



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

RANDOLPH-HOLBROOK JOINT WATER BOARD

50 North Franklin Street
Holbrook, MA 02343



Town of Randolph

January 15, 2023

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

Monthly Reports Filtered System Forms
Forms F, G, I, J, TT
Analysis for TOC, DOC, SUVA
Chemical Addition Reports
DBPR Compliance Report
December, 2022 Randolph/Holbrook
Joint Water System, PWS #424001

Gentlemen:

Enclosed please find all reports as referenced above for the month of December, 2022. Should there be any questions, please do not hesitate to call me.

Sincerely,

William Platt
Treatment Plant Operator, Third Class

Enclosures

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



TURBIDITY DATA SHEET FOR FILTERED SYSTEMS

I. PWS INFORMATION:

PWSID#: 4244001 PWS Name: RANDOLPH-HOLBROOK JAWT WATER PWS Town: RANDOLPH
 Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period → Month: December Year: 2022

II. DAILY REPORTING:

Filtered Water Turbidity Measured: (check only one) Combined Filter Effluent Individual Filter Effluent¹ 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 ² (NTU)	Number of Turbidity Measurements ³	Number of Turbidity Measurements ≤ Monthly (95%) NTU Limit ⁴	Number of Turbidity Measurements > Max Day NTU Limit ⁵
1	0.05	6	6	0
2	0.03	6	6	0
3	0.03	6	6	0
4	0.04	6	6	0
5	0.03	6	6	0
6	0.07	6	6	0
7	0.12	6	6	0
8	0.06	6	6	0
9	0.03	6	6	0
10	0.05	6	6	0
11	0.04	6	6	0
12	0.07	6	6	0
13	0.05	6	6	0
14	0.07	6	6	0
15	0.07	6	6	0
16	0.03	6	6	0
17	0.05	6	6	0
18	0.05	6	6	0
19	0.04	6	6	0
20	0.04	6	6	0
21	0.06	6	6	0
22	0.05	6	6	0
23	0.05	6	6	0
24	0.04	6	6	0
25	0.04	6	6	0
26	0.03	6	6	0
27	0.06	6	6	0
28	0.05	6	6	0
29	0.03	6	6	0
30	0.05	6	6	0
31	0.04	6	6	0
Totals:		186	186	% Turbidity Meeting 95% Limit B/A x 100 % = X (Enter on SWTR - Form G)
		A	B	

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

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: 01/11/2023 Title: _____

Plant Operator

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



Compliance Determination for Filtered Systems - Monthly Report

I. PWS INFORMATION:

PWSID#: 4244001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: RANDOLPH
Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period -> Month: DECEMBER Year: 2022

II. TURBIDITY PERFORMANCE CRITERIA:

1. Monthly Turbidity (95%) NTU Limit - The turbidity level of a system's filtered water must be less than or equal to the Monthly Turbidity NTU Limit in at least 95% of the measurements taken each month for the filtration technology used, otherwise SWTR TT Violation (Tier 2).
156 = A Total # of filtered water turbidity measurements for month (SWTR - Form F)
156 = 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 [] 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.

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
Table with columns: Day, Cl2 mg/l
1 1.76 6 1.97 11 1.91 16 1.81 21 1.92 26 2.06 31 2.00
2 1.93 7 1.84 12 1.78 17 1.56 22 1.82 27 1.69
3 1.94 8 1.92 13 1.83 18 1.72 23 1.74 28 1.94
4 1.88 9 1.92 14 1.74 19 1.88 24 1.94 29 2.01
5 1.79 10 1.96 15 1.83 20 1.94 25 1.98 30 2.05
Residual FREE Cl
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.
Table with columns: 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: 49 # HPC sites > 500/mL: 0 # HPC sites <= 500/mL: 49
6466 = a # 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 = b # of sites HPC samples were analyzed instead of Cl2 residual measurements
0 = c # of sites where no Cl2 residual was detected and no HPC sample was analyzed
0 = d # of sites where no Cl2 residual was detected and HPC > 500 CFU/mL
0 = e # 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 [] 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, accurate and complete to the best extent of my knowledge.
PWS Authorized Signature: [Signature] Date: 1/11/2022 Title: Plant Operator
In accordance with 310 CMR 22.15(2), if mailing paper reports, TWO copies of this report must be received by your MassDEP Regional Office no later than 10 days after the end of the month in which the results are received or no later than 10 days after the end of the monitoring period, whichever is sooner. Please note: Electronic reporting (eRFR) deadline is the same as above.



CT Determination for Filtered Systems

I. PWS INFORMATION:

PWSID#: 42A4001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: RANDOLPH
Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period -> Month: DECEMBER Year: 2022
Disinfectant: Chlorine Gas / Filter Eff. Sequence of Application: 1st 2nd 3rd 4th 5th 6th

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

Table with 10 columns: Day, Peak Hourly Flow (gpm), Disinfectant Concentration (mg/L), Disinfectant Contact Time (min.), CT calc (= C x T), pH, Water Temp (C), CT 99.9, Inactivation Ratio (CT calc / CT 99.9), Inactivation Ratio < 1.0. Rows 1-31 contain daily data points.

- 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 ratio is < 1.0, the 99.9% Giardia lamblia inactivation requirement has not been achieved. Note: Add log credits for watershed & filtration to the numerator of inactivation ratio.
9. A "Yes" response above indicates 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: [Signature] Date: 1/10/2022 Title: Plant Operator

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



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

SWTR
J

(Page 1 of 2)

I. PWS INFORMATION:

PWSID#: 4244001 PWS Name: RANDOLPH-HOLBROOK JOINT WATER PWS Town: RANDOLPH
 Treatment Plant Name: RANDOLPH WATER PLANT Reporting Period → Month: December Year: 2022
 Total # of Filters at Treatment Plant: 8

II. MONTHLY REPORTING:

Filtered Water Turbidity Measured: Individual Filter Effluent (IFE) or Combined Filter Effluent (CFE)²
 Analytical Method: SM 2130B EPA 180.1 GLI Method 2 (Great Lakes)

1.	Was each filter monitored continuously? If continuous monitoring equipment is installed and if it functioned continuously throughout the month, the correct answer is "yes". If continuous monitoring equipment is not installed or did not function continuously throughout the month, the correct answer is "no".	<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. <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.
5	119	12/8	High turbidities due to filter maintenance did not
6	346	↓	occur on two consecutive readings
7	421	↓	
8	356	↓	



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

SWTR
J

(Page 2 of 2)

III. DAILY REPORTING¹:

Day	Filter Number: 1		Filter Number: 2		Filter Number: 3		Filter Number: 4	
	³ Max Day NTU	⁴ Max after 4 Hours NTU	³ Max Day NTU	⁴ Max after 4 Hours NTU	³ Max Day NTU	⁴ Max after 4 Hours NTU	³ Max Day NTU	⁴ Max after 4 Hours NTU
1	0.152	0.028	0.035	—	0.103	—	0.247	0.150
2	0.030	—	0.221	0.038	0.258	0.172	0.248	0.176
3	0.188	0.030	0.181	0.035	0.440	0.072	0.330	0.172
4	0.186	0.030	0.177	0.036	0.151	0.045	0.112	—
5	0.206	0.029	0.038	—	0.068	—	0.211	0.134
6	0.032	—	0.239	0.040	0.204	0.077	0.256	0.254
7	0.254	0.034	0.218	0.055	0.307	0.109	0.298	0.231
8	0.221	0.030	0.231	0.036	0.221	0.067	0.055	—
9	0.180	0.029	0.035	—	0.030	—	0.308	0.058
10	0.029	—	0.187	0.033	0.189	0.029	0.309	0.199
11	0.068	0.029	0.055	0.033	0.129	0.102	0.192	0.137
12	0.083	0.030	0.047	0.034	0.309	0.210	0.330	—
13	0.097	0.029	0.037	—	0.058	—	0.361	0.344
14	0.031	—	0.119	0.039	0.088	0.083	0.326	0.278
15	0.088	0.032	0.093	0.038	0.210	0.120	0.412	0.412
16	0.054	0.031	0.052	0.036	0.073	0.036	0.176	0.112
17	0.044	0.039	0.057	0.039	0.083	0.059	0.265	0.141
18	0.053	0.034	0.066	0.041	0.097	0.093	0.252	0.229
19	0.058	0.035	0.079	0.037	0.202	0.161	0.308	0.308
20	0.114	0.036	0.076	0.035	0.248	0.092	0.231	0.276
21	0.128	0.038	0.143	0.044	0.131	—	0.118	—
22	0.035	—	0.042	—	0.361	0.168	0.275	0.164
23	0.068	0.034	0.077	0.040	0.237	0.169	0.406	0.106
24	0.320	0.033	0.124	0.038	0.094	0.035	0.248	0.050
25	0.214	0.035	0.104	0.037	0.033	—	0.036	—
26	0.035	—	0.040	—	0.055	0.035	0.120	0.092
27	0.121	0.033	0.104	0.038	0.213	0.070	0.184	0.172
28	0.068	0.035	0.115	0.046	0.160	0.086	0.350	0.144
29	0.090	0.034	0.102	0.036	0.042	—	0.057	—
30	0.034	—	0.039	—	0.101	0.052	0.168	0.157
31	0.077	0.033	0.146	0.038	0.099	0.099	0.193	0.175

- 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: _____

Date: 2/11/2022 Title: Plant Operator

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Massachusetts Department of Environmental Protection - Drinking Water Program
TURBIDITY - INDIVIDUAL FILTER MONITORING
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SWTR
J

(Page 2 of 2)

III. DAILY REPORTING¹:

Day	Filter Number: <u>5</u>		Filter Number: <u>6</u>		Filter Number: <u>7</u>		Filter Number: <u>8</u>	
	² Max Day NTU	⁴ Max after 4 Hours NTU	² Max Day NTU	⁴ Max after 4 Hours NTU	² Max Day NTU	⁴ Max after 4 Hours NTU	² Max Day NTU	⁴ Max after 4 Hours NTU
1	0.156	0.027	0.210	0.058	0.127	0.034	0.166	0.035
2	0.206	0.028	0.167	0.057	0.132	0.034	0.034	—
3	0.236	0.026	0.058	—	0.036	—	0.177	0.035
4	0.029	—	0.144	0.062	0.168	0.035	0.166	0.037
5	0.254	0.027	0.311	0.114	0.182	0.036	0.263	0.037
6	0.205	0.031	0.343	0.095	0.197	0.035	0.036	—
7	0.188	0.029	0.064	—	0.038	—	0.299	0.037
8	119	—	346	346	421	421	356	356
9	0.275	0.030	0.265	0.065	0.217	0.035	0.187	0.032
10	0.277	0.026	0.223	0.038	0.179	0.033	0.030	—
11	0.122	0.025	0.067	—	0.036	—	0.232	0.032
12	0.028	—	0.117	0.073	0.082	0.038	0.081	0.036
13	0.235	0.031	0.250	0.151	0.189	0.037	0.122	0.036
14	0.128	0.029	0.270	0.135	0.071	0.036	0.036	—
15	0.191	0.029	0.281	0.094	0.077	0.039	0.158	0.036
16	0.101	0.029	0.147	0.041	0.087	0.038	0.094	0.037
17	0.108	0.061	0.238	0.111	0.079	0.040	0.167	0.167
18	0.141	0.033	0.178	0.065	0.072	0.042	0.088	0.038
19	0.116	0.034	0.189	0.069	0.081	0.041	0.089	0.038
20	0.031	—	0.033	—	0.036	—	0.176	0.035
21	0.233	0.033	0.180	0.052	0.162	0.061	0.236	0.056
22	0.163	0.032	0.220	0.055	0.168	0.041	0.123	0.050
23	0.095	0.030	0.325	0.034	0.040	—	0.050	—
24	0.029	—	0.032	—	0.088	0.039	0.130	0.045
25	0.138	0.030	0.121	0.082	0.136	0.040	0.207	0.047
26	0.104	0.030	0.175	0.042	0.069	0.039	0.129	0.045
27	0.160	0.030	0.120	0.028	0.038	—	0.044	—
28	0.030	—	0.030	—	0.069	0.040	0.119	0.043
29	0.121	0.030	0.137	0.042	0.058	0.038	0.133	0.042
30	0.095	0.028	0.114	0.051	0.079	0.038	0.142	0.042
31	0.145	0.031	0.251	0.079	0.042	—	0.042	—

- 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: _____

Date: 1/11/2012

Title: Plant Operator

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



Massachusetts Department of Environmental Protection - Drinking Water Program **TT**
DBPR TT Compliance Report

I. PWS INFORMATION:

PWS ID #: 4244002 City / Town: RANDOLPH
 PWS Name: _____ PWS Class: COM NTNC TNC

DEP LOCATION (LOC) ID#	DEP Location Name	Date Collected	Collected By
<u>045/40300</u>	<u>RAW WATER/COMBINED FILTER EFFLUENT</u>		
SAMPLE NOTES			

II. COMPLIANCