



Town of Holbrook
Office of Joint Superintendent
(781) 767-1800
Fax (781) 767-0705

RANDOLPH-HOLBROOK JOINT WATER BOARD

50 North Franklin Street
Holbrook, MA 02343



Town of Randolph

September 10, 2019

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
August, 2019 Randolph/Holbrook
Joint Water System, PWS #424001

Gentlemen:

Enclosed please find all reports as referenced above for the month of August, 2019. Should there be any questions, please do not hesitate to call.

Sincerely,

William Cookerly
Chief Plant Operator

Enclosures

Cc: Board of Health
Ryan Allgrove, EPG



Compliance Determination for Filtered Systems - Monthly Report

PWS INFORMATION

PWSID#: 4244001 PWS Name: RANDOLPH-HOEBROOK JOINT WATER PWS Town: RANDOLPH Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period -> Month: AUGUST Year: 2019

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. 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 [X] if "None". Table with columns: 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.

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. Table with columns: Day, Cl2 mg/l. Data: 1. 2.11, 1.36, 2.12, 1.86, 1.36, 1.91, 2.03; 2. 1.55, 1.65, 1.87, 1.89, 1.45, 1.95; 3. 1.73, 1.30, 1.86, 1.84, 1.71, 0.23; 4. 1.75, 2.05, 1.83, 1.99, 1.73, 1.81; 5. 1.28, 2.09, 2.01, 1.99, 1.59, 2.10. Residual Measured: [X] Free Cl2, [] Total Cl2, [] Combined Cl2. 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. Table with columns: 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: 64 # HPC sites > 500/mL: 0 # HPC sites <= 500/mL: 64 # of sites where Cl2 residual measurements were made, whether a residual was detected or not (should be the same # of sites reported on your monthly DBPR Cl2 residual report) 0 # of sites HPC samples were analyzed instead of Cl2 residual measurements 0 # of sites where no Cl2 residual was detected and no HPC sample was analyzed 0 # of sites where no Cl2 residual was detected and HPC > 500 CFU/mL 0 # of sites where no Cl2 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 = ((c + d + e) / (a + b)) x 100 This Month % V = 0 Previous Month % V = 0 Is V > 5% for 2 months? [] Yes or [X] No

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 Cookley CHIEF OPERATOR



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

SWTR
F

NEWS INFORMATION

PWSID#: 4144001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: RANDOLPH
Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period → Month: AUGUST Year: 2019

LEGALLY REPORTING

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

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

Day	Max Filtered Water Turbidity Result (NTU)	Number of Turbidity Measurements	Number of Turbidity Measurements ≤ Monthly (95%) NTU Limit	Number of Turbidity Measurements ≤ Max Day NTU Limit
	.08	6	6	0
	.08	6	6	0
	.09	6	6	0
	.07	6	6	0
	.02	6	6	0
	.08	6	6	0
	.08	6	6	0
	.08	6	6	0
	.09	6	6	0
	.07	6	6	0
	.07	6	6	0
	.07	6	6	0
	.08	6	6	0
	.08	6	6	0
	.09	6	6	0
	.08	6	6	0
	.08	6	6	0
	.07	6	6	0
	.09	6	6	0
	.07	6	6	0
	.07	6	6	0
	.08	6	6	0
	.08	6	6	0
	.07	6	6	0
	.07	6	6	0
	.08	6	6	0
	.08	6	6	0
	.07	6	6	0
	.08	6	6	0
	.09	6	6	0
	.09	6	6	0
	.08	6	6	0
Totals		186	186	0

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).
If 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.
Enter the # of turbidity measurements taken and recorded in the previous column, enter the number of turbidity measurements that were less than or equal to the Monthly (95%) NTU Limit for the filtration technology used.
If at any time the filtered turbidity Max Day NTU Limit is exceeded, the DEP must be notified no later than the end of the next business day. For each exceedance, record the turbidity value(s) and date(s) on SWTR - Form G.

PWS Authorized Signature: [Signature]
Date: 9-2-19 Title: Chief Plant Operator



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

I. PWS INFORMATION:

PWSID#: 4244001 PWS Name: Randolph-Hillman Joint Water PWS Town: Randolph
 Treatment Plant Name: Randolph Water Plant Reporting Period → Month: AUGUST Year: 2019
 Disinfectant¹: Chlorine Dioxide 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	2,600	2.11	50	105.5	6.00	21.0	11	9.6	<input type="checkbox"/> Yes
2	2,600	1.55	50	77.5	6.10	23.8	11	7.1	<input type="checkbox"/> Yes
3	2,600	1.73	50	86.5	6.05	23.8	11	7.9	<input type="checkbox"/> Yes
4	2,600	1.75	50	87.5	6.00	23.6	11	8.0	<input type="checkbox"/> Yes
5	2,600	1.28	50	64	6.05	22.6	11	5.8	<input type="checkbox"/> Yes
6	2,600	1.36	50	68	5.85	22.9	11	6.2	<input type="checkbox"/> Yes
7	2,600	1.65	50	82.5	5.95	23.0	11	7.5	<input type="checkbox"/> Yes
8	2,600	1.30	50	65	6.20	23.4	11	5.9	<input type="checkbox"/> Yes
9	2,600	2.05	50	102.5	5.85	23.0	11	9.3	<input type="checkbox"/> Yes
10	2,600	2.09	50	104.5	6.00	22.8	11	9.5	<input type="checkbox"/> Yes
11	2,600	2.12	50	106	6.10	22.6	11	9.6	<input type="checkbox"/> Yes
12	2,600	1.87	50	93.5	6.05	22.0	11	8.5	<input type="checkbox"/> Yes
13	2,600	1.86	50	93	6.00	23.1	11	8.5	<input type="checkbox"/> Yes
14	2,600	1.83	50	91.5	5.80	21.2	11	8.3	<input type="checkbox"/> Yes
15	2,600	2.01	50	100.5	6.00	20.3	11	9.1	<input type="checkbox"/> Yes
16	2,600	1.86	50	93	5.90	21.4	11	8.5	<input type="checkbox"/> Yes
17	2,600	1.89	50	94.5	6.00	22.8	11	8.6	<input type="checkbox"/> Yes
18	2,600	1.84	50	92	5.80	23.7	11	8.4	<input type="checkbox"/> Yes
19	2,600	1.99	50	99.5	6.00	23.5	11	9.1	<input type="checkbox"/> Yes
20	2,600	1.99	50	99.5	6.00	23.6	11	9.1	<input type="checkbox"/> Yes
21	2,600	1.36	50	68	5.85	23.4	11	6.2	<input type="checkbox"/> Yes
22	2,600	1.45	50	72.5	6.07	23.2	11	6.6	<input type="checkbox"/> Yes
23	2,600	1.71	50	85.5	6.00	22.0	11	7.8	<input type="checkbox"/> Yes
24	2,600	1.23	50	66.5	6.05	22.7	11	7.9	<input type="checkbox"/> Yes
25	2,600	1.59	50	79.5	5.90	21.9	11	7.2	<input type="checkbox"/> Yes
26	2,600	1.91	50	95.5	5.85	20.9	11	8.7	<input type="checkbox"/> Yes
27	2,600	1.95	50	97.5	6.08	20.0	11	8.9	<input type="checkbox"/> Yes
28	2,600	0.23	50	11.5	6.00	19.6	11	1.1	<input type="checkbox"/> Yes
29	2,600	1.81	50	90.5	6.15	20.0	11	8.2	<input type="checkbox"/> Yes
30	2,600	2.10	50	105	6.10	20.2	11	9.6	<input type="checkbox"/> Yes
31	2,600	2.03	50	101.5	6.05	21.0	11	9.2	<input type="checkbox"/> Yes

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

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

PWS Authorized Signature: William Cookerly

Date: 9-2-19

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 Mass DEP "Chemical Addition Report Guidance and Instructions" for details.

PWS Name ¹ :	RANDOLPH-HOLBROOK JW	Town ¹ :	RANDOLPH-Holbrook	PWSID ¹ :	424001
Treatment Plant Name ² :	RANDOLPH WATER PLANT	Treatment Plant ID# ² :	4244001-01T	Reporting Period ² :	AUGUST 2019 Month Year

II. Chemical & Operational Information

Chemical Name ³ :	POLYALUMINUM CHLORIDE	Purchased Strength ³ :	1.0	Target Range/min ¹² :	> 18
Manufacturer ³ :	HOLLAND COMPANY	Purchased Density (lbs/gal) ³ :	10.3	Target Dose ¹³ :	2.35
Product Name ³ :	PCH-180	Dilution Factor or Mix Ratio ¹⁰ :	NA	Alarm Setting (low) ¹⁴ :	NA
Reason for Adding Chemical ⁷ :	COAGULATION	NSF Approved (Y/N) ¹¹ :	Y	Alarm Setting (high) ¹⁴ :	NA
Date of last anti-siphon valve inspection/replacement ¹⁵ :					

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

Day	Treated Water ⁴ Gallons Avg	Measured Chemical Used		Calculated Chemical Used (lbs) ⁵	Chemical Dosage ⁶ (mg/l)	Parameters Measured ⁸ , Results, Units and Method ⁹ : (G)rab or Continuous (A)nalyzer ⁸			O&M Notes/Comments ¹² PWS note any equipment breakdown, off-line status, changes in purchased product or batch mixing day, measured parameters or dosages that are out of target range, etc.
		Volume ⁷ (gal/day)	Weight ⁷ (lbs/day)			a. RAW Ph	b.	c.	
1	3.0	269		2.771	28	7.15			
2	4.0	214		2.204	22	7.10			
3	2.7	200		2.060	26	7.10			
4	3.3	220		2.266	27	7.18			
5	3.6	281		2.894	32	7.25			
6	3.5	165		1.700	19	7.20			
7	3.8	163		1.679	18	7.15			
8	3.3	147		1.514	18	7.10			
9	2.7	145		1.494	22	7.15			
10	2.8	160		1.648	23	7.20			
11	2.8	150		1.545	22	7.20			
12	2.8	155		1.597	23	7.25			
13	2.6	145		1.494	23	7.10			
14	2.6	127		1.308	20	7.15			
15	2.8	135		1.391	20	7.10			
16	3.0	135		1.391	18	7.20			
17	3.1	160		1.648	21	7.10			
18	3.4	156		1.607	19	7.15			
19	3.3	144		1.483	18	7.15			
20	3.3	145		1.494	18	7.10			
21	3.1	145		1.494	19	7.15			
22	3.1	146		1.504	19	7.15			
23	3.8	165		1.700	18	7.05			
24	3.1	160		1.648	21	7.10			
25	2.8	178		1.833	26	7.10			
26	3.0	170		1.751	23	7.15			
27	2.8	158		1.627	23	7.12			
28	2.9	149		1.535	21	7.05			
29	2.7	147		1.514	22	7.00			
30	2.8	138		1.421	20	7.10			
31	2.7	175		1.803	26	7.15			

