589959	0.749114	0.662842	0.749654	0.306639	0.500647	0.116791	0
10/28/2020 9:10	0.57871	0.756225	0.695746	0.792405	0.29648	0.494438	0.124381	0
10/28/2020 9:25	0.571882	0.777727	0.728992	0.832436	0.281629	0.469631	0.130396	0
10/28/2020 9:40	0.597298	1.15775	0.757964	0.870502	0.266276	0.443321	0.135163	0
10/28/2020 9:55	0.556993	1.2478	0.790389	0.909189	0.249168	0.419755	0.13511	0
10/28/2020 10:10	0.465499	1.21749	0.817097	0.931502	0.234522	0.400149	0.125447	0
10/28/2020 10:25	0.272433	2.46789	0.850907	0.950902	0.218492	0.373885	0.124582	0
10/28/2020 10:40	0.128783	0.282016	0.872189	0.951171	0.209682	0.359366	0.137002	0
10/28/2020 10:55	0.07218	0.403725	0.895824	0.956782	0.200186	0.341195	0.136113	0
10/28/2020 11:10	0.053132	0.402546	0.912043	0.958935	0.888663	0.325478	0.137102	0
10/28/2020 11:25	0.045435	0.409033	0.927734	0.972672	0.682346	0.311671	0.136801	0

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) OUT OF SERVICE
10/28/2020 11:40	0.042067	0.41198	0.943151	0.963064	0.275657	0.298932	0.129808	0
10/28/2020 11:55	0.040793	0.402542	0.947614	0.961644	0.10727	1.56395	0.123058	0
10/28/2020 12:10	0.038455	0.397883	0.955144	0.967001	0.060364	0.25471	0.10557	0
10/28/2020 12:25	0.039393	0.394419	0.965286	0.954311	0.052718	0.069223	0.090933	0
10/28/2020 12:40	0.037251	0.394204	0.973672	0.948801	0.050943	0.048221	0.085927	0
10/28/2020 12:55	0.037251	0.39457	0.975939	0.943246	0.049835	0.044911	0.082603	0
10/28/2020 13:10	0.036459	0.394338	0.985565	0.937491	0.050692	0.044633	0.079703	0
10/28/2020 13:25	0.037435	0.397362	0.985958	4.18425	0.050246	0.044641	0.076784	0
10/28/2020 13:40	0.037316	0.397014	0.988432	0.084593	0.050782	0.04574	0.07517	0
10/28/2020 13:55	0.037723	0.403772	0.990181	0.06162	0.05177	0.046349	0.073259	0
10/28/2020 14:10	0.038146	0.403381	0.991414	0.054979	0.053159	0.047064	0.069098	0
10/28/2020 14:25	0.03756	0.401858	0.992802	0.054564	0.05368	0.047384	0.067823	0
10/28/2020 14:40	0.041986	0.399947	0.99315	0.055091	0.054743	0.054141	0.071238	0
10/28/2020 14:55	0.038064	0.199683	0.994222	0.054661	0.054743	0.049537	0.070909	0
10/28/2020 15:10	0.041671	0.065851	0.990396	0.056383	0.056403	0.050717	0.064751	0
10/28/2020 15:25	0.040348	0.040852	0.985656	0.056725	0.056799	0.051558	0.060141	0
10/28/2020 15:40	0.039903	0.041287	0.190107	0.05741	0.057707	0.052243	0.060065	0
10/28/2020 15:55	0.039572	0.044672	0.059822	0.058162	0.057897	0.052033	0.057648	0
10/28/2020 16:10	0.041563	0.044952	0.043062	0.058207	0.058925	0.052296	0.059941	0
10/28/2020 16:25	0.04038	0.047391	0.041855	0.06009	0.059813	0.053589	0.054801	0
10/28/2020 16:40	0.040706	0.046436	0.042512	0.059398	0.060028	0.053232	0.058646	0
10/28/2020 16:55	0.040559	0.047684	0.044022	0.061004	0.060179	0.053262	0.055183	0
10/28/2020 17:10	0.041953	0.046987	0.043378	0.06001	0.061357	0.05408	0.053358	0
10/28/2020 17:25	0.04166	0.046755	0.043281	0.062143	0.061542	0.054472	0.053353	0
10/28/2020 17:40	0.040771	0.044939	0.044753	0.061229	0.062776	0.055005	0.049284	0
10/28/2020 17:55	0.042382	0.047456	0.044637	0.061447	0.062595	0.055271	0.049231	0
10/28/2020 18:10	0.04102	0.046299	0.044792	0.06143	0.061673	0.055222	0.04786	0
10/28/2020 18:25	0.040961	0.047611	0.044209	0.061773	0.062385	0.05553	0.049341	0
10/28/2020 18:40	0.041536	0.0482	0.043993	0.062497	0.063006	0.055203	0.047831	0
10/28/2020 18:55	0.040836	0.047847	0.043935	0.061962	0.062936	0.055621	0.048381	0
10/28/2020 19:10	0.046921	0.047327	0.045104	0.062509	0.062931	0.055507	0.047545	0
10/28/2020 19:25	0.042631	0.046922	0.044718	0.06195	0.062991	0.054689	0.046575	0
10/28/2020 19:40	0.042544	0.046251	0.04455	0.062485	0.062149	0.055534	0.046231	0
10/28/2020 19:55	0.041932	0.046793	0.044193	0.062932	0.061282	0.055716	0.045085	0
10/28/2020 20:10	0.041362	0.045636	0.044286	0.063378	0.062289	0.054404	0.046785	0
10/28/2020 20:25	0.04178	0.045795	0.043655	0.062433	0.065002	0.054362	0.045901	0
10/28/2020 20:40	0.04274	0.045421	0.043884	0.061346	0.125832	0.054476	0.043489	0
10/28/2020 20:55	0.041839	0.044393	0.043075	0.061885	0.123882	0.054678	0.046685	0
10/28/2020 21:10	0.04127	0.044462	0.042866	0.061225	0.088593	0.054891	0.042453	0
10/28/2020 21:25	0.041037	0.043584	0.041993	0.061121	0.062866	0.053399	0.041273	0
10/28/2020 21:40	0.040869	0.04432	0.04341	0.060485	0.059632	0.053395	0.041531	0
10/28/2020 21:55	0.041698	0.043838	0.04264	0.059672	0.060113	0.053159	0.041387	0
10/28/2020 22:10	0.041243	0.044255	0.041536	0.060976	0.061427	0.053403	0.0395	0
10/28/2020 22:25	0.041785	0.042534	0.040705	0.05978	0.061758	0.052501	0.038086	0
10/28/2020 22:40	0.042322	0.044195	0.041317	0.060364	0.061342	0.054704	0.037351	0
10/28/2020 22:55	0.042094	0.043627	0.041613	0.060835	0.062089	0.053814	0.036672	0
10/28/2020 23:10	0.041091	0.044892	0.041748	0.059982	0.061216	0.052832	0.037919	0

	(1)	(2)	(3)	(4)	(5)	(6)		
10/28/2020 23:25	0.042165	0.044698	0.042	0.061068	0.062445	0.05308	~~0.039056~~	0
10/28/2020 23:40	0.042279	0.045223	0.04171	0.060718	0.061633	0.053251	~~0.035407~~	0
10/28/2020 23:55	0.04338	0.04506	0.044025	0.060493	0.062856	0.095327	~~0.036094~~	0

