



**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**

March 3, 2020

Commonwealth of Massachusetts  
Department of Environmental Protection  
Southeast Regional Office  
20 Riverside Drive  
Lakeville, MA 02374

Monthly Reports Filtered System Forms  
Forms F, G, I, J, TT  
Analysis for TOC, DOC and SUVA  
Chemical Addition Reports  
DBPR Compliance Report  
February, 2020 Randolph/Holbrook  
Joint Water System, PWS #424001

Gentlemen:

Enclosed please find all reports as referenced above for the month of February, 2020. Should there be any questions, please do not hesitate to call.

Sincerely,

William Cookerly  
Chief Plant Operator

Enclosures

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



# Compliance Determination for Filtered Systems - Monthly Report

## I. PWS INFORMATION:

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

## II. TURBIDITY PERFORMANCE CRITERIA:

1. Monthly Turbidity (95%) NTU Limit - The turbidity level of a system's filtered water must be less than or equal to the Monthly Turbidity NTU Limit in at least 95% of the measurements taken each month for the filtration technology used, otherwise SWTR TT Violation (Tier 2).

<u>174</u>	= A	Total # of filtered water turbidity measurements for month (SWTR - Form F)
<u>174</u>	= B	Total # of filtered water turbidity measurements less than or equal to the specified limits for the filtration technology used. (SWTR - Form F)
<u>100</u>	= (B/A) x 100	The percentage of turbidity measurements meeting the Monthly Turbidity 95% NTU Limit.

2. Max Day NTU Limit - The turbidity level of a system's filtered water must at no time exceed the Max Day NTU Limit for the filtration technology used, otherwise SWTR TT Violation (Tier 2).

Record the date and turbidity value for any measurements exceeding the Max Day NTU. Check box  if "None"

Date	Value	Date Reported to DEP	Date	Value	Date Reported to DEP

For each day the Max Day NTU limit is exceeded, the DEP must be notified by the end of the next business day. SWTR TT Violation (Tier 2). If DEP is not consulted within 24 hours then it is a SWTR TT (Tier 1) violation requiring public notification within 24 hours.

## III. DISINFECTION PERFORMANCE CRITERIA:

1. Point-of-Entry Minimum Disinfectant Residual Criteria - Residual Disinfectant concentration cannot be < 0.2 mg/L for more than 4 hours. SWTR TT Violation (Tier 2).

Minimum Disinfectant Residual at Point-of-Entry to Distribution System

Day	Cl <sub>2</sub> mg/l												
1	<u>1.97</u>	6	<u>1.98</u>	11	<u>2.01</u>	16	<u>1.82</u>	21	<u>1.72</u>	26	<u>1.59</u>	31	
2	<u>1.72</u>	7	<u>1.89</u>	12	<u>2.02</u>	17	<u>1.75</u>	22	<u>1.65</u>	27	<u>2.02</u>		Residual Measured <input checked="" type="checkbox"/> Free Cl <sub>2</sub> <input type="checkbox"/> Total Cl <sub>2</sub> <input type="checkbox"/> Combined Cl <sub>2</sub>
3	<u>1.96</u>	8	<u>1.89</u>	13	<u>1.93</u>	18	<u>1.91</u>	23	<u>1.68</u>	28	<u>1.82</u>		
4	<u>1.95</u>	9	<u>1.89</u>	14	<u>1.91</u>	19	<u>1.82</u>	24	<u>1.89</u>	29	<u>1.80</u>		
5	<u>2.01</u>	10	<u>1.98</u>	15	<u>1.90</u>	20	<u>1.82</u>	25	<u>1.56</u>	30			

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

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

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

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

<u>66</u>	= a	# of sites where Cl <sub>2</sub> residual measurements were made, whether a residual was detected or not (should be the same # of sites reported on your monthly DBPR Cl <sub>2</sub> residual report)
<u>0</u>	= b	# of sites HPC samples were analyzed <i>instead</i> of Cl <sub>2</sub> residual measurements
<u>0</u>	= c	# of sites where no Cl <sub>2</sub> residual was detected and no HPC sample was analyzed
<u>0</u>	= d	# of sites where no Cl <sub>2</sub> residual was detected and HPC > 500 CFU/mL
<u>0</u>	= e	# of sites where no Cl <sub>2</sub> residual measurement was made and HPC > 500 CFU/mL

Water in the distribution system with a heterotrophic bacteria concentration (HPC) less than or equal to 500/mL, is deemed to have a detectable disinfectant residual for purposes of determining compliance with this requirement. When analyzed, report HPC results on your monthly DEP Bacteriological Report.

V =  $\frac{(c+d+e)}{(a+b)} \times 100$  This Month % V = 0 Previous Month % V = 0 Is V > 5% for 2 months?  Yes or  No

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true,  
 PWS Authorized Signature: William Cookley CHIEF PLANT OPERATOR  
 3-14-2020



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

PWS INFORMATION

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

DAILY 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
	.09	6	6	0
	.07	6	6	0
	.08	6	6	0
	.07	6	6	0
	.09	6	6	0
	.09	6	6	0
	.10	6	6	0
	.10	6	6	0
	.09	6	6	0
	.08	6	6	0
	.08	6	6	0
	.09	6	6	0
	.10	6	6	0
	.08	6	6	0
	.08	6	6	0
	.09	6	6	0
	.09	6	6	0
	.08	6	6	0
	.08	6	6	0
	.07	6	6	0
	.08	6	6	0
	.09	6	6	0
	.08	6	6	0
	.07	6	6	0
	.07	6	6	0
	.09	6	6	0
Totals:		174	174	% Turbidity Meeting 95% Limit B/A x 100% = X (Enter on SWTR Form G)