Total: Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary¹³:

*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.)²²:

a. *Raw Water Ph, Daily Average, Test Kit*

b. _____

c. _____

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

PWS Authorized Person - Signature & Date²⁴:
William Cookery 9-2-19

Print Name: *William Cookery* Title: *Chief Operator*



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

C-ADD

PWS Information - Refer to MassDEP Chemical Addition Reporting Guidance and Instructions for details.					
PWS Name ¹ :	RANDOLPH-HOLBROOK JOINT WATER	Town ¹ :	RANDOLPH-HOLBROOK	PWSID ¹ :	424001
Treatment Plant Name ² :	RANDOLPH WATER PLANT	Treatment Plant ID# ² :	424001-01T	Reporting Period ³ :	AUGUST 2019
				Month	Year

II. Chemical & Operational Information					
Chemical Name ⁴ :	CHLORINE	Purchased Strength ⁵ :	1.0	Target Range/min ¹² :	0.20
Manufacturer ⁴ :	AXIALL, LLC	Purchased Density (lbs/gal) ⁵ :	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.			Parameters Measured ⁸ , Results, Units and Method ⁹ : (Grab or Continuous (A) Analyzer ²¹)		O&M Notes/Comments ²²
Day	Treated Water ¹⁶ <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁸	Chemical Dosage ¹⁹ (mg/l)	a. FREE Cl ₂ FINISHED		b. FREE Cl ₂ FINISHED		c.	PWS note any equipment breakdown, off-line status, changes in purchased product or batch mixing day, measured parameters or dosages that are out of target range, etc.
		Volume ¹⁷ (gal/day)	Weight ¹⁷ (lbs/day)			<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A			
1	3.0		84		2.6	2.22	2.11				
2	4.0		70		2.1	1.97	1.55				
3	3.2		70		2.6	1.98	1.73				
4	3.3		70		2.5	2.08	1.75				
5	3.6		67		2.2	1.93	1.28				
6	3.5		70		2.4	1.67	1.36				
7	3.8		74		2.3	1.77	1.65				
8	3.3		68		2.5	1.94	1.30				
9	2.7		62		2.8	2.20	2.05				
10	2.8		66		2.8	2.25	2.09				
11	2.8		72		3.1	2.21	2.12				
12	2.8		77		3.3	2.32	1.87				
13	2.6		73		3.4	2.17	1.86				
14	2.6		76		3.5	2.16	1.83				
15	2.8		75		3.2	2.31	2.01				
16	3.0		73		2.9	2.17	1.86				
17	3.1		76		2.9	2.28	1.89				
18	3.4		78		2.8	2.08	1.84				
19	3.3		80		2.9	2.12	1.99				
20	3.3		75		2.7	2.13	1.99				
21	3.1		59		2.3	1.91	1.36				
22	3.1		57		2.2	1.66	1.45				
23	3.8		66		2.1	1.83	1.71				
24	3.1		69		2.7	1.94	1.73				
25	2.8		68		2.9	1.99	1.59				
26	3.0		81		3.2	2.14	1.91				
27	2.8		76		3.3	2.03	1.95				
28	2.9		74		3.1	1.92	0.23				
29	2.7		71		3.2	2.11	1.81				
30	2.8		77		3.3	2.18	2.10				
31	2.7		71		3.2	2.23	2.03				
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, San Diego, Test Kit
 b. Daily Minimum, Free Chlorine, Finished Water, San Diego, Test Kit
 c.

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

PWS Authorized Person - Signature & Date²⁴:
 William Cokerly 9-2-19
 Print Name: William Cokerly Title: Chief Operator



PWS Information Refer to MassDEP Chemical Addition Report Guidance and Instructions for details					
PWS Name ¹ :	RANDOLPH-HOLBROOK JW	Town ¹ :	RANDOLPH-HOLBROOK	PWSID ¹ :	424001
Treatment Plant Name ² :	RANDOLPH WATER PLANT	Treatment Plant ID# ² :	424001-01T	Reporting Period ² :	AUGUST 2019 Month Year

III. Chemical & Operational Information					
Chemical Name ⁴ :	CALCIUM HYDROXIDE	Purchased Strength ⁴ :	0.85	Target Range/min ¹² :	NA
Manufacturer ⁴ :	CARMEUSE LIME & STONE	Purchased Density (lbs/gal) ⁴ :	18.7	Target Dose ¹³ :	NA
Product Name ⁴ :	HYDRATED LIME	Dilution Factor or Mix Ratio ¹⁰ :	NA	Alarm Setting (low) ¹⁴ :	NA
Reason for Adding Chemical ⁵ :	PH ADJUSTMENT	NSF Approved (Y/N) ¹¹ :	Y	Alarm Setting (high) ¹⁴ :	NA
		Date of last anti-siphon valve inspection/replacement ¹⁶ :		NA	

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

Day	Treated Water ⁶ <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁰	Chemical Dosage ¹⁹ (mg/L)	Parameters Measured ⁷ , Results, Units and Method ²⁰ - (G)rab or Continuous (A)nalyzer ²¹			O&M Notes/Comments ²² PWS note any equipment breakdown, off-line status, changes in purchased product or batch mixing day, measured parameters or dosages that are out of target range, etc.
		Volume ⁷ (gal/day)	Weight ⁷ (lbs/day)			a. FINISHED PH	b.	c.	
1	3.0		100	4.0	7.05	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	
2	2.9		100	4.1	7.00				
3	2.7		100	4.4	7.10				
4	2.5		100	4.8	7.05				
5	2.6		100	4.6	6.95				
6	2.5		100	4.8	7.05				
7	2.6		100	4.6	7.10				
8	2.3		100	5.2	7.05				
9	2.0		100	5.5	7.00				
10	2.1		100	5.7	7.05				
11	2.3		100	5.2	7.00				
12	2.4		100	5.0	6.90				
13	2.2		100	5.5	6.95				
14	2.3		100	5.2	7.05				
15	2.4		100	5.0	7.10				
16	2.4		100	5.0	7.05				
17	2.3		100	5.2	7.05				
18	2.4		100	5.0	7.00				
19	2.5		100	4.8	7.00				
20	2.4		100	5.0	7.05				
21	2.0		100	6.0	7.05				
22	2.1		100	5.6	7.00				
23	2.3		100	5.2	7.05				
24	2.1		100	5.7	7.05				
25	2.1		100	6.3	7.00				
26	2.3		100	5.2	7.10				
27	2.8		100	5.5	7.05				
28	2.9		100	5.7	7.10				
29	2.7		100	5.2	7.05				
30	2.8		100	5.7	7.10				
31	2.7		100	6.0	7.10				

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

*Describe result (daily average, min/max, instantaneous reading, grab, etc), sample location (entry-point, before/after filters, tanks, etc.) and instrumentation used (SCADA, chart recorder, test kit, bench, etc.) ²⁰ :		I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.	
a.	Finished Water-Ph, Daily Average, Test Kit	PWS Authorized Person - Signature & Date ²⁴ :	
b.		William Cookerly 9-2-19	
c.		Print Name: William Cookerly Title: Chief Operator	



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

C-ADD

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

PWS Name ¹ :	RANDOLPH-HOLBROOK JW	Town ¹ :	RANDOLPH-HOLBROOK	PWSID ¹ :	424001
Treatment Plant Name ² :	RANDOLPH WATER PLANT	Treatment Plant ID# ² :	4244002-02T	Reporting Period ² :	AUGUST 2019 Month Year

II. Chemical & Operational Information

Chemical Name ³ :	SODIUM BISULFATE	Purchased Strength ³ :	10-15	Target Range/min ³ :	NA
Manufacturer ³ :	CARUS CORPORATION	Purchased Density (lbs/gal) ³ :	12.03	Target Dose ³ :	NA
Product Name ³ :	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 ⁴ <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MGD	Measured Chemical Used		Calculated Chemical Used (lbs) ⁸	Chemical Dosage ⁹ (mg/L)	Parameters Measured ⁶ , Results, Units and Method ²⁰ - (G)rab or Continuous (A)nalyzer ²¹			O&M Notes/Comments ²² PWS note any equipment breakdown, off-line status, changes in purchased product or batch mixing day, measured parameters or dosages that are out of target range, etc.
		Volume ⁷ (gal/day)	Weight ⁷ (lb/day)			a. FINISHED PH	b.	c.	
1	3.0				7.05	<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	<input type="checkbox"/> G <input type="checkbox"/> A	
2	2.9				7.00				
3	2.7				7.10				
4	2.5				7.05				
5	2.6				6.95				
6	2.5				7.05				
7	2.6				7.10				
8	2.3				7.05				
9	2.0				7.00				
10	2.1				7.05				
11	2.3				7.00				
12	2.4				6.90				
13	2.2				6.95				
14	2.3				7.05				
15	2.4				7.10				
16	2.4				7.05				
17	2.3				7.00				
18	2.4				7.00				
19	2.5				7.05				
20	2.4				7.05				
21	2.0				7.00				
22	2.1				7.08				
23	2.3				7.05				
24	2.1				7.00				
25	2.1				7.10				
26	2.3				7.05				
27	2.2				7.10				
28	2.1				7.10				
29	2.1				7.05				
30	2.1				7.10				
31	2.0				7.10				

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

⁵Describe 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 & Date²⁴:
William Cookerly 9-2-19

Print Name: *William Cookerly* Title: *Chief Operator*



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

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PWS INFORMATION

PWSID#: 4244001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: Randolph
 Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period → Month: AUGUST Year: 2019
 Total # of Filters at Treatment Plant¹: 8

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".	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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 continuous monitor, the correct answer is "no".	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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: Comment:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>FILTERS ALL MONITORED ON AQUATREND WHERE NTUs ARE CHARTED/GRAPHED. THE PROGRAM THAT RECEIVES AND RECORDS THE NUMBERS FAILED AND HAD TO BE REBOOTED.</i>
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:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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. <i>Systems that serve a population less than 10,000 have no required action.</i> List date(s) a filter profile was produced:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.