Massachusetts Department of Environmental Protection - Drinking Water Program

TURBIDITY - INDIVIDUAL FILTER MONITORING

For Conventional or Direct Filtered Systems

SWTR J

IF DAILY REPORTING

Day	Filter Number: 1		Filter Number: 2		Filter Number: 3		Filter Number: 4	
	[3]Max Day NTU	[4]Max after 4 Hours NTU	[3]Max Day NTU	[4]Max after 4 Hours NTU	[3]Max Day NTU	[4]Max after 4 Hours NTU	[3]Max Day NTU	[4]Max after 4 Hours NTU
1	.06	—	.09	.07	.10	.06	.12	.06
2	.10	.06	.16	.07	.32	.06	.07	—
3	.10	.06	.11	.07	.11	.05	.11	.07
4	.10	.07	.18	.08	.11	.06	.09	.06
5	.11	.06	.10	.07	.06	—	.11	.07
6	.27	.07	.10	—	.10	.04	.09	.06
7	.11	.09	.10	.07	.08	.04	.08	.06
8	.09	—	.15	.08	.08	.05	.07	.05
9	.08	.06	.09	.06	.08	.06	.07	.05
10	.11	.06	.10	.07	.09	.05	.08	.05
11	.10	.06	.11	.07	.09	.05	.08	—
12	.07	.06	.07	—	.05	—	.08	.06
13	.06	—	.15	.07	.08	.05	.12	.06
14	.10	.06	.12	.07	.07	.05	.08	.06
15	.09	.07	.12	.08	.04	—	.07	—
16	.12	.06	.10	—	.08	.05	.08	.06
17	.06	—	.10	.07	.08	.04	.09	.06
18	.07	.06	.12	.08	.11	.06	.09	.06
19	.10	.06	.14	.08	.09	.05	.10	.07
20	.21	.08	.19	.08	.10	.05	.11	.07
21	.08	.06	.11	.08	.17	.05	.06	—
22	.08	.06	.14	.09	.04	—	.08	.07
23	.13	.08	.08	—	.11	.07	.14	.07
24	.08	—	.23	.08	.12	.05	.16	.08
25	.11	.07	.13	.08	.11	.05	.12	.07
26	.09	.05	.12	.09	.16	.06	.09	.07
27	.08	.06	.40	.09	.51	—	.41	.14
28		—	SEE ATTACHMENT	—				
29	.06	.05	.09	.06	.20	.06	.07	—
30	.09	.07	.09	—	.04	—	.17	.08
31	.08	.05	.09	.05	.11	.05	.06	—

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 Cokely

Date: 11-4-2020 Title: Chief Plant Operator

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

SWTR
J

III. DAILY REPORTING

Day	Filter Number: 5		Filter Number: 6		Filter Number: 7		Filter Number: 8	
	[3]Max Day NTU	[4]Max after 4 Hours NTU	[3]Max Day NTU	[4]Max after 4 Hours NTU	[3]Max Day NTU	[4]Max after 4 Hours NTU	[3]Max Day NTU	[4]Max after 4 Hours NTU
1	.12	.07	.06	—				
2	.06	—	.18	.06				
3	.13	.06	.12	.07				
4	.13	.08	.13	.06				
5	.13	.07	.15	.07				
6	.09	.07	.09	.07				
7	.10	.06	.09	.06				
8	.15	.08	.09	—				
9	.12	—	.14	.07				
10	.10	.07	.14	.06				
11	.32	.08	.18	.06				
12	.10	.08	.08	.06				
13	.13	.06	.12	.08				
14	.10	.07	.06	—				
15	.06	—	.14	.08				
16	.09	.06	.16	.07				
17	.11	.07	.15	.07				
18	.12	.08	.13	.07				
19	.18	.09	.07	—				
20	.09	—	.13	.08				
21	.20	.07	.10	.06				
22	.14	.08	.09	.05				
23	.15	.07	.10	.08				
24	.20	.08	.05	—				
25	.14	.08	.13	.08				
26	.06	—	.24	.08				
27	.14	.08	.15	.07				
28	.07	—	.11	.06				
29	.22	.11	.10	.07				
30	.13	.07	.20	.09				
31								

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.

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

PWS Authorized Signature: William Cokely
Date: 11-4-2020 Title: Chief Plant Operator

Massachusetts Department of Environmental Protection - Drinking Water Program

Cl

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 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	.62	10/5/2020	07:07	T. Duggan
RS	004	COTTAGE VARIETY	1.2	10/5/2020	07:52	T. Duggan
RS	008E	STEWARTS POWER EQUIPMENT	.02	10/5/2020	08:45	T. Duggan
RS	006	COMMUNITY CENTER	.01	10/5/2020	07:28	T. Duggan
RS	001	TOWN HALL	1.06	10/14/2020	07:07	T. Duggan
RS	004	COTTAGE VARIETY	1.34	10/14/2020	07:58	T. Duggan
RS	008E	STEWARTS POWER EQUIPMENT	.02	10/14/2020	08:35	T. Duggan
RS	006	COMMUNITY CENTER	.07	10/14/2020	07:30	T. Duggan
RS	001	TOWN HALL	.75	10/19/2020	07:06	T. Duggan
RS	004	COTTAGE VARIETY	1.44	10/19/2020	08:00	T. Duggan
RS	008E	STEWARTS POWER EQUIPMENT	.12	10/19/2020	08:35	T. Duggan
RS	006	COMMUNITY CENTER	.01	10/19/2020	07:31	T. Duggan
RS	001	TOWN HALL	1.12	10/26/2020	07:08	T. Duggan
RS	004	COTTAGE VARIETY	1.29	10/26/2020	08:05	T. Duggan
RS	OO8E	STEWARTS POWER EQUIPMENT	.01	10/26/2020	08:40	T. Duggan
RS	006	COMMUNITY CENTER	.22	10/26/2020	07:32	T. Duggan

[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): 1.11

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 Cokely 11-6-2020

DEP Review Status:	☐ Accepted ☐ Disapproved	Review Comments:	

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

Cl

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: Weekly samples taken in the distribution system

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	003	TOWER HILL SCHOOL - ADAMS STREET	1.26	10-05-20	10:00AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.32		8:15AM	
RS	005	MARTIN E. YOUNG SCHOOL- COURTNEY DRIVE	1.20		9:00AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	1.81		10:45AM	
RS	008	COMMUNITY MIDDLE SCHOOL - HIGH STREET	1.39		10:15AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.12		9:15AM	
RS	012	7-11 FOOD SHOP - 675 NORTH STREET	1.00		8:00AM	
RS	014 A	ENTERPRISE - 249 NORTH MAI STREET	NO ACCESS	DUE TO	COVID 19	
	014AE	AXP AUTO-317 NORTH MAIN STREET	1.43		7:30AM	
RS		OAK GROVE STANDPIPE	.84		9:40 AM	
RS		SOUTH MAIN STREET STANDPIPE	.65	↓	8:40AM	↓

[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): 1.11

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 Cooksley 11-6-2020

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

Notes: Weekly samples taken in the distribution system

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

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	003	TOWER HILL SCHOOL - ADAMS STREET	1.52	10/14	10:10	
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.46		8:25	
RS	005	MARTIN E. YOUNG SCHOOL- COURTNEY DRIVE	1.09		7:40	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	1.89		11:00	
RS	008	COMMUNITY MIDDLE SCHOOL - HIGH STREET	1.71		10:30	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.24		8:50	PS
RS	012	7-11 FOOD SHOP - 675 NORTH STREET	.89		8:05	
RS	014 A	ENTERPRISE - 249 NORTH MAI STREET	1.64		11:45	
RS		OAK GROVE STANDPIPE	.98		2:45 pm	
RS		SOUTH MAIN STREET STANDPIPE	.67		3:00 pm	

[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):** 1.11

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: 12/14/20 Pat Shannon

William Cotherly 11-6-2020

DEP Review Status: ☐ Accepted ☐ Disapproved Review Comments:

Massachusetts Department of Environmental Protection - Drinking Water Program

CHLORINE/CHLORAMINES - MONTHLY REPORT

Cl

I. PWS INFORMATION:

PWS ID #: 4244000 PWS Name: RANDOLPH WATER DEPARTMENT City/Town: RANDOLPH Class: COM ☒ NTNC ☐ TN

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: Weekly samples taken in the distribution system

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	003	TOWER HILL SCHOOL - ADAMS STREET	1.48	10-19-20	10:45AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.44		9:10AM	
RS	005	MARTIN E. YOUNG SCHOOL- COURTNEY DRIVE	.90		9:30 AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	1.89		11:20AM	
RS	008	COMMUNITY MIDDLE SCHOOL - HIGH STREET	1.61		11:00AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.30		10:00AM	
RS	012	7-11 FOOD SHOP - 675 NORTH STREET	.63		8:10AM	
RS	014 A	ENTERPRISE - 249 NORTH MAI STREET	NO ACCESS	DUE	TO COVID-19	
	014AE	AXT AUTO - 317 NORTH MAIN ST	1.57		7:45AM	
RS		OAK GROVE STANDPIPE	.96		10:30AM	
RS		SOUTH MAIN STREET STANDPIPE	.83		9:45AM	

[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 Month[5]: 66 Average Chlorine Result of All Samples For Month[5] (mg/L): 1.11

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 lat 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 Corkery 11-6-2020

DEP Review Status:	☐ Accepted ☐ Disapproved	Review Comments:	

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

Cl

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: Weekly samples taken in the distribution system

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	003	TOWER HILL SCHOOL - ADAMS STREET	1.82	10/21/20	9:50 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.51		8:20AM	
RS	005	MARTIN E. YOUNG SCHOOL- COURTNEY DRIVE	1.29		8:40AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	1.96		10:45AM	
RS	008	COMMUNITY MIDDLE SCHOOL - HIGH STREET	1.76		10:20AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.34		9:15AM	
RS	012	7-11 FOOD SHOP - 675 NORTH STREET	.94		8:00AM	
RS	014 A	ENTERPRISE - 249 NORTH MAI STREET	NO ACCESS	DUE TO	COVED-19	
	014AE	AVP AUTO - 317 NORTH MAIN ST	1.75		7:30AM	
RS		OAK GROVE STANDPIPE	1.01		9:35AM	
RS		SOUTH MAIN STREET STANDPIPE	.78		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] 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): 1.11

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 Corkery 11-6-2020

DEP Review Status:	☐ Accepted ☐ Disapproved	Review Comments:	

Massachusetts Department of Environmental Protection - Drinking Water Program

CHLORINE/CHLORAMINES - MONTHLY REPORT

Cl

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: Weekly samples taken in the distribution system

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	003	TOWER HILL SCHOOL - ADAMS STREET	1.32	10/26/20	11:00AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.39		9:00AM	
RS	005	MARTIN E. YOUNG SCHOOL- COURTNEY DRIVE	.71		9:35 AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	1.84		11:30AM	
RS	008	COMMUNITY MIDDLE SCHOOL - HIGH STREET	1.50		10:40AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.18		10:00AM	
RS	012	7-11 FOOD SHOP - 675 NORTH STREET	.76		8:40AM	
RS	014 A	ENTERPRISE - 249 NORTH MAI STREET	NO ACCESS	DUE TO	COVID-19	
	014AE	AXP AUTO 317 NORTH MAIN STREET	1.53		8:15AM	
RS		OAK GROVE STANDPIPE	.99		10:20AM	
RS		SOUTH MAIN STREET STANDPIPE	.84		9:20AM	

[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): 1.11

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 Cooksey 11-6-2020

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 [X] NTNC [ ] TNC [ ]

Monitoring Period (YEAR): 2020 Monitoring Period (QUARTER): [ ] Q1 (Jan-Mar) [ ] Q2 (Apr-Jun) [ ] Q3 (Jul-Sep) [X] 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)	1.11 mg/L	Quarterly Average:	1.11	mg/L
	Month 2: NOV		mg/L			
	Month 3: DEC		mg/L			
Was the Running Annual Average MRDL (4.0 mg/L) exceeded? Yes [ ] No [ ]				Running Annual Average:	1.01	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 Chlorine/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 extent of my knowledge.

Primary Certified Operator Signature: William Cookerly Date: 11-6-2020

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 _____	