- May be used by systems serving less than 10,000 persons, subject to DEP approval.
- Enter the Maximum Filtered Water Turbidity Result recorded each day, at the 4<sup>th</sup> hour or other approved interval.
- Enter the Total # of Turbidity measurements taken for each day. Measurements must be taken at a minimum of 4-hour intervals (i.e. 6 readings per day). For continuous monitors count each 4-hour period as 1 measurement. Record the actual turbidity result at the specified interval of time. Do not average turbidity measurements. If DEP approved, 15-minute readings (i.e. 96 readings per day) may be submitted. Filtered turbidity data must be kept on file for DEP review.
- Out of the # of turbidity measurements taken and recorded in the previous column, enter the number of turbidity measurements that were less than or equal to the Monthly (95%) NTU Limit for the filtration technology used.
- If at any time the filtered turbidity Max Day NTU Limit is exceeded, the DEP must be notified no later than the end of the next business day. For each exceedance, record the turbidity value(s) and date(s) on SWTR - Form G

PWS Authorized Signature: William Colker  
 Date: 3-4-2020 Title: Chief Plant Operator



**I. PWS INFORMATION:**

PWSID#: 4244001 PWS Name: Randolph-Holliston Joint Water PWS Town: Randolph  
 Treatment Plant Name: Randolph Water Plant Reporting Period → Month: FEBRUARY Year: 2020  
 Disinfectant<sup>1</sup>: Chlorine Dioxide Eff. Sequence of Application:  1<sup>st</sup>  2<sup>nd</sup>  3<sup>rd</sup>  4<sup>th</sup>  5  6<sup>th</sup>

**II. DAILY REPORTING:** All measurements taken during peak hourly flow.

Day	Peak Hourly Flow <sup>2</sup> (gpm)	Disinfectant Concentration <sup>3</sup> C (mg/L)	Disinfectant Contact Time <sup>4</sup> T (min.)	CT calc (= C x T)	pH <sup>5</sup>	Water Temp <sup>6</sup> (°C)	CT <sup>7</sup> 99.9	Inactivation Ratio <sup>8</sup> (CT calc / CT 99.9)	Inactivation Ratio <sup>9</sup> < 1.0
1	2,400	1.92	50	98.5	6.15	5.6	11	9.0	<input type="checkbox"/> Yes
2	2,400	1.72	50	86	6.00	5.9	11	7.8	<input type="checkbox"/> Yes
3	2,400	1.96	50	98	6.05	5.9	11	8.9	<input type="checkbox"/> Yes
4	2,400	1.95	50	97.5	5.90	6.4	11	8.9	<input type="checkbox"/> Yes
5	2,400	2.01	50	100.5	5.95	6.1	11	9.1	<input type="checkbox"/> Yes
6	2,400	1.98	50	99	6.05	5.6	11	9.0	<input type="checkbox"/> Yes
7	2,400	1.89	50	94.5	6.10	6.2	11	8.6	<input type="checkbox"/> Yes
8	2,400	1.89	50	94.5	5.80	6.0	11	8.6	<input type="checkbox"/> Yes
9	2,400	1.89	50	94.5	5.85	6.1	11	8.6	<input type="checkbox"/> Yes
10	2,400	1.98	50	99	6.05	6.9	11	9.0	<input type="checkbox"/> Yes
11	2,400	2.01	50	100.5	5.90	6.0	11	9.1	<input type="checkbox"/> Yes
12	2,400	2.02	50	101	5.95	6.0	11	9.2	<input type="checkbox"/> Yes
13	2,400	1.93	50	96.5	6.15	5.0	11	8.8	<input type="checkbox"/> Yes
14	2,400	1.91	50	95.5	6.10	5.0	11	8.7	<input type="checkbox"/> Yes
15	2,400	1.90	50	95	5.90	5.1	11	8.6	<input type="checkbox"/> Yes
16	2,400	1.82	50	91	5.90	5.8	11	8.3	<input type="checkbox"/> Yes
17	2,400	1.75	50	87.5	6.00	5.7	11	8.0	<input type="checkbox"/> Yes
18	2,400	1.91	50	95.5	6.05	6.1	11	8.7	<input type="checkbox"/> Yes
19	2,400	1.82	50	91	6.10	6.0	11	8.3	<input type="checkbox"/> Yes
20	2,400	1.82	50	91	6.00	6.0	11	8.3	<input type="checkbox"/> Yes
21	2,400	1.72	50	86	6.00	5.6	11	7.8	<input type="checkbox"/> Yes
22	2,400	1.65	50	82.5	5.95	5.8	11	7.5	<input type="checkbox"/> Yes
23	2,400	1.68	50	84	5.90	5.9	11	7.6	<input type="checkbox"/> Yes
24	2,400	1.89	50	94.5	6.10	6.10	11	8.6	<input type="checkbox"/> Yes
25	2,400	1.56	50	78	6.00	6.00	11	7.1	<input type="checkbox"/> Yes
26	2,400	1.59	50	79.5	5.95	6.20	11	7.2	<input type="checkbox"/> Yes
27	2,400	2.02	50	101	6.05	6.2	11	9.2	<input type="checkbox"/> Yes
28	2,400	1.82	50	91	5.90	6.0	11	8.3	<input type="checkbox"/> Yes
29	2,400	1.80	50	90	5.90	5.7	11	8.2	<input type="checkbox"/> Yes
30			50						<input type="checkbox"/> Yes
31			50						<input type="checkbox"/> Yes

1. Use a separate form for each disinfectant/sampling point. Enter disinfectant and sequence position, e.g. "ozone/1<sup>st</sup>" or "ClO<sub>2</sub>/3<sup>rd</sup>". 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 Corcoran  
 Date: 3-3-2020 Title: Chief Plant Operator



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

C-ADD

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

PWS Name <sup>1</sup> :	RANDOLPH-HOLBROOK JW	Town <sup>1</sup> :	RANDOLPH-HOLBROOK	PWSID <sup>1</sup> :	424001
Treatment Plant Name <sup>2</sup> :	RANDOLPH WATER PLANT	Treatment Plant ID# <sup>2</sup> :	4244001-01T	Reporting Period <sup>3</sup> :	FEBRUARY 2020 Month Year

**II. Chemical & Operational Information**

Chemical Name <sup>4</sup> :	POLYALUMINUM CHLORIDE	Purchased Strength <sup>8</sup> :	1.0	Target Range/min <sup>12</sup> :	>14
Manufacturer <sup>5</sup> :	HOLLAND COMPANY	Purchased Density (lbs/gal) <sup>9</sup> :	10.3	Target Dose <sup>13</sup> :	2.8
Product Name <sup>6</sup> :	PCH-180	Dilution Factor or Mix Ratio <sup>10</sup> :	NA	Alarm Setting (low) <sup>14</sup> :	NA
Reason for Adding Chemical <sup>7</sup> :	COAGULATION	NSF Approved (Y/N) <sup>11</sup> :	Y	Alarm Setting (high) <sup>14</sup> :	NA
		Date of last anti-siphon valve inspection/replacement <sup>15</sup> :			

**III. Daily Reporting**

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

Day	Treated Water <sup>16</sup> <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Measured Chemical Used		Calculated Chemical Used (lbs) <sup>10</sup>	Chemical Dosage <sup>19</sup> (mg/L)	Parameters Measured <sup>4</sup> , Results, Units and Method <sup>20</sup> - (G)rab or Continuous (A)nalyzer <sup>21</sup>			O&M Notes/Comments <sup>22</sup>  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 <sup>17</sup> (gal/day)	Weight <sup>17</sup> (lbs/day)			a. RAW Ph DAILY AVG	b.	c.	
1	2.8	170		1,751	25	7.00			
2	2.7	140		1,442	21	7.10			
3	2.8	125		1,288	18	7.05			
4	2.9	165		1,700	23	7.10			
5	3.3	141		1,555	19	7.10			
6	3.0	126		1,298	19	7.00			
7	2.7	122		1,257	18	7.15			
8	2.8	160		1,648	23	7.10			
9	2.8	140		1,442	20	7.00			
10	2.8	125		1,288	18	7.15			
11	2.9	145		1,494	20	7.15			
12	2.9	128		1,318	18	7.10			
13	2.7	134		1,380	20	7.15			
14	2.7	105		1,082	16	7.20			
15	2.7	135		1,391	20	7.15			
16	2.7	111		1,143	17	7.20			
17	2.8	125		1,288	18	7.10			
18	2.7	135		1,391	20	7.15			
19	2.8	122		1,257	18	7.10			
20	2.8	142		1,463	21	7.20			
21	2.7	125		1,288	19	7.10			
22	2.8	160		1,648	23	7.15			
23	2.8	135		1,391	20	7.10			
24	2.7	120		1,236	18	7.15			
25	2.8	140		1,442	20	7.10			
26	2.8	129		1,329	19	7.10			
27	2.8	120		1,236	18	7.15			
28	2.7	140		1,442	21	7.20			
29	2.7	140		1,442	21	7.05			
30									
31									

Total Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary<sup>23</sup>:

\*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.)<sup>20</sup>:

a.	Raw Ph, Daily Average, Test Kit
b.	
c.	

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

PWS Authorized Person - Signature & Date<sup>24</sup>:  
*William Cookery* 3-4-2020  
 Print Name: **William Cookery** Title: **Chief Plant Operator**



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

PWS Name <sup>1</sup> :	RANDOLPH-HOLBROOK JOINT WATER	Town <sup>1</sup> :	RANDOLPH-HOLBROOK	PWSID <sup>1</sup> :	424001
Treatment Plant Name <sup>2</sup> :	RANDOLPH WATER PLANT	Treatment Plant ID# <sup>2</sup> :	4244001-01T	Reporting Period <sup>2</sup> :	FEBRUARY 2020 Month Year

**II. Chemical & Operational Information**

Chemical Name <sup>4</sup> :	CHLORINE	Purchased Strength <sup>9</sup> :	1.0	Target Range/min <sup>12</sup> :	0.20
Manufacturer <sup>5</sup> :	AXIAL, LLC	Purchased Density (lbs/gal) <sup>9</sup> :	12.3	Target Dose <sup>13</sup> :	NA
Product Name <sup>6</sup> :	CHLORINE	Dilution Factor or Mix Ratio <sup>10</sup> :	NA	Alarm Setting (low) <sup>14</sup> :	1.0
Reason for Adding Chemical <sup>7</sup> :	DISINFECTANT	NSF Approved (Y/N) <sup>11</sup> :	Y	Alarm Setting (high) <sup>14</sup> :	3.0
			Date of last anti-siphon valve inspection/replacement <sup>15</sup> :	NA	

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

Day	Treated Water <sup>10</sup> <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Measured Chemical Used		Calculated Chemical Used (lbs) <sup>10</sup>	Chemical Dosage <sup>10</sup> (mg/L)	Parameters Measured <sup>4</sup> , Results, Units and Method <sup>20</sup> - (G) grab or Continuous (A) analyzer <sup>21</sup>			O&M Notes/Comments <sup>22</sup>  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 <sup>17</sup> (gal/day)	Weight <sup>17</sup> (lbs/day)			a. FREE Cl <sub>2</sub> FINISHED		c.	
						<input checked="" type="checkbox"/> G <input type="checkbox"/> A	<input checked="" type="checkbox"/> G <input type="checkbox"/> A		
1	2.8		67	2.9	2.20	1.97			
2	2.7		63	2.8	2.02	1.72			
3	2.8		67	2.9	2.13	1.96			
4	2.9		67	2.8	2.09	1.95			
5	3.3		78	2.8	2.17	2.01			
6	3.0		73	2.9	2.17	1.98			
7	2.7		68	3.0	2.01	1.89			
8	2.8		64	2.7	2.09	1.89			
9	2.8		72	3.0	2.12	1.89			
10	2.8		79	3.4	2.10	1.98			
11	2.9		71	2.9	2.19	2.01			
12	2.9		76	3.1	2.16	2.02			
13	2.7		68	3.0	2.04	1.93			
14	2.7		66	2.9	2.03	1.91			
15	2.7		61	2.7	2.10	1.90			
16	2.7		63	2.8	2.02	1.82			
17	2.8		68	2.9	2.05	1.75			
18	2.7		67	3.0	2.07	1.91			
19	2.8		65	2.8	2.01	1.82			
20	2.8		64	2.7	2.08	1.82			
21	2.7		61	2.7	1.94	1.72			
22	2.8		60	2.6	1.96	1.65			
23	2.8		66	2.8	1.94	1.68			
24	2.7		64	2.8	2.01	1.89			
25	2.8		59	2.5	1.87	1.56			
26	2.8		64	2.7	2.01	1.59			
27	2.8		61	2.6	2.11	2.02			
28	2.7		60	2.7	2.01	1.82			
29	2.7		56	2.5	2.00	1.80			
30									
31									
Total					Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary <sup>23</sup> :				

\*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.)<sup>20</sup>:

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

b. Daily Minimum, Free Chlorine, Finished Water, Grab Sample, Test Kit

c.

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

PWS Authorized Person / Signature & Date<sup>24</sup>:  
 William Coakley 3-4-2020  
 Print Name: William Coakley Title: Chief Plant Operator



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

C-ADD

I. PWS Information - Refer to MassDEP "Chemical Addition Report Guidance and Instructions" for details.									
PWS Name <sup>1</sup> : RANDOLPH-HOLBROOK JW			Town <sup>1</sup> : RANDOLPH-HOLBROOK			PWSID <sup>1</sup> : 424001			
Treatment Plant Name <sup>2</sup> : RANDOLPH WATER PLANT			Treatment Plant ID# <sup>2</sup> : 4244001-01T			Reporting Period <sup>3</sup> : FEBRUARY 2020		Month: Year	
II. Chemical & Operational Information									
Chemical Name <sup>4</sup> : CALCIUM HYDROXIDE			Purchased Strength <sup>8</sup> : 0.85			Target Range/min <sup>12</sup> : NA			
Manufacturer <sup>5</sup> : CARMEUSE LIME & STONE			Purchased Density (lbs/gal) <sup>9</sup> : 18.7			Target Dose <sup>13</sup> : NA			
Product Name <sup>6</sup> : HYDRATED LIME			Dilution Factor or Mix Ratio <sup>10</sup> : NA			Alarm Setting (low) <sup>14</sup> : NA			
Reason for Adding Chemical <sup>7</sup> : Ph ADJUSTMENT			NSF Approved (Y/N) <sup>11</sup> : Y			Alarm Setting (high) <sup>14</sup> : NA			
			Date of last anti-siphon valve inspection/replacement <sup>15</sup> : NA						
III. Daily Reporting									
Note: Water quality data reported on C-ADD form may be considered for compliance purposes.									
Day	Treated Water <sup>16</sup> <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Measured Chemical Used		Calculated Chemical Used (lbs) <sup>18</sup>	Chemical Dosage <sup>19</sup> (mg/L)	Parameters Measured <sup>20</sup> , Results, Units and Method <sup>20</sup> - (G)rab or Continuous (A)nalyzer <sup>21</sup>			O&M Notes/Comments <sup>22</sup> 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 <sup>17</sup> (gal/day)	Weight <sup>17</sup> (lbs/day)			a. Finished Ph	b.	c.	
						<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	
1	2.4		100	5.0	7.05				
2	2.4		100	5.0	7.05				
3	2.5		100	4.8	7.00				
4	2.4		100	5.0	7.10				
5	2.8		100	4.3	7.05				
6	2.6		100	4.6	7.00				
7	2.4		100	5.0	7.10				
8	2.4		100	5.0	7.05				
9	2.5		100	4.8	7.15				
10	2.6		100	4.6	7.20				
11	2.6		100	4.6	7.05				
12	2.6		100	4.6	7.20				
13	2.4		100	5.0	7.05				
14	2.2		100	5.5	7.15				
15	2.3		100	5.2	7.10				
16	2.3		100	5.2	7.10				
17	2.4		100	5.0	7.05				
18	2.4		100	5.0	7.15				
19	2.4		100	5.0	7.10				
20	2.4		100	5.0	7.10				
21	2.2		100	5.5	7.05				
22	2.2		100	5.5	7.15				
23	2.4		100	5.0	7.10				
24	2.3		100	5.2	7.20				
25	2.1		100	5.7	7.15				
26	2.2		100	5.5	7.05				
27	2.2		100	5.5	7.15				
28	1.9		100	6.0	7.10				
29	2.1		100	5.7	7.05				
30									
31									
Total		Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary <sup>23</sup> :							
*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.) <sup>20</sup> :						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 <sup>24</sup> : William Cooksey 3-4-2020			
b.						Print Name: William Cooksey 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 MassDEP “Chemical Addition Report Guidance and Instructions” for details.**

PWS Name <sup>1</sup> :	RANDOLPH-HOLBROOK JW	Town <sup>1</sup> :	RANDOLPH-HOLBROOK	PWSID <sup>1</sup> :	424001
Treatment Plant Name <sup>2</sup> :	RANDOLPH WATER PLANT	Treatment Plant ID# <sup>2</sup> :	4244001-01T	Reporting Period <sup>3</sup> :	FEBRUARY 2020 Month Year

**II. Chemical & Operational Information**

Chemical Name <sup>4</sup> :	SODIUM BISULFATE	Purchased Strength <sup>8</sup> :	.10-.15	Target Range/min <sup>12</sup> :	NA
Manufacturer <sup>5</sup> :	CARUS CORPORATION	Purchased Density (lbs/gal) <sup>9</sup> :	12.03	Target Dose <sup>13</sup> :	NA
Product Name <sup>6</sup> :	CARUS 3350	Dilution Factor or Mix Ratio <sup>10</sup> :	0.33	Alarm Setting (low) <sup>14</sup> :	NA
Reason for Adding Chemical <sup>7</sup> :	CORROSION INHIBITOR	NSF Approved (Y/N) <sup>11</sup> :	Y	Alarm Setting (high) <sup>14</sup> :	NA
		Date of last anti-siphon valve inspection/replacement <sup>15</sup> :	NA		

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

Day	Treated Water <sup>16</sup> <input type="checkbox"/> Gallons <input checked="" type="checkbox"/> MG	Measured Chemical Used		Calculated Chemical Used (lbs) <sup>18</sup>	Chemical Dosage <sup>19</sup> (mg/L)	Parameters Measured <sup>2</sup> , Results, Units and Method <sup>20</sup> - (G)rab or Continuous (A)nalyzer <sup>21</sup>			O&M Notes/Comments <sup>22</sup>  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 <sup>17</sup> (gal/day)	Weight <sup>17</sup> (lbs/day)			a. <i>FINISHED PH</i>	b.	c.	
1	2.4					7.05			
2	2.4					7.05			
3	2.5					7.00			
4	2.4					7.10			
5	2.8					7.05			
6	2.6					7.00			
7	2.4					7.10			
8	2.4					7.05			
9	2.5					7.15			
10	2.6					7.20			
11	2.6					7.05			
12	2.6					7.20			
13	2.4					7.05			
14	2.2					7.15			
15	2.3					7.10			
16	2.3					7.10			
17	2.4					7.05			
18	2.4					7.15			
19	2.4					7.10			
20	2.4					7.10			
21	2.2					7.05			
22	2.2					7.15			
23	2.4					7.10			
24	2.3					7.20			
25	2.1					7.15			
26	2.2					7.05			
27	2.2					7.15			
28	1.9					7.10			
29	2.1					7.05			
30									
31									
Total									Indicate total # of days the residual was off-target for the month (from Section II) Monthly Target Summary <sup>23</sup> :

\*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.)<sup>20</sup>:

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

b. *William Cookery 3-4-2020*

c. *William Cookery Chief Plant Operator*

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

PWS Authorized Person - Signature & Date<sup>24</sup>:





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

SWTR  
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(Page 2 of 2)

III DAILY REPORTING

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

- 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 Cooper*  
 Chief Plant Operator

Date: 3-2-2000 Title:



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

SWTR  
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(Page 2 of 2)

DAILY REPORTING

Day	Filter Number: 5		Filter Number: 6		Filter Number: 7		Filter Number: 8	
	<sup>3</sup> Max Day NTU	<sup>4</sup> Max after 4 Hours NTU	<sup>3</sup> Max Day NTU	<sup>4</sup> Max after 4 Hours NTU	<sup>3</sup> Max Day NTU	<sup>4</sup> Max after 4 Hours NTU	<sup>3</sup> Max Day NTU	<sup>4</sup> Max after 4 Hours NTU
1	.11	.07	OUT OF SERVICE		.10	.07	.10	.08
2	.10	.05			.07	-	.15	.05
3	.13	.06			.11	.07	.09	.04
4	.08	.05			.11	.07	.13	.05
5	.09	.07			.10	.08	.09	.04
6	.10	.07			.11	.08	.11	.05
7	.08	.05			.11	.07	.10	.05
8	.25	.06			.07	-	.07	.05
9	.06	-			.13	.07	.10	.05
10	.10	.07			.13	.08	.08	.06
11	.10	.05			.21	.09	.09	.05
12	.07	.05			.10	.07	.06	.04
13	.09	.06			.07	-	.11	.04
14	.10	.06			.13	.08	.09	.04
15	.06	-			.14	.07	.09	.05
16	.11	.07			.22	.08	.08	.05
17	.16	.06			.11	.07	.08	.06
18	.18	.08			.13	.09	.10	.06
19	.10	.06			.14	.08	.07	.05
20	.18	.07			.11	.07	.09	.06
21	.05	-			.15	.09	.11	.06
22	.16	.06			.15	.08	.10	.04
23	.15	.06			.13	.07	.25	.06
24	.12	.07			.07	-	.04	-
25	.10	.06	.12	.05	.15	.07	.09	.07
26	.05	-	.21	.07	.11	.08	.08	.05
27	.16	.08	.15	.07	.11	.07	.07	.06
28	.24	.09	.20	.06	.14	.08	.10	.06
29	.11	.06	.16	.07	.15	.07	.12	.07
30								
31								

- 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 submit this form and the information contained herein is true, accurate and complete to the best extent of my knowledge.

PWS Authorized Signature: William Cook  
 Date: 3-2-2020 Title: Chief Plant Operator



## DBPR TT Compliance Report

## I. PWS INFORMATION

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

DEP LOCATION (LOC) ID#	DEP Location Name	Date Collected	Collected By
<u>015/10300</u>	<u>Raw Water/Combined Filter Effluent</u>	<u>2-3-2020</u>	<u>Bill Cookerly</u>
SAMPLE NOTES			

## II. COMPLIANCE CALCULATIONS:

Month	# of Paired Samples	A: % Removal of TOC <sup>1</sup>	B: Required % Removal of TOC <sup>2</sup>	Met Alternative Compliance Criteria	Alternative Criteria Result(s) <sup>3</sup> (See Below)	A ÷ B <sup>4</sup>
<u>3-19</u>	<u>1</u>	<u>49</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.40</u>
<u>4-19</u>	<u>1</u>	<u>49</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.40</u>
<u>5-19</u>	<u>1</u>	<u>34</u>	<u>35</u>	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<u>TWSUVA</u>	<u>1.00</u>
<u>6-19</u>	<u>1</u>	<u>52</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.49</u>
<u>7-19</u>	<u>1</u>	<u>46</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.31</u>
<u>8-19</u>	<u>1</u>	<u>56</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.60</u>
<u>9-19</u>	<u>1</u>	<u>39</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.11</u>
<u>10-19</u>	<u>1</u>	<u>42</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.20</u>
<u>11-19</u>	<u>1</u>	<u>44</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.26</u>
<u>12-19</u>	<u>1</u>	<u>51</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.46</u>
<u>1-20</u>	<u>1</u>	<u>40</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.14</u>
<u>2-20</u>	<u>1</u>	<u>45</u>	<u>35</u>	<input type="checkbox"/> YES <input type="checkbox"/> NO		<u>1.29</u>
Sum of Past 12 Months:						<u>15.66</u>
Compliance Value (Sum of Past 12 Months/ 12):						<u>1.31</u>

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

PWS Authorized Signature: William CookerlyDate: 3-4-2020

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

<sup>1</sup> 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).

<sup>2</sup> From table at 310 CMR 22.07E(10)(b)2.

<sup>3</sup> 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 <sub>3</sub> ) 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 <sub>3</sub> )	SOFT60	RAA of treated water alkalinity
Softening that removes ≥ 10 mg/L (as CaCO <sub>3</sub> ) of hardness	SOFT10	RAA of hardness (as CaCO <sub>3</sub> ) removal

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

<sup>4</sup> 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 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	02/03/2020	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	02/03/2020	09:00	B. Cookerly
Routing 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	4.93	0.5	SM 5310B	02/06/2020	M-RI002	ESS	44472-01
B	2.70	0.5	SM 5310B	02/06/2020	M-RI002	ESS	44472-02

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/HAA5 monitoring.  
 Each source must maintain a running annual average source (raw) water TOC level of  $\leq 4.0$  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 <sub>3</sub> )	MDL (mg/L)	Lab Method	Date Analyzed	Analysis Lab MA Cert. #	Analysis Lab Name	Lab Sample ID #	
A	22.5	4	SM 2320B	02/07/2020	M-MA022	Analytical Balance	44472-01
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  
 CN=Robert E. Bentley  
 O=Analytical Balance Corp.  
 E=bob@h2otest.net

Primary Lab Director Signature/ Date: 02/18/2020 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)	Review comments	WQTS data entered
Accepted _____ Disapproved _____		<input type="checkbox"/>



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

**CERTIFICATE OF ANALYSIS**

REPORTED: 02/14/2020  
 ORDER #: G2044467  
 SAMPLE DATE: 2/3/2020  
 DATE RECEIVED: 2/3/2020  
 SAMPLE ID: Special  
 DESCRIPTION: DRINKING WATER

**RESULTS OF ANALYSIS**

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL <sup>1</sup> / Rec. Limit <sup>2</sup>	Result
				LAB-ID#: 2044467-01		
<i>Test Parameters</i>						
Carbon, Total Dissolved Organic	SM 5310B	02/06/2020	mg/L	0.500	---	11.0
SUVA	Calculation	02/13/2020	# per 100 mL	0	0	0.008
UV 254	SM 5910B	02/04/2020	Abs/cm	0.002	-----	0.093

DOC and UV254 analyzed by sub contract lab M-RI002.



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

**CERTIFICATE OF ANALYSIS**

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

REPORTED: 02/14/2020  
 ORDER #: G2044467  
 SAMPLE DATE: 2/3/2020  
 DATE RECEIVED: 2/3/2020  
 SAMPLE ID: Special  
 DESCRIPTION: DRINKING WATER

**RESULTS OF ANALYSIS**

Parameter	Analytical Method	Date Analyzed	Units	Det. Limit*	MCL <sup>1</sup> / Rec. Limit <sup>2</sup>	Result
<b>Test Parameters</b>				LAB-ID#: 2044467-02		
Carbon, Total Dissolved Organic	SM 5310B	02/06/2020	mg/L	0.500	---	8.58
SUVA	Calculation	02/13/2020	# per 100 mL	0	0	0.003
UV 254	SM 5910B	02/04/2020	Abs/cm	0.002	-----	0.029

DOC and UV254 analyzed by sub contract lab M-RI002.

NA = Not Applicable  
 ND = Not Detected  
 '<' = Less Than  
 '\*1' = Detection Limit

Timothy  
 Approved By: A. Begley  
 Lab Manager / Date

Digitally signed by Timothy A. Begley  
 CN=Timothy A. Begley  
 204.4.11  
 Date: 2020.02.18 17:40:20

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.





# CHLORINE CHLORAMINES - MONTHLY REPORT

## 3. PWS INFORMATION:

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

4. 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 D1259-06

## Notes:

DEP Sample Type <sup>1</sup>	DEP Location Code <sup>2</sup>	DEP APPROVED SAMPLE SITE INFORMATION <sup>3</sup>		CHLORINE RESULT <sup>4</sup> (mg/L)	COLLECTION AND ANALYSIS <sup>5</sup>		COLLECTED AND ANALYZED BY:
		DEP Approved Sample Location <sup>3</sup>	DEP Approved Sample Location <sup>3</sup>		DATE	TIME	
RS	003	TOWER HILL SCHOOL	ADAMS STREET	1.25	2-3-20	10:00am	A. Pierre-Louis
RS	004	JFK SCHOOL	20 HURLEY DRIVE	1.11	2-3-20	8:00am	
RS	005	MARTIN E. YOUNG SCHOOL	COURTNEY DRIVE	0.94	2-3-20	7:30am	
RS	006	CHRYSLER INN	1374 NORTH MAIN STREET	1.42	2-3-20	10:55am	
RS	008	NORTH MIDDLE SCHOOL	HIGH STREET	1.35	2-3-20	10:25am	
RS	011	MOBIL STATION	99 MAZZEO DRIVE	1.53	2-3-20	9:30am	
RS	012	7-11 FOOD SHOP	676 NORTH STREET	0.76	2-3-20	9:00am	
RS	014	EVERETT	27 NORTH MAIN STREET	1.39	2-3-20	8:30am	
RS		OAK GROVE STANDPIPE		1.20	2-3-20	11:50	
RS		SOUTH MAIN STREET STANDPIPE		0.99	2-3-20	12:30pm	

<sup>1</sup> DEP Sample Type, Location Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan.  
<sup>2</sup> SWTR systems (PWS) 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.  
<sup>3</sup> 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 NP values as 0 (zero).  
<sup>4</sup> Sample Type: RS-Routine Distribution Sample, FC-Original Site Repeat, UR-Upstream Repeat, DR-Downstream Repeat, AR-Additional Repeat, or SS-Special Sample (as determined by DEPR).  
<sup>5</sup> All distribution system 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 those samples. DO NOT include raw water (RW) or plant tap (PT) chlorine residual samples in your calculations.

6. COMPLIANCE REPORTING: Total # of Samples Collected for Month: 66 Average Chlorine Residual for Month (mg/L): 1.04

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

Primary Certified Operator Signature and Date: *[Signature]* 3-4-2020

DEPR 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: CCM  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  G  H  I ASTM D1293-86

## Notes:

DEP Sample ID	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	1.45	2-5-20	10:30 AM	A. Pierre-Louis
RS 004		JFK SCHOOL	20 HURLEY DRIVE	1.25	2-5-20	8:00 AM	
RS 005		MARTIN E. YOUNG SCHOOL	COURTNEY DRIVE	.96	2-5-20	7:30 AM	
RS 006		WINDYBROOK INN	1374 NORTH MAIN STREET	1.69	2-5-20	11:30 AM	
RS 008		NORTH MIDDLE SCHOOL	HIGH STREET	1.49	2-5-20	11:00 AM	
RS 011		MOBIL STATION	83 MAZZEO DRIVE	1.27	2-5-20	10:00 AM	
RS 012		7-11	FOOD SHOP 678 NORTH STREET	.96	2-5-20	9:30 AM	
RS 014	A	EVERWISSE	277 NORTH MAIN STREET	1.43	2-5-20	8:25 AM	
RS		OAK GROVE	STANDPIPE	1.30	2-5-20	12:20 PM	
RS		SOUTH MAIN STREET	STANDPIPE	1.42	2-5-20	12:45 AM	

DEP Sample Type, Location Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Toilet Coliform Sampling Plan.  
 a. SWTR systems (PWS that is collected at distribution sites with zero chlorine residual) and results reported on the DEP bacteriological Monthly Report form and on the appropriate SWTR Form.  
 b. Collected and Analyzed: 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).  
 c. Sample Type: RS= Routine Distribution Sample, RC= Original Site Repeat, DR= Downstream Repeat, AP= Additional Repeat, or SS= Special Sample (as determined by DEP).  
 d. 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 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: 66 Average Chlorine Result of All Samples for Month (mg/L): 1.04

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

Primary Certified Operator Signature and Date: William Colby 3-4-2020

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: CQM  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 Sample Type <sup>1</sup>	DEP APPROVED SAMPLE SITE INFORMATION <sup>2</sup>		CHLORINE RESULT <sup>3</sup> (mg/L)	COLLECTION AND ANALYSIS <sup>4</sup>		COLLECTED AND ANALYZED BY:
	DEP Location Code # <sup>5</sup>	DEP Approved Sample Location <sup>6</sup>		DATE	TIME	
RS	003	TOWER HILL SCHOOL - ADAMS STREET	1.32	2-10-20	10:30 AM	A. Pierce-Lewis
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.16	2-10-20	8:30 AM	
RS	005	MARTIN E. YOUNG SCHOOL - COURTNEY DRIVE	.83	2-10-20	7:45 AM	
RS	006	CAMPBELL INN - 1874 NORTH MAIN STREET	1.72	2-10-20	11:30 AM	
RS	008	NORTH MIDDLE SCHOOL - HIGH STREET	1.45	2-10-20	11:00 AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.31	2-10-20	10:00 AM	
RS	012	7-11 FOOD SHOP - 676 NORTH STREET	.80	2-10-20	9:30 AM	
RS	014	EVERKISS - 277 NORTH MAIN STREET	1.40	2-10-20	9:00 AM	
RS		OAK GROVE STANDPIPE	.96	2-10-20	12:30 PM	
RS		SOUTH MAIN STREET STANDPIPE	.95	2-10-20	12:50 PM	

<sup>1</sup> DEP Sample Type, Location Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan.  
<sup>2</sup> SWTR systems MFC 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.  
<sup>3</sup> 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 MFC values as 0 (zero).  
<sup>4</sup> Sample Type: RS- Routine Distribution Sample, RO- Original Site Repeat, UP- Upstream Repeat, DR- Downstream Repeat, AR- Additional Repeat, or SS- Special Sample (as determined by DEPR).  
<sup>5</sup> 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 representative 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: 6 Average Chlorine Result of All Samples for Month: 1.04

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

Primary Certified Operator Signature and Date: William Coakley 3-4-2020

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:  CCM  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  I ASTM D1253-86

## Notes:

DEP Sample Type	DEP APPROVED SAMPLE SITE INFORMATION <sup>1</sup>		CHLORINE RESULT <sup>2</sup> (mg/L)	COLLECTION AND ANALYSIS <sup>3</sup>		COLLECTED AND ANALYZED BY:
	DEP Location Code #	DEP Approved Sample Location <sup>4</sup>		DATE	TIME	
RS	003	TOWER HILL SCHOOL - ADAMS STREET	1.24	2-19-20	10:30 AM	A. Pierre-Louis
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.16		8:30 AM	
RS	005	MARTIN E. YOUNG SCHOOL - COURTNEY DRIVE	0.76		8:00 AM	
RS	006	CHAMPLAIN INN - 1874 NORTH MAIN STREET	1.35		11:30 AM	
RS	008	NORTH MIDDLE SCHOOL - HIGH STREET	1.18		11:00 AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.08		10:00 AM	
RS	012	7-11 FOOD SHOP - 676 NORTH STREET	1.01		9:30 AM	
RS	014 A	EVERHESSE - 277 NORTH MAIN STREET	1.30		9:00 AM	
RS		OAK GROVE STANDPIPE	0.94		12:30 PM	
RS		SOUTH MAIN STREET STANDPIPE	0.96		1:00 PM	

<sup>1</sup> DEP Sample Type, Location Code, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan, a SWTR system; MPC 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. <sup>2</sup> 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 MPC values as 0 (zero). <sup>3</sup> Sample Type: RS-Residual Distribution Sample, FO-Original Site Report, DR-Downstream Report, AFS-Additional Report, or SS-Special Sample (as determined by DEP). <sup>4</sup> All distribution system 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: 66 Average Chlorine Residual for Month<sup>5</sup> (mg/L): 1.04

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 Carbery 3-4-2020

DEP Review Status:  Accepted  Disapproved  Review Comments:



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

CI

**I. PWS INFORMATION:**

PWS ID #: **4244000** PWS Name: **RANDOLPH WATER DEPARTMENT** City/Town: **RANDOLPH** Class: COM  NTNC  TNC

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

Type Measured:  Free Chlorine  Total Chlorine  Combined Chlorine Analytical Method: SM 4500-Cl:  D  E  F  G  H  I ASTM D1253-86

Notes: Weekly samples taken in the distribution system

DEP Sample Location Code # <sup>1</sup>	DEP APPROVED SAMPLE SITE INFORMATION <sup>1</sup>		CHLORINE RESULT <sup>2</sup> (mg/L)	COLLECTION AND ANALYSIS <sup>3</sup> :		COLLECTED AND ANALYZED BY:
	DEP Location Code # <sup>1</sup>	DEP Approved SAMPLE LOCATION <sup>1</sup>		DATE	TIME	
RS 003		TOWER HILL SCHOOL - ADAMS STREET	1.24	2-24-20	10:15 AM	A-PIERRE-LOUES
RS 004		JFK SCHOOL - 20 HURLEY DRIVE	1.34	2-24-20	8:15 AM	
RS 005		MARTIN E. YOUNG SCHOOL- COURTNEY DRIVE	~.91	2-24-20	7:45 AM	
RS 006		COMFORT INN - 1374 NORTH MAIN STREET	1.45	2-24-20	11:15 AM	
RS 008		COMMUNITY MIDDLE SCHOOL - HIGH STREET	1.34	2-24-20	10:45 AM	
RS 011		MOBIL STATION - 93 MAZZEO DRIVE	1.11	2-24-20	9:45 AM	
RS 012		7-11 FOOD SHOP - 675 NORTH STREET	0.84	2-24-20	9:15 AM	
RS 014 A		ENTERPRISE - 249 NORTH MAI STREET	1.01	2-24-20	8:45 AM	
RS		OAK GROVE STANDPIPE	1.22	2-24-20	12:00 PM	V
RS		SOUTH MAIN STREET STANDPIPE	1.27	2-24-20	12:30 PM	

<sup>1</sup> DEP Sample Type, Location Code#, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan.

<sup>2</sup> 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.

<sup>3</sup> 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).

<sup>4</sup> 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).

<sup>5</sup> 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<sup>5</sup>: **66** Average Chlorine Result of All Samples For Month<sup>5</sup> (mg/L): **1.04**

In accordance with 310 CMR 22.15(2), if mailing paper reports, TWO copies of this report must be received by your MassDEP Regional Office no later than 10 days after the end of the month in which the results are received or no later than 10 days after the end of the monitoring period, whichever is sooner. Please note: Electronic reporting (eDEP) deadline is the same as above.

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

Primary Certified Operator Signature and Date: *William Corbett* 3-4-2020

DEP Review Status:  Accepted  Disapproved  Review Comments:



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

DBPR

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

PWS ID #: 4244001 City/Town: RANDOLPH  
 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Class: COM  NTNC  TNC   
 Monitoring Period (YEAR): 2020 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 <input type="checkbox"/> No <input type="checkbox"/>	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 <input type="checkbox"/> No <input type="checkbox"/>	Running Annual Average:	µg/L

**C. Chlorine/Chloramines**

Total Number of Samples:	Month 1: <u>66</u> <u>JAN</u>	Monthly Averages: (report all 3 months per quarter)	<u>1.07</u> mg/L	Quarterly Average:	<u>1.06</u> mg/L
	Month 2: <u>66</u> <u>FEB</u>		<u>1.04</u> mg/L		
	Month 3: <u>MARCH</u>		mg/L		
Was the Running Annual Average MRDL (4.0 mg/L) exceeded? Yes <input type="checkbox"/> No <input type="checkbox"/>				Running Annual Average:	<u>0.87</u> mg/L

**D. Total Organic Carbon - raw (TOC)** (Required for SW or GWUDI systems >499 seeking or approved to reduce THM/HAA5 monitoring.) Plant Name: \_\_\_\_\_  
 (Attach additional sheet(s) to report more than 1 plant)

Total Number of Samples:	Month 1:	Monthly Averages: (report all 3 months per quarter)	mg/L	Quarterly Average:	mg/L
	Month 2:		mg/L		
	Month 3:		mg/L		
Was the (4.0 mg/L) threshold exceeded? Yes <input type="checkbox"/> No <input type="checkbox"/>				Running Annual Average:	mg/L

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

**E. Bromate (treated)** Plant Name: \_\_\_\_\_

Total Number of Samples:	Month 1:	Monthly Averages: (report all 3 months per quarter)	mg/L	Quarterly Average:	mg/L
	Month 2:		mg/L		
	Month 3:		mg/L		
Was the Running Annual Average MCL (0.010 ug/l) exceeded? Yes <input type="checkbox"/> No <input type="checkbox"/>				Running Annual Average:	mg/L

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

Total Number of Samples:	Month 1:	Monthly Averages: (report all 3 months per quarter)	mg/L	Quarterly Average:	mg/L
	Month 2:		mg/L		
	Month 3:		mg/L		
Was the (0.05 mg/l) threshold exceeded? Yes <input type="checkbox"/> No <input type="checkbox"/>				Running Annual Average:	mg/L

**IV. FOR SYSTEMS USING CHLORINE DIOXIDE:** (Report compliance information on your Chlorine/Chlorine Dioxide (Daily Samples) Report)

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

Primary Certified Operator Signature: William Cookerly Date: 3-4-2020

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

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

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

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