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

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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	.09	.09	.09	.05	.05	-	.06	-
2	.05	-	.05	-	.27	.06	.13	.09
3	.16	.04	.13	.05	.11	.05	.07	.06
4	.13	.08	.18	.05	.04	-	.05	-
5	.07	-	1.0	-	.80	.05	.80	.05
6	.10	.05	1.0	.08	.31	.05	.50	.21
7	.20	.10	.30	.10	.35	.10	.25	.10
8	.10	-	.09	-	.33	.07	.11	.08
9	.09	.06	.11	.06	.20	.10	.13	.07
10	.15	.13	.21	.07	.21	.12	.06	-
11	.06	-	.05	-	.05	-	.18	.08
12	.16	.10	.17	.07	.17	.10	.11	.07
13	.20	.10	.08	.06	.15	.06	.06	-
14	.10	-	.10	-	.10	-	.20	.05
15	.20	.10	.20	.06	.08	.07	.10	.08
16	.13	.08	.15	.06	.38	.19	.11	.09
17	.17	.08	.18	.07	.36	-	.05	-
18	.05	-	.05	-	.08	.05	.15	.11
19	.39	.09	.22	.06	.34	.16	.19	.10
20	.32	.11	.15	.06	.05	-	.06	-
21	.05	-	.06	-	.42	.10	.15	.10
22	.34	.11	.07	.06	.06	-	.05	-
23	.05	-	.11	OUT OF SERVICE	.35	.08	.21	.11
24	.19	.08			.16	.05	.13	.08
25	.08	.05			.21	.09	.08	.06
26	.25	.19			.09	-	.05	-
27	.09	-			.30	.08	.13	.11
28	.14	.06			.20	.13	.12	.08
29	.20	.11			.18	.06	.32	.17
30	.15	.08			.11	.06	.08	-
31	.13	.11	✓	✓	.14	.10	.12	.09

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

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

PWS Authorized Signature:

William Coker
 Chief Plant Operator

Date: 9-2-19

Title:



Massachusetts Department of Environmental Protection - Drinking Water Program
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 For Conventional or Direct Filtered Systems

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DAILY REPORTING

Day	Filter Number: 5		Filter Number: 6		Filter Number: 7		Filter Number: 8	
	Max Day NTU	Max after 4 Hours NTU	Max Day NTU	Max after 4 Hours NTU	Max Day NTU	Max after 4 Hours NTU	Max Day NTU	Max after 4 Hours NTU
1	.13	.08	.14	.06	.10	.07	.15	.05
2	.15	.09	.16	.07	.07	—	.04	—
3	.07	—	.05	—	.25	.08	.31	.07
4	.14	.09	.31	.09	.13	.08	.08	.05
5	1.0	.07	.80	—	.28	.26	1.0	—
6	.50	.27	.50	.08	.34	.10	3.1	1.2
7	.25	.20	.20	.10	.30	.10	.25	.08
8	.18	.07	.28	.11	.15	.08	.12	.11
9	.11	.07	.23	—	.07	—	.05	—
10	.05	—	.21	.10	.15	.09	.11	.06
11	.16	.08	.13	.10	.21	.11	.11	.06
12	.20	.07	.06	—	.08	—	.05	—
13	.06	—	.11	.08	.11	.08	.15	.06
14	.15	.06	.22	.09	.32	.11	.20	.10
15	.14	.06	.21	.07	.07	—	.07	—
16	.05	—	.06	—	.17	.08	.08	.06
17	.31	.08	.29	.08	.10	.08	.06	.04
18	.10	.09	.10	.07	.28	.10	.25	.07
19	.16	.08	.06	—	.07	—	.34	.15
20	.06	—	.18	.08	.17	.10	.10	.07
21	.18	.11	.25	.07	.33	.09	.33	—
22	.05	—	.06	—	.07	—	.28	.04
23	.20	.07	.27	.12	.18	.08	.28	—
24	.44	.09	.34	.12	.07	—	.29	.06
25	.28	.14	.06	—	.25	.10	.32	.10
26	.23	.09	.16	.06	.15	.08	.30	.10
27	.17	.07	.11	.06	.15	.08	.27	.12
28	.26	.21	.14	.06	.06	—	.14	.08
29	.05	—	.06	—	.23	.09	.17	.05
30	.22	.10	.21	.08	.20	.12	.22	.12
31	.30	.16	.14	.07	.14	.10	.34	.12

Systems shall conduct continuous turbidity monitoring of the filter effluent for each individual filter at the filtration facility and record turbidity measurements every 15-minutes. Record the actual turbidity result at the specified interval of time. Do not average turbidity measurements. Individual filter turbidity records must be retained for 3 years and kept on file for MassDEP review.

Systems serving less than 10,000: If the treatment system has only one or two filters, the supplier may conduct continuous monitoring of the CFE turbidity in lieu of individual filter effluent (IFE) turbidity monitoring. If there are two filters, a continuous turbidity monitor can be installed on the combined filter effluent. If a CFE problem appears, follow-up action must then be completed on both filters.

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

Enter the highest daily 15-minute interval turbidity measurement recorded at the end of the first four hours of continuous filter operation after the filter has been backwashed or otherwise taken offline.

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

PWS Authorized Signature: William Cook
 Date: 9-2-19 Title: Chief Plant Operator

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DBPR TT Compliance Report

PWS INFORMATION

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

DEP LOCATION ID	DEP Location Name	Date Collected	Collected By
<u>015/10300</u>	<u>Raw Water / Combined Filter Effluent</u>	<u>8-5-19</u>	<u>Bill Cooksey</u>

SAMPLE NOTES:

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
9-18	1	42	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.20
10-18	1	48	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.37
11-18	1	34	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.00
12-18	1	49	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.40
1-19	1	43	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.23
2-19	1	52	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.49
3-19	1	49	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.40
4-19	1	49	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.40
5-19	1	34	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.00
6-19	1	52	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.49
7-19	1	46	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.31
8-19	1	56	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.60
Sum of Past 12 Months:						<u>15.89</u>
Compliance Value (Sum of Past 12 Months / 12):						<u>1.32</u>

PWS Authorized Signature: William Cooksey
 Date: 9-10-19

Keep this report for at least 3 years. This report is for informational purposes only and does not constitute a guarantee of performance. The user assumes all liability for any use of this report.

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

¹ Percent Removal: $(1 - (\text{Treated Water TOC} + \text{Raw Water TOC})) \times 100$. If > 1 paired sample sets in any month report the average of all individual percent TOC removals. (Example: % TOC Removal = (Average of Set 1 + Average of Set 2) ÷ 2).
² From table at 310-CMR 22.07E(10)(b)2.
³ As listed at 310-CMR 22.07E(10)(a)2 and 310-CMR 22.07E(10)(a)3, summarized as follows:

Alternative Compliance Criteria	Code Value	Result(s) for Report / RAA - Round 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)	SOFT50	RAA of treated water alkalinity
Softening that removes >= 10 mg/L (as CaCO ₃) of hardness	SOFT10-	RAA of hardness (as CaCO ₃) removal

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

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

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

Massachusetts Department of Environmental Protection - Drinking Water Program

TOC

Total Organic Carbon Report

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

PWS ID #: 4244001
 PWS Name: Randolph-Holbrook Joint Water Board

City/Town: Holbrook
 PWS Class: COM X NINC NC

DEP location ID	DEP location name	Sample Information		Collected		Collected by	
				Date	Time		
A	01S	Raw Water	<input type="checkbox"/> Multiple <input checked="" type="checkbox"/> Single	<input checked="" type="checkbox"/> Raw <input type="checkbox"/> Finished	08/05/2019	09:00	B. Cookerly
B	10300	Combined Filter Effluent	<input type="checkbox"/> Multiple <input checked="" type="checkbox"/> Single	<input type="checkbox"/> Raw <input checked="" type="checkbox"/> Finished	08/05/2019	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	<input checked="" type="checkbox"/> RS <input type="checkbox"/> SS	<input checked="" type="checkbox"/> Original <input type="checkbox"/> Resubmitted		<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Cor.			
B	<input checked="" type="checkbox"/> RS <input type="checkbox"/> SS	<input checked="" type="checkbox"/> Original <input type="checkbox"/> Resubmitted		<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Cor.			
Lab sample notes:							
A							
B							

II. Analytical Laboratory Information:

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

TOC analyzed by (check one): <input type="checkbox"/> PWS <input checked="" type="checkbox"/> Lab		Sample acidified? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
TOC result (mg/L)	MDL (mg/L)	Lab Method	Date Analyzed	Analysis Lab MA Cert. #	Analysis Lab Name	Lab Sample ID #	
A	5.0	0.5	SM 5310B	08/08/2019	M-R1002	ESS	38569-01
B	2.20	0.5	SM 5310B	08/08/2019	M-R1002	ESS	38569-02

Surface water or GWUDI systems ≥ 500 persons

Monthly source (raw) water TOC samplings required at each surface/GWUDI source to qualify for and remain on reduced THM/TAA5 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): <input type="checkbox"/> PWS <input checked="" type="checkbox"/> 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	24.0	4	SM 2320B	08/06/2019	M-MA022	Analytical Balance	38569-01
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.

Primary Lab Manager Signature/Date: 08/21/2019 Timothy A. Begley

Digitally signed by Timothy A. Begley
 DN: cn=Timothy A. Begley, o=DEP

1 of 1

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	_____ WQSS data entered
--	-----------------	-------------------------



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: 08/22/2019
 ORDER #: G1938568
 SAMPLE DATE: 8/5/2019
 DATE RECEIVED: 8/5/2019
 SAMPLE ID: Grab
 DESCRIPTION: DRINKING WATER

CERTIFICATE OF ANALYSIS

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit ¹	MCL ¹ / Rec. Limit ²	Result
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<i>Test Parameters</i>						LAB-ID#: 1938568-01
Carbon, Total Dissolved Organic	SM 5310B	08/08/2019	mg/L	0.500	---	5.05
SUVA	Calculation	08/19/2019	# per 100 mL	0	0	0.015
UV 254	SM 5910B	08/06/2019	Abs/cm	0.002	----	0.078

Unless otherwise noted, all analyses were conducted by Analytical Balance Corp. (M-MA022). DOC and UV 254 were analyzed by subcontract lab M-R1002.

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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: 08/22/2019
 ORDER #: G1938568
 SAMPLE DATE: 8/5/2019
 DATE RECEIVED: 8/5/2019
 SAMPLE ID: Grab
 DESCRIPTION: DRINKING WATER

CERTIFICATE OF ANALYSIS

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL ¹ / Rec. Limit ²	Result
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<i>Test Parameters</i>				LAB-ID#:	1938568-02	
Carbon, Total Dissolved Organic	SM 5310B	08/08/2019	mg/L	0.500	---	2.51
SUVA	Calculation	08/19/2019	# per 100 mL	0	0	0.005
UV 254	SM 5910B	08/06/2019	Abs/cm	0.002	----	0.014

Unless otherwise noted, all analyses were conducted by Analytical Balance Corp. (M-MA022). DOC and UV 254 were analyzed by subcontract lab M-RI002.

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

Approved By: Timothy A. Begley
Timothy A. Begley
 Lab Manager
 254 Hill
 Box 21000
 Middleboro, MA 01548
 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.

311



CHLORINE/CHLORAMINES - MONTHLY REPORT

I. PWS INFORMATION:

PWS ID #: 4244000

PWS Name: RANDOLPH WATER DEPARTMENT

City/Town: RANDOLPH

Class: COM NTNG TNG

II. ANALYTICAL INFORMATION: Refer to your Mass DEP 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 Data ⁵		DATE	TIME	
RS	003 TOWER HILL SCHOOL - ADAMS STREET	.93	8/5/19	9:50 AM	J STEWARD
RS	004 JFK SCHOOL - 20 HURLEY DRIVE	.90	8/5/19	8:05 AM	
RS	005 MARTIN E. YOUNG SCHOOL - COURTNEY DRIVE	.23	8/5/19	7:45 AM	
RS	006 COMMERCE INN - 1374 NORTH MAIN STREET	1.57	8/5/19	10:30 AM	
RS	008 NORTH MIDDLE SCHOOL - HIGH STREET	.94	8/5/19	10:10 AM	
RS	011 MOBIL STATION - 93 MAZZEO DRIVE	.60	8/5/19	9:30 AM	
RS	012 7-11 FOOD SHOP - 676 NORTH STREET	.10	8/5/19	8:26 AM	
RS	014 EMERALD - 277 NORTH MAIN STREET	1.15	8/5/19	11:10 AM	
RS	OAK GROVE STANDPIPE	.45	8/5/19	11:25 AM	
RS	SOUTH MAIN STREET STANDPIPE	.19	8/5/19	11:45 AM	

¹ DEP Sample Type, Location Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan.
² SWTR systems HPC must be collected at distribution sites with zero chlorine residual and results reported on the DEP Bacteriological Monthly Report form and on the appropriate SWTR Form.
³ Collection and Analysis: Chlorine residual shall be measured in the field (immediately upon collection) at the same time and location in the distribution system as total coliforms are sampled. Record RD values as 0 (zero).
⁴ Sample Types RS-Residual Distribution Sample, RS-Original Site Report, UP-Upstream Report, DR-Downstream Report, AR-Additional Report, or SS-Special Sample (as determined by DEP).
⁵ All DISINFECTION 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 those 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: 64

Average Chlorine Result of All Samples For Month⁶ (mg/L): 0.65

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

Primary Certified Operator Signature and Date: [Signature] 9-10-19

DEP Review Status: Accepted Disapproved Review Comments:

PWS ID #: 434000 PWS Name: RANDOLPH WATER DEPARTMENT City/Town: RANDOLPH Class: COM NTNG TNG

II. ANALYTICAL INFORMATION: Refer to your Mass DEP Coliform Sampling Plan and/or DEP Coliform Sampling 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 J K L M N O P Q R S T U V W X Y Z AA AB AC AD AE AF AG AH AI AJ AK AL AM AN AO AP AQ AR AS AT AU AV AW AX AY AZ BA BB BC BD BE BF BG BH BI BJ BK BL BM BN BO BP BQ BR BS BT BU BV BW BX BY BZ CA CB CC CD CE CF CG CH CI CJ CK CL CM CN CO CP CQ CR CS CT CU CV CW CX CY CZ DA DB DC DD DE DF DG DH DI DJ DK DL DM DN DO DP DQ DR DS DT DU DV DW DX DY DZ EA EB EC ED EE EF EG EH EI EJ EK EL EM EN EO EP EQ ER ES ET EU EV EW EX EY EZ FA FB FC FD FE FF FG FH FI FJ FK FL FM FN FO FP FQ FR FS FT FU FV FW FX FY FZ GA GB GC GD GE GF GG GH GI GJ GK GL GM GN GO GP GQ GR GS GT GU GV GW GX GY GZ HA HB HC HD HE HF HG HH HI HJ HK HL HM HN HO HP HQ HR HS HT HU HV HW HX HY HZ IA IB IC ID IE IF IG IH II IJ IK IL IM IN IO IP IQ IR IS IT IU IV IW IX IY IZ JA JB JC JD JE JF JG JH JI JJ JK JL JM JN JO JP JQ JR JS JT JU JV JW JX JY JZ KA KB KC KD KE KF KG KH KI KJ KK KL KM KN KO KP KQ KR KS KT KU KV KW KX KY KZ LA LB LC LD LE LF LG LH LI LJ LK LL LM LN LO LP LQ LR LS LT LU LV LW LX LY LZ MA MB MC MD ME MF MG MH MI MJ MK ML MN MO MP MQ MR MS MT MU MV MW MX MY MZ NA NB NC ND NE NF NG NH NI NJ NK NL NM NO NP NQ NR NS NT NU NV NW NX NY NZ OA OB OC OD OE OF OG OH OI OJ OK OL OM ON OO OP OQ OR OS OT OU OV OW OX OY OZ PA PB PC PD PE PF PG PH PI PJ PK PL PM PN PO PP PQ PR PS PT PU PV PW PX PY PZ QA QB QC QD QE QF QG QH QI QJ QK QL QM QN QO QP QQ QR QS QT QU QV QW QX QY QZ RA RB RC RD RE RF RG RH RI RJ RK RL RM RN RO RP RQ RR RS RT RU RV RW RX RY RZ SA SB SC SD SE SF SG SH SI SJ SK SL SM SN SO SP SQ SR SS ST SU SV SW SX SY SZ TA TB TC TD TE TF TG TH TI TJ TK TL TM TN TO TP TQ TR TS TT TU TV TW TX TY TZ UA UB UC UD UE UF UG UH UI UJ UK UL UM UN UO UP UQ UR US UT UY UZ VA VB VC VD VE VF VG VH VI VJ VK VL VM VN VO VP VQ VR VS VT VY VZ WA WB WC WD WE WF WG WH WI WJ WK WL WM WN WO WP WQ WR WS WT WY WZ XA XB XC XD XE XF XG XH XI XJ XK XL XM XN XO XP XQ XR XS XT XU XV XW XX XY XZ YA YB YC YD YE YF YG YH YI YJ YK YL YM YN YO YP YQ YR YS YT YZ ZA ZB ZC ZD ZE ZF ZG ZH ZI ZJ ZK ZL ZM ZN ZO ZP ZQ ZR ZS ZT ZY ZZ

Notes:

DEP Sample Type	DEP Location Code	DEP APPROVED SAMPLE SITE INFORMATION		CHLORINE RESULT (mg/L)	COLLECTION AND ANALYSIS		COLLECTED AND ANALYZED BY:
		DEP Approved Sample Location	DEP Approved Sample Location		DATE	TIME	
RS	003	TOWER HILL SCHOOL -- ADAMS STREET		.91	8/12/19	10:00AM	J. STERAD
RS	004	JFK SCHOOL -- 20 HURLEY DRIVE		.96	8/12/19	8:00AM	
RS	006	MARTIN E. YOUNG SCHOOL-COURTNEY DRIVE		.19	8/12/19	7:35AM	
RS	006	CAMPBELL INN -- 1374 NORTH MAIN STREET		1.65	8/12/19	10:35AM	
RS	008	NORTH MIDDLE SCHOOL -- HIGH STREET		1.28	8/12/19	10:20AM	
RS	011	MOBIL STATION -- 38 MAZZEO DRIVE		.75	8/12/19	9:40 AM	
RS	012	7-11 FOOD SHOP -- 676 NORTH STREET		.05	8/12/19	8:20 AM	
RS	014 A	SWENHARTS -- 777 NORTH MAIN STREET		1.38	8/12/19	11:5AM	
RS		OAK GROVE STANDPIPE		.39	8/12/19	11:40AM	
RS		SOUTH MAIN STREET STANDPIPE		.16	8/12/19	11:00 PM	

DEP Sample Type, Location Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan. SWTR systems (PWS) must be analyzed as distribution sites with zero chlorine residual and results reported on the DEP Bacteriological Monthly Report form and on the appropriate SWTR Form. 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). Sample Type RS: Routine Distribution Sample, RS: Original Site Report, UR: Unusual Report, DR: Distribution Report, AR: Additional Report, or SS: Special Sample (as determined by DEP). All bacteriological 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 calculated 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.

ALL COMPLIANCE REPORTING: Total # of Samples Collected for Month: 67 Average Chlorine Residual for Month: 0.65

I certify under penalties of law that I am the person authorized to fill out this report 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 9-10-19

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 NTNG TWC

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 D1258-86

Notes:

DEP Sample Type	DEP APPROVED SAMPLE SITE INFORMATION ¹		CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³		COLLECTED AND ANALYZED BY ⁴
	DEP Location Code ⁵	DEP Approved Sample Location ⁶		DATE	TIME	
RS	003	TOWER HILL SCHOOL - ADAMS STREET	1.10	8/19/19	10:00 AM	J. STEWART
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	.89	8/19/19	8:25 AM	
RS	005	MARTIN E. YOUNG SCHOOL - COURTNEY DRIVE	.23	8/19/19	8:30 AM	
RS	006	CLAYBANK INN - 1874 NORTH MAIN STREET	1.46	8/19/19	10:40 AM	
RS	008	NORTH MIDDLE SCHOOL - HIGH STREET	1.17	8/19/19	10:20 AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	.83	8/19/19	9:45 AM	
RS	012	7-11 FOOD SHOP - 676 NORTH STREET	.12	8/19/19	8:45 AM	
RS	014	EMERSON - 277 NORTH MAIN STREET	1.11	8/19/19	11:20 AM	
RS		OAK GROVE STANDPIPE	.43	8/19/19	11:35 AM	
RS		SOUTH MAIN STREET STANDPIPE	.32	8/19/19	11:55 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 SMTR 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 MD values as 0 (zero).
⁴ Sample Type: RS-Routine Distribution Sample, RO-Original Site Sample, UR-Upstream Repeat, CR-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: 164 Average Chlorine Result of All Samples For Month⁷ (mg/L): 0.65

⁷ 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 9-10-19

DEP Review Status: Accepted Disapproved Review Comments:

WATER UTILITY EXAMINES - MONTHLY REPORT

I. PWS INFORMATION:

PWS ID #: 4244000 PWS Name: RANDOLPH WATER DEPARTMENT City/Town: RANDOLPH Class: COM NTNG 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 Sample Type	DEP Location Code #	DEP APPROVED SAMPLE SITE INFORMATION ¹		CHLORINE RESULT (mg/L)	COLLECTION AND ANALYSIS ²		COLLECTED AND ANALYZED BY:
		DEP Approved Sample Location ³	DEP Approved Sample Location ³		DATE	TIME	
RS	003	TOWER HILL SCHOOL	ADAMS STREET	.54	8/21/19	10:00AM	J. SCHEMARD
RS	004	JFK SCHOOL	20 HURLEY DRIVE	.90	8/21/19	8:05AM	
RS	006	MARTIN E. YOUNG SCHOOL	COURTNEY DRIVE	.19	8/21/19	7:45AM	
RS	005	COMBINE INN	1874 NORTH MAIN STREET	2.00	8/21/19	10:45AM	
RS	008	NORTH MIDDLE SCHOOL	HIGH STREET	.54	8/21/19	10:20AM	
RS	011	MOBIL STATION	93 MAZZEO DRIVE	.70	8/21/19	8:10AM	
RS	012	7-11 FOOD SHOP	676 NORTH STREET	.14	8/21/19	8:25AM	
RS	014 A	EXERCISE	279 NORTH MAIN STREET	1.04	8/21/19	11:20AM	
RS		OAK GROVE	STANDPIPE				
RS		SOUTH MAIN STREET	STANDPIPE				

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 exact time and location in the distribution system as total coliforms are sampled. Record MP values as 0 (zero).
⁴ Sample Type: RS-Residual Distribution Sample, FC-Original Site Residual, UP-Upstream Residual, DR-Downstream Residual, AR-Additional 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: 67 Average Chlorine Result of All Samples For Month (mg/L): 0.65
 Primary Qualified Operator Signature and Date: William Corley 9-10-19

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 TWC

II. ANALYTICAL INFORMATION: Refer to your Mass DEP 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 D1263-06

Notes:

DEP Sample Type	DEP Location Code	DEP APPROVED SAMPLE SITE INFORMATION ¹		CHLORINE RESIDUE ² (mg/L)	COLLECTION AND ANALYSIS ³		COLLECTED AND ANALYZED BY:
		DEP Approved Sample Location ⁴	DEP Approved Sample Location ⁵		DATE	TIME	
RS	003	TOWER HILL SCHOOL	ADAMS STREET	1.20	8/26/19	9:50 AM	J. STERNAO
RS	004	JFK SCHOOL	20 HURLEY DRIVE	.90	8/26/19	8:10 AM	
RS	005	MARTIN E. YOUNG SCHOOL	COURTNEY DRIVE	.22	8/26/19	7:45 AM	
RS	006	COMPTON INN	1374 NORTH MAIN STREET	1.47	8/26/19	10:25 AM	
RS	008	NORTH MIDDLE SCHOOL	HIGH STREET	.94	8/26/19	10:15 AM	
RS	011	MOBIL STATION	93 MAZZEO DRIVE	.65	8/26/19	8:55 AM	
RS	012	7-11	FOOD SHOP-675 NORTH STREET	.15	8/26/19	8:30 AM	
RS	014	EVERMOSSE	277 NORTH MAIN STREET	1.23	8/26/19	11:15 AM	
RS		OAK GROVE STANDPIPE		.34	8/26/19	11:40 AM	
RS		SOUTH MAIN STREET STANDPIPE		.10	8/26/19	12:05 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: MPC must be collected at distribution sites with zero chlorine residual and results reported on the DEP Bacteriological Quality Report form and on the appropriate SWTR Form.
³ Collection and Analytical 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 MD values as 0 (zero).
⁴ Sample Types 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: 67 Average Chlorine Residual of All Samples for Month⁶ (mg/L): 0.65

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: [Signature] and Date: 9-10-19

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): 2019 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: _____ Monthly Averages: _____ mg/L
 Month 1: 70 JULY 0.55 mg/L
 Month 2: 64 AUG 0.65 mg/L
 Month 3: _____ SEPT _____ mg/L
 Quarterly Average: 0.60 mg/L
 Was the Running Annual Average MRDL (4.0 mg/L) exceeded? Yes No Running Annual Average: 0.86 mg/L

D. Total Organic Carbon - raw (TOC) (Required for SW or QWUDI systems > 499 seeking or approved to reduce TTHM/HAA5 monitoring.) Plant Name: _____
 (Attach additional sheet(s) to report more than 1 plant)
 Total Number of Samples: _____ Monthly Averages: _____ mg/L
 Month 1: _____ mg/L
 Month 2: _____ mg/L
 Month 3: _____ mg/L
 Quarterly Average: _____ 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: _____ Monthly Averages: _____ mg/L
 Month 1: _____ mg/L
 Month 2: _____ mg/L
 Month 3: _____ mg/L
 Quarterly Average: _____ mg/L
 Was the Running Annual Average MCL (0.010 µg/l) exceeded? Yes No Running Annual Average: _____ mg/L

F. Bromide (raw) Plant Name: _____
 Required for systems seeking or approved to reduce Bromate monitoring
 Total Number of Samples: _____ Monthly Averages: _____ mg/L
 Month 1: _____ mg/L
 Month 2: _____ mg/L
 Month 3: _____ mg/L
 Quarterly Average: _____ 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 own 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 Luskoff Date: 9-10-19

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)
 Accepted _____ Disapproved _____
 Review Comments: _____



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

CERTIFICATE OF ANALYSIS

REPORTED: 08/22/2019
 ORDER #: G1938568
 SAMPLE DATE: 8/5/2019
 DATE RECEIVED: 8/5/2019
 SAMPLE ID: Grab
 DESCRIPTION: DRINKING WATER

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

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL ¹ / Rec. Limit ²	Result
Test Parameters				LAB-ID#: <u>1938568-01</u>		
Carbon, Total Dissolved Organic	SM 5310B	08/08/2019	mg/L	0.500	---	5.05
SUVA	Calculation	08/19/2019	# per 100 mL	0	0	0.015
UV 254	SM 5910B	08/06/2019	Abs/cm	0.002	-----	0.078

Unless otherwise noted, all analyses were conducted by Analytical Balance Corp. (M-MA022). DOC and UV 254 were analyzed by subcontract lab M-RI002.

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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: 08/22/2019
 ORDER #: G1938568
 SAMPLE DATE: 8/5/2019
 DATE RECEIVED: 8/5/2019
 SAMPLE ID: Grab
 DESCRIPTION: DRINKING WATER

CERTIFICATE OF ANALYSIS

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL ¹ / Rec. Limit ²	Result
<i>Test Parameters</i>						
				LAB-ID#:	1938568-02	
Carbon, Total Dissolved Organic	SM 5310B	08/08/2019	mg/L	0.500	---	2.51
SUVA	Calculation	08/19/2019	# per 100 mL	0	0	0.005
UV 254	SM 5910B	08/06/2019	Abs/cm	0.002	-----	0.014

Unless otherwise noted, all analyses were conducted by Analytical Balance Corp. (M-MA022). DOC and UV 254 were analyzed by subcontract lab M-RI002.

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

Approved By: Timothy A. Begley
 Lab Manager / Date



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

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**RANDOLPH-HOLBROOK
JOINT WATER BOARD**

50 North Franklin Street
Holbrook, MA 02343



Town of Randolph



Holbrook
Joint Superintendent
(781) 767-1800
(781) 767-0705

August 13 2019

Commonwealth of Massachusetts
Department of Environmental Protection
Southeast Regional Office
100 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
July, 2019 Randolph/Holbrook
Joint Water System, PWS #424001

Gentlemen:

Enclosed please find all reports as referenced above for the month of July, 2019. Should there be any questions, please do not hesitate to call.

Sincerely,

William Cookerly
Plant Operator

Enclosures

Board of Health
Ryan Allgrove, EPG



**PLANT
REPORT**

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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 Reporting Guidance and Instructions" for details.

PWS Name:	RANDOLPH-HOLBROOK JOINT WATER	Town:	RANDOLPH-HOLBROOK	PWSID:	424001
Treatment Plant Name:	RANDOLPH WATER PLANT	Treatment Plant ID#:	4244002-01T	Reporting Period:	JULY 2019 Month Year

II. Chemical & Operational Information

Chemical Name:	CHLORINE	Purchased Strength:	1.0	Target Range/min:	0.20
Manufacturer:	AXIALI, LLC	Purchased Density (lbs/gal):	12.3	Target Dose:	NA
Product Name:	CHLORINE	Dilution Factor or Mix Ratio:	NA	Alarm Setting (low):	1.0
Reason for Adding Chemical:	DISINFECTANT	NSF Approved (Y/N):	Y	Alarm Setting (high):	3.0
		Date of last anti-siphon valve inspection/replacement:		NA	

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

Day	Treated Water <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Measured Chemical Used		Calculated Chemical Used (lb/day) ¹⁰	Chemical Dosage (mg/l) ¹⁰	Parameters Measured ⁸ , Results, Units and Method ⁹ - (G) Grab or Continuous (A) Analyzer ⁸			O&M Notes/Comments ¹¹ PWS note any equipment breakdown, off-line status, changes in purchased product or batch mixing day, measured parameters or dosages that are out of target range, etc.
		Volume ⁷ (gal/day)	Weight ⁷ (lbs/day)			a. FREE CHL ¹² FINISHED	b. FREE CHL ¹² FINISHED	c.	
1	2.5		73	3.5	1.74	1.51			
2	2.4		70	3.0	1.80	1.59			
3	2.4		75	3.8	1.78	0.81			
4	2.4		65	3.3	1.86	1.61			
5	2.2		61	3.3	1.66	1.40			
6	2.5		68	3.3	1.89	1.71			
7	2.4		68	3.4	1.74	1.65			
8	2.3		66	3.4	1.84	1.63			
9	1.6		40	3.0	2.06	1.91			
10	2.5		61	2.9	2.39	1.27			
11	3.0		81	3.2	2.10	1.75			
12	2.9		76	3.0	1.87	1.66			
13	3.0		77	3.0	1.90	1.42			
14	3.0		79	3.2	1.94	1.79			
15	2.8		77	3.3	1.98	1.80			
16	2.9		76	3.1	2.07	1.94			
17	2.9		78	3.3	2.19	1.83			
18	2.5		73	3.5	2.04	1.64			
19	2.7		77	3.4	2.02	1.63			
20	2.7		75	3.2	2.12	1.55			
21	2.8		71	3.0	1.70	1.35			
22	3.0		74	3.0	1.81	1.55			
23	3.4		86	3.0	2.21	1.80			
24	2.7		82	3.6	2.17	2.01			
25	2.6		80	3.7	2.22	2.10			
26	2.8		79	3.4	2.18	2.04			
27	2.8		78	3.3	2.24	2.13			
28	2.5		73	3.5	2.14	1.99			
29	2.7		74	3.3	2.22	2.05			
30	2.4		64	3.2	2.22	1.42			
31	2.8		79	3.4	2.18	1.98			

Total: _____ Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary²¹:

⁸ 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 & Date²⁴:
 William Costello 8-9-19

Print Name: William Costello Title: Chief Water Operator



PWS Information: Refer to MassDEP Chemical Addition Report Guidance and Instructions for details.					
PWS Name ¹ :	RANDOLPH-HOLBROOK JW	Town ¹ :	RANDOLPH-HOLBROOK	PWSID ¹ :	424001
Treatment Plant Name ² :	RANDOLPH WATER PLANT	Treatment Plant ID# ² :	424001-01T	Reporting Period ² :	JULY 2019 Month Year

II. Chemical & Operational Information					
Chemical Name ⁴ :	CALCIUM HYDROXIDE	Purchased Strength ⁵ :	0.85	Target Range/min ¹² :	NA
Manufacturer ⁴ :	CARMEUSE LIME & STONE	Purchased Density (lbs/gal) ⁵ :	18.7	Target Dose ¹³ :	NA
Product Name ⁴ :	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 ¹⁴ :	NA		

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

Day	Treated Water ⁸ <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> M/G	Measured Chemical Used		Calculated Chemical Used (lbs) ⁹	Chemical Dosage ⁹ (mg/l)	Parameters Measured ³ , Results, Units and Method ³ : (G) Grab or Continuous (A) Analyzer ⁴			O&M Notes/Comments ²³ <small>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.</small>
		Volume ⁷ (gal/day)	Weight ⁷ (lbs/day)			a. FINISHED PH	b.	c.	
1	2.5		100		4.8	7.05			
2	2.4		100		5.0	7.00			
3	2.4		100		5.0	7.00			
4	2.4		100		5.0	7.05			
5	2.2		100		5.5	6.95			
6	2.5		100		4.8	7.00			
7	2.4		100		5.0	7.05			
8	2.3		100		5.2	7.11			
9	1.6		75		5.6	7.05			
10	2.5		100		4.8	7.00			
11	3.0		100		4.0	7.05			
12	2.9		100		4.0	7.00			
13	3.0		100		4.0	6.95			
14	3.0		100		4.0	6.95			
15	2.8		100		4.3	7.05			
16	2.9		100		4.1	7.05			
17	2.9		100		4.1	6.95			
18	2.5		100		4.8	7.05			
19	2.7		100		4.4	7.00			
20	2.7		100		4.3	7.05			
21	2.8		100		4.3	7.10			
22	3.0		100		4.0	7.00			
23	3.4		100		3.5	7.05			
24	2.7		100		4.4	7.12			
25	2.6		100		4.6	7.11			
26	2.8		100		4.3	7.00			
27	2.8		100		4.3	7.05			
28	2.5		100		4.8	7.00			
29	2.7		100		4.4	7.07			
30	2.4		100		5.0	7.10			
31	2.8		100		4.3	7.05			

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

*Describe result (daily average, min/max, instantaneous reading, grab, etc.), sample location (entry-point, before/after filters, tanks, etc.) and instrumentation used (SCADA, chart recorder, test kit, bench, etc.) ²⁰ :		I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.	
a.	Finished Water Ph, Daily Average, Test Kit	PWS Authorized Person - Signature & Date ²⁴ : William Cookerly 8-9-12	
b.		Print Name: William COOKERLY Title: Chief Plant Operator	
c.			



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 Massachusetts Chemical Addition Reporting Guidance and Instructions* for details.

PWS Name ¹ :	RANDOLPH-HOLBROOK JW	Town ¹ :	RANDOLPH-HOLBROOK	PWSID ¹ :	424001
Treatment Plant Name ² :	RANDOLPH WATER PLANT	Treatment Plant ID# ² :	424001-017	Reporting Period ³ :	JULY 2019
				Month:	Year:

II. Chemical & Operational Information

Chemical Name ⁴ :	SODIUM BISULFATE	Purchased Strength ⁵ :	10-15	Target Range/min ¹² :	NA
Manufacturer ⁶ :	CARUS CORPORATION	Purchased Density (lbs/gal) ⁵ :	12.03	Target Dose ¹³ :	NA
Product Name ⁷ :	CARUS 3350	Dilution Factor or Mix Ratio ¹⁰ :	0.33	Alarm Setting (low) ¹⁴ :	NA
Reason for Adding Chemical ⁸ :	CORROSION INHIBITOR	NSF Approved (Y/N) ¹¹ :	Y	Alarm Setting (high) ¹⁴ :	NA
				Date of last anti-siphon valve inspection/replacement ¹⁵ :	NA

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

Day	Treated Water ¹⁶ <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> M3	Measured Chemical Used		Calculated chemical used (lbs) ¹⁷	Chemical Dosage ¹⁸ (mg/l)	Parameters Measured ¹⁹ , Results, Units and Method ²⁰ - (G)rab or Continuous (Analyzer) ²¹			O&M Notes/Comments ²² PWS note any equipment breakdown, off-line status, changes in purchased product or batch mixing day, measured parameters or dosages that are out of target range, etc.
		Volume ¹⁷ (gal/day)	Weight ¹⁷ (lbs/day)			a. FINISHED PH	b.	c.	
1	2.5					7.05			
2	2.4					7.00			
3	2.4					7.00			
4	2.4					7.05			
5	2.2					6.95			
6	2.5					7.00			
7	2.4					7.05			
8	2.3					7.11			
9	1.6					7.05			
10	2.5					7.00			
11	3.0					7.05			
12	2.9					7.00			
13	3.0					6.95			
14	3.0					6.95			
15	2.8					7.05			
16	2.9					7.05			
17	2.9					6.95			
18	2.5					7.05			
19	2.7					7.00			
20	2.7					7.05			
21	2.8					7.10			
22	3.0					7.00			
23	3.4					7.05			
24	2.7					7.12			
25	2.6					7.11			
26	2.8					7.00			
27	2.8					7.05			
28	2.5					7.00			
29	2.7					7.07			
30	2.4					7.10			
31	2.8					7.05			
Total									

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

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

a. *Finished Water Ph. Daily Average, Test Kit*

b.

c.

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

PWS Authorized Person - Signature & Date²⁴:
William Cook 8-9-19

Print Name: *William Cook* 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: Follbrook

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	<input type="checkbox"/> Multiple <input checked="" type="checkbox"/> Single	<input checked="" type="checkbox"/> Raw <input type="checkbox"/> Finished	07/01/2019	09:00	B. Cookerly
B	10300	Combined Filter Effluent	<input type="checkbox"/> Multiple <input checked="" type="checkbox"/> Single	<input type="checkbox"/> Raw <input checked="" type="checkbox"/> Finished	07/01/2019	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	<input checked="" type="checkbox"/> RS <input type="checkbox"/> SS	<input checked="" type="checkbox"/> Original <input type="checkbox"/> Resubmitted		<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Corr.			
B	<input checked="" type="checkbox"/> RS <input type="checkbox"/> SS	<input checked="" type="checkbox"/> Original <input type="checkbox"/> Resubmitted		<input type="checkbox"/> Resample <input type="checkbox"/> Reanalysis <input type="checkbox"/> Report Corr.			
Lab sample notes:							
A							
B							

II. Analytical Laboratory Information:

Primary Lab MA Cert. # M-MA022

Primary Lab name: Analytical Balance Corp.

Subcontracted? Y N

TOC analyzed by (check one): <input type="checkbox"/> PWS <input checked="" type="checkbox"/> Lab			Samples acidified? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
TOC result (mg/L)	MDL (mg/L)	Lab Method	Date Analyzed	Analysis Lab MA Cert. #	Analysis Lab Name	Lab Sample ID #	
A	5.67	SM 5310B	07/05/2019	M-RI002	ESS	37312-01	
B	3.05	SM 5310B	07/05/2019	M-RI002	ESS	37312-02	

Surface water 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 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): <input type="checkbox"/> PWS <input checked="" type="checkbox"/> 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	29.0	SM 2320B	07/12/2019	M-MA022	Analytical Balance	37312-01	
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 E. Bentley

Digitally signed by Robert E. Bentley
DN: Robert E. Bentley
O: Analytical Balance Corp.
E: bob@analyticalbalance.com
c: US

Primary Lab Director Signature/ Date: 07/22/2019

p 1 of 1

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
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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: 07/24/2019
 ORDER #: G1937314
 SAMPLE DATE: 7/1/2019
 DATE RECEIVED: 7/1/2019
 SAMPLE ID: Grab
 DESCRIPTION: DRINKING WATER

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit ¹	MCL / Rec. Limit ²	Result
Test Parameters				LAB-ID#: 1937314-01		
Carbon, Total Dissolved Organic	SM 5310B	07/05/2019	mg/L	0.500	---	5.66
SUVA	Calculation	07/18/2019	# per 100 mL	0	0	0.017
UV 254	SM 5910B	07/02/2019	Abs/cm	0.002	-----	0.097

Unless otherwise noted, all analyses were conducted by Analytical Balance Corp. (M-MA022). DOC and UV 254 were analyzed by subcontract lab M-RI002.



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: 07/24/2019
 ORDER #: G1937314
 SAMPLE DATE: 7/1/2019
 DATE RECEIVED: 7/1/2019
 SAMPLE ID: Grab
 DESCRIPTION: DRINKING WATER

CERTIFICATE OF ANALYSIS

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL ¹ / Rec. Limit ²	Result
Test Parameters				LAB-ID#: 1937314-02		
Carbon, Total Dissolved Organic	SM 5310B	07/05/2019	mg/L	0.500	---	3.15
SUVA	Calculation	07/18/2019	# per 100 mL	0	0	0.013
UV 254	SM 5910B	07/02/2019	Abs/cm	0.002	----	0.041

Unless otherwise noted, all analyses were conducted by Analytical Balance Corp. (M-MA022). DOC and UV 254 were analyzed by subcontract lab M-RI002.

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

Approved By: **Amanda Cronin**

Lab Manager / Date

Digitally signed by Amanda Cronin
 CN=Amanda Cronin
 O=Analytical Balance Corp.
 E=amanda@hztest.net
 2.5.4.11=

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

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DBPR TT Compliance Report

PWS INFORMATION

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

DEP LOCATION/LOCID: 015/10300 DEP Location Name: Raw Water/Combined Effluent Date Collected: 7-1-19 Collected By: B. Coakley
 SAMPLE NOTES:

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
8-18	1	46	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.32
9-18	1	42	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.20
10-18	1	48	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.37
11-18	1	34	35	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	TWSUVA	1.00
12-18	1	49	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.40
1-19	1	43	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.23
2-19	1	52	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.49
3-19	1	49	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.40
4-19	1	49	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.40
5-19	1	34	35	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	TWSUVA	1.00
6-19	1	52	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.49
7-19	1	46	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.31
Sum of Past 12 Months:						15.61
Compliance Value (Sum of Past 12 Months/ 12):						1.30

Sampling results on raw water are not to be used to determine compliance with the drinking water standards. Sampling results on treated water are to be used to determine compliance with the drinking water standards.

PWS Authorized Signature: [Signature]
 Date: 8-9-19

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

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

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

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

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

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

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

DEP REVIEW STATUS (Initial & Date)

Accepted Disapproved

Review Comments



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

SWTR
 J

(Page 1 of 2)

PWS INFORMATION

PWSID#: 4244001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: Randolph
 Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period → Month: JULY Year: 2019
 Total # of Filters at Treatment Plant¹: 8

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".	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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 continuous monitor, the correct answer is "no".	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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: Comment:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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(8)(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:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.



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

SWTR

(Page 2 of 2)

DAILY REPORTING

Day	Filter Number: 1		Filter Number: 2		Filter Number: 3		Filter Number: 4	
	¹ Max Day NTU	⁴ Max after 4 Hours NTU	² 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	.24	.07	.22	.09	.22	.09	.16	.08
2	.30	.07	.24	.09	.13	.10	.20	.08
3	.31	.09	.40	.08	.25	.06	.12	.06
4	.28	.06	.17	.10	.17	.07	.12	.08
5	.14	.07	.16	.11	.11	.06	.24	.08
6	.12	.06	.20	.07	.14	.06	.19	.07
7	.12	-	.15	-	.17	.07	.32	.10
8	.17	.08	.36	.08	.36	.06	.20	.06
9	.34	.11	.33	-	.21	.05	.20	.07
10	.16	.04	.33	.05	.30	.10	.15	.12
11	.15	.05	.37	.07	.32	.07	.37	.07
12	.20	.05	.25	.10	.30	.10	.20	.07
13	.33	.08	.32	.05	.15	.10	.30	.10
14	.18	.06	.30	.10	.10	-	.15	-
15	.08	.06	.06	-	.20	.06	.14	.07
16	.05	-	.21	.07	.43	.06	.14	.09
17	.43	.12	.35	.07	.05	-	.06	-
18	.07	-	.06	-	.15	.10	.31	.09
19	.07	.06	.11	.06	.09	.06	.08	.06
20	.09	.06	.08	.06	.10	.06	.15	.08
21	.11	.07	.07	-	.06	-	.08	-
22	.07	-	.13	.06	.11	.06	.10	.06
23	.37	.07	.12	.07	.36	.08	.30	.09
24	.15	.08	.06	-	.05	-	.07	-
25	.06	-	.11	.06	.09	.06	.14	.08
26	.08	.06	.11	.07	.16	.07	.09	.07
27	.11	.06	.11	.05	.31	.05	.09	.07
28	.26	.08	.32	.05	.25	.11	.07	-
29	.11	.08	.06	-	.09	-	.17	.09
30	.07	-	.43	.09	.16	.05	.13	.08
31	.30	.10	.10	.05	.06	.05	.15	.07

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:

Date: 8-12-19 Title:

William Cooper
 Chief Plant Operator



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

CI

I. PWS INFORMATION:

PWS ID #: **4133000** PWS Name: **TOWN OF HOLBROOK** City/Town: **HOLBROOK** Class: COM NTNC TNC
 Analytical Method: Free Chlorine Total Chlorine Combined Chlorine Analytical Method: SM 4500-Cl: D E F G H I ASTM D1253-86

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

Type Measured: Free Chlorine Total Chlorine Combined Chlorine

Notes:

DEP Sample Type ¹	DEP APPROVED SAMPLE SITE INFORMATION ¹		CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³		COLLECTED AND ANALYZED BY
	DEP Location Code #	DEP Approved Sample Location ¹		DATE	TIME	
RS	001	TOWN HALL	0.4	7/1/2019	06:35	T. Duggan
RS	004	COTTAGE VARIETY	0.4	7/1/2019	07:12	T. Duggan
RS	005	AGAPE INN	0.3	7/1/2019	07:51	T. Duggan
RS	006	COMMUNITY CENTER	0.3	7/1/2019	06:51	T. Duggan
RS	001	TOWN HALL	0.2	7/8/2019	06:34	T. Duggan
RS	004	COTTAGE VARIETY	0.4	7/8/2019	07:12	T. Duggan
RS	005	AGAPE INN	0.3	7/8/2019	07:35	T. Duggan
RS	006	COMMUNITY CENTER	0.1	7/8/2019	06:52	T. Duggan
RS	001	TOWN HALL	0.2	7/15/2019	06:08	T. Duggan
RS	004	COTTAGE VARIETY	0.4	7/15/2019	06:52	T. Duggan
RS	005	AGAPE INN	0.4	7/15/2019	07:13	T. Duggan
RS	006	COMMUNITY CENTER	0.1	7/15/2019	06:31	T. Duggan
RS	001	TOWN HALL	0.2	7/22/2019	06:18	T. Duggan
RS	004	COTTAGE VARIETY	0.3	7/22/2019	07:01	T. Duggan
RS	005	AGAPE INN	0.3	7/22/2019	07:25	T. Duggan
RS	006	COMMUNITY CENTER	0.1	7/22/2019	06:40	T. Duggan
RS	001	TOWN HALL	0.3	7/29/2019	06:12	T. Duggan
RS	004	COTTAGE VARIETY	0.4	7/29/2019	06:55	T. Duggan
RS	005	AGAPE INN	0.3	7/29/2019	07:17	T. Duggan
RS	006	COMMUNITY CENTER	0.1	7/29/2019	06:37	T. Duggan

III. COMPLIANCE REPORTING: Total # of Samples Collected for Month: **70** Average Chlorine Result of All Samples For Month (mg/L): **0.35**

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.

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 and Date: *William Colby* 8-13-19

DEP Review Status: Accepted Disapproved Review Comments:



CHLORINE/CHLORAMINES - MONTHLY REPORT

1. PWS INFORMATION:

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

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

Type Measured: Free Chlorine Total Chlorine Combined Chlorine Analytical Method: SM 4500-Cl D E F G H ASTM D1223-86

Notes:

DEP Sample Type	DEP Location Code #	DEP Approved Sample Location ¹	CHLORINE RESULT ² (mg/L)	COLLECTION DATE	ANALYSIS ³ TIME	COLLECTED AND ANALYZED BY:
RS	008	TOWER HILL SCHOOL - ADAMS STREET	0.77	7/1/19	9:55am	A. DIERKE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	0.92	7/1/19	7:40am	
RS	006	MARTIN E. YOUNG SCHOOL - COURTHNEY DRIVE	0.19	7/1/19	7:20am	
RS	006	COOPER INN - 1374 NORTH MAIN STREET	1.02	7/1/19	10:40am	
RS	008	NORTH MIDDLE SCHOOL - HIGH STREET	0.82	7/1/19	10:15am	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	0.84	7/1/19	9:30am	
RS	012	7-11 FOOD SHOP - 676 NORTH STREET	0.12	7/1/19	8:20am	
RS	014A	EMERALD/ROSS - 275 NORTH MAIN STREET	0.96	7/1/19	8:00am	
RS		OAK GROVE STANDPIPE	0.64	7/1/19	11:30am	
RS		SOUTH MAIN STREET STANDPIPE	0.42	7/1/19	11:45am	

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, SNTTR system (P2C must be collected at distribution sites with zero chlorine residual and results reported on the DEP Bacteriological Analytical Report form and on the appropriate SNTTR Form, Coliform and Amoxicillin 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 all values as 0 (zero). Sample Type: P2C-Original Site Report, SNT-Original Report, SNT-Subsequent Report, AR-Additional Report, or SS-Special Sample (as determined by DEP). ² All analytical 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 those 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: 70 Average Chlorine Residual of All Samples for Month (mg/L): 0.55

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

Primary Certified Operator Signature: [Signature] Date: 8-12-19

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: NTNG TNG

II. ANALYTICAL INFORMATION (Refer to your MassDEP California Sampling Plan and/or DEPR monitoring plan to help complete this section.)

Type Measured: Free Chlorine Total Chlorine Combined ChlorineAnalytical Method: SM 4500-Cl- D E F G H I ASTM D1253-85

Notes:

DEP Sample ID	DEP Location Code #1	DEPR Approved Sample Location #2	CHLORINE RESULT (mg/L)	COLLECTION AND ANALYSIS		COLLECTED AND ANALYZED BY
				DATE	TIME	
RS 003		TOWER HILL SCHOOL - ADAMS STREET	.72	7/8/19	8:00 AM	J. STEINBERG
RS 004		JPK SCHOOL - 20 HURLEY DRIVE	.70	7/8/19	8:20 AM	
RS 006		MARTIN E. YOUNG SCHOOL - COURTNEY DRIVE	.25	7/8/19	7:50 AM	
RS 006		COMPANY INN - 1374 NORTH MAIN STREET	1.09	7/8/19	7:40 AM	
RS 008		NORTH MIDDLE SCHOOL - HIGH STREET	.90	7/8/19	10:20 AM	
RS 011		MOBIL STATION - 93 MAZZEO DRIVE	.52	7/8/19	9:40 AM	
RS 012		7-11 FOOD SHOP - 676 NORTH STREET	.06	7/8/19	8:35 AM	
RS 014		EVERKISS - 279 NORTH MAIN STREET	.84	7/8/19	11:20 AM	
RS		OAK GROVE STANDPIPE	.85	7/8/19	1:30 PM	
RS		SOUTH MAIN STREET STANDPIPE	.44	7/8/19	1:55 PM	

*DEPR Sample Type, Location Code, and DEPR Approved Sample Site Location must correspond to the same information on your DEPR Total Chlorine Sampling Plan. *SWTR systems: If a total chlorine distribution site with zero chlorine residual and results reported on the DEPR Bacteriological Monthly Report form and on the appropriate SWTR Form. *Qualifiers and Assays: Chlorine residual shall be measured in the field (immediately upon collection) at the same time and location in the distribution system as total chlorine are sampled. Record MP values as 0 (zero). *Sample Type: RS - Routine Distribution Sample, FO - Official Site Report, UR - Unreported Report, DR - Distribution Report, AR - Admittance Report, or SS - Special Sample (as determined by DEPR). *All field-collected samples taken and analyzed shall be included in determining compliance, even if that number is greater than the minimum required. If you collect representative 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: **70**Average Chlorine Result of All Samples For Month: **0.55**

Insert under parcel 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 and Date:
William Colbert 8-13-19

DEPR Review Status: Approved Disapproved Review Comments:

CHLORINE/CHLORAMINES - MONTHLY REPORT

1. PWS INFORMATION:

PWS ID #: 42/4000 PWS Name: RANDOLPH WATER DEPARTMENT City/Town: RANDOLPH Class: COM NTNG TMS

II. ANALYTICAL INFORMATION: Refer to your MassDep Coliform Sampling Plan and/or DEP's monitoring plan to help complete this section. Analytical Method: Free Chlorine Total Chlorine Combined Chlorine

Notes:

DEP Sample Type	DEP Location Code #	DEP Approved Sample Location	CHLORINE RESULT (mg/L)	COLLECTION DATE	ANALYSIS TIME	COLLECTED AND ANALYZED BY
RS	002	TOWER HILL SCHOOL - ADAMS STREET	.91	7/5/19	9:55AM	F. STANARD
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	.76	7/5/19	8:00 AM	
RS	005	MARTIN E. YOUNG SCHOOL - COURTNEY DRIVE	.19	7/5/19	7:46 AM	
RS	006	2077 MAIN - 1874 NORTH MAIN STREET	1.39	7/5/19	10:30 AM	
RS	008	NORTH MIDDLE SCHOOL - HIGH STREET	1.07	7/5/19	10:15 AM	
RS	011	MOBIL STATION - 98 MAZZEO DRIVE	.37	7/5/19	9:35 AM	
RS	012	7-11 FOOD SHOP - 675 NORTH STREET	.05	7/5/19	8:20 AM	
RS	014	SWERDLOFFS - 77 NORTH MAIN STREET	1.12	7/5/19	11:10 AM	
RS		DAK GROVE STANDPIPE	.52	7/5/19	11:30 AM	
RS		SOUTH MAIN STREET STANDPIPE	.45	7/5/19	11:45 AM	

DEP Sample Type, Location Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan. SWTR system: If a grid is collected at distribution sites with zero chlorine residual and results reported on the DEP analytical monthly report form and on the appropriate SWTR Form, a chlorine and ammonia chlorine residual will be assumed in the field (immediately upon receipt) at the same time and location in the distribution system as total coliforms are sampled. Record N/D values as 0 (zero). Sample Type: RS (Random Distribution Sample), FCU (Fixed Site Report), UP (Unlabeled Report), DR (Distribution Report), AR (Additional Report), or SS (Special Sample) as determined by DEP. All electrical flow samples taken and analyzed shall be included in determining compliance, even if that number is greater than the minimum required. If you collect representative samples within the distribution system during the month, you must also measure for a detectable chlorine residual at the regular sites and include these samples. DO NOT include raw water (RW) or pump tap (PT) chlorine residual samples in your calculations.

DEP Review Status: Accepted Disapproved

Reviewed On: 7/5/19 Analytical Results of All Samples For Month (mg/L): 0.55

Physically Certified Operator Signature and Date: [Signature] 8-13-19



CHLORINECHLORANINES - MONTHLY REPORT

I. PWS INFORMATION:

PWS ID #: **4244000**PWS Name: **RANDOLPH WATER DEPARTMENT**City/Town: **RANDOLPH**Class: COMM NTWC TMC

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

Type Illustrated: Free Chlorine Total Chlorine Combined ChlorineAnalytical Method: SM 4500-Cl D E F G H ASTM D1253-06

Notes:

DEP Sample Type	DEP Location Code #	DEP Approved Sample Location	CHLORINE RESULT (mg/L)	COLLECTION DATE	ANALYSIS TIME	COLLECTED AND ANALYZED BY
RS	003	TOWER HILL SCHOOL - ADAMS STREET	.77	7/22/19	9:20 AM	J. STAMARD
RS	004	JFK SCHOOL - 80 HURLEY DRIVE	.59	7/22/19	8:05 AM	
RS	005	MARTIN E. YOUNG SCHOOL - COURTESY DRIVE	.12	7/22/19	7:40 AM	
RS	006	CHRYSTIE INN - 1374 NORTH MAIN STREET	1.29	7/22/19	10:00 AM	
RS	008	NORTH MIDDLE SCHOOL - HIGH STREET	.91	7/22/19	9:40 AM	
RS	011	MOBL. STATION - 98 MAZZEO DRIVE	.36	7/22/19	9:00 AM	
RS	012	7-1 FOOD SHOP - 676 NORTH STREET	.10	7/22/19	8:25 AM	
RS	014	SWENSON - 279 NORTH MAIN STREET	1.02	7/22/19	10:30 AM	
RS		OAK GROVE STANDPIPE	.39	7/22/19	10:45 AM	
RS		SOUTH MAIN STREET STANDPIPE	.26	7/22/19	11:00 AM	

DEP Sample Type, Location Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan. SWTR systems PWS must be collected at distribution sites with zero chlorine residual and results reported on the daily Residual Chlorine Monthly Report form and on the appropriate SWTR Form. Chlorine and Residual Chlorine residual shall be measured in the field immediately upon collection at the same time and location in the distribution system as that chlorine was sampled. Record and values as a (zero). Sample Type RS - Residual Chlorine Sample, PWS-Original Site Report, DE-Original Report, DE-Additional Report, or SS-Special Sample (as designated by DEP). All designated samples taken and analyzed shall be included in determining compliance, even if that number is greater than the minimum required. If you collect residual chlorine samples with the distribution system during the month, you must also measure for a detectable chlorine residual at the request sites and include these samples. DO NOT include raw water (RW) or plant tap (PT) chlorine residual samples in your calculations.

DEP Compliance Reporting: Total # of samples collected for Month: **70** Average Chlorine Result of All Samples for Month (mg/L): **0.55**

DEP Review Status:

 Accepted Disapproved

Reviewer Comments:

Primary Certified Operator Signature: *[Signature]* Date: **8-13-19**



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): 2019 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: _____ Monthly Averages: _____ mg/L
 Month 1: 20 JULY _____ mg/L
 Month 2: _____ mg/L
 Month 3: 20 SEPT. _____ mg/L
 Quarterly Average: 0.55 mg/L
 Was the Running Annual Average MRDL (4.0 mg/L) exceeded? Yes No Running Annual Average: 0.85 mg/L

D. Total Organic Carbon - raw (TOC) (Required for SW or GWUDI Plant Name: _____
systems > 499 seeking or approved to reduce THM/HAA5 monitoring.)
 Total Number of Samples: _____ Monthly Averages: _____ mg/L
 Month 1: _____ mg/L
 Month 2: _____ mg/L
 Month 3: _____ mg/L
 Quarterly Average: _____ mg/L
 Was the (4.0 mg/L) threshold exceeded? Yes No Running Annual Average: _____ mg/L
(Attach additional sheet(s) to report more than 1 plant)

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

E. Bromate (treated) Plant Name: _____
 Total Number of Samples: _____ Monthly Averages: _____ mg/L
 Month 1: _____ mg/L
 Month 2: _____ mg/L
 Month 3: _____ mg/L
 Quarterly Average: _____ mg/L
 Was the Running Annual Average MCL (0.010 µg/l) exceeded? Yes No Running Annual Average: _____ mg/L

F. Bromide (raw) Plant Name: _____
Required for systems seeking or approved to reduce Bromate monitoring
 Total Number of Samples: _____ Monthly Averages: _____ mg/L
 Month 1: _____ mg/L
 Month 2: _____ mg/L
 Month 3: _____ mg/L
 Quarterly Average: _____ 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 dioxide by-product samples)

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

Primary Certified Operator Signature: William Costello Date: 8-13-19

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)

EP REVIEW STATUS (Initial & Date)
 Accepted _____ Disapproved _____
 Review Comments: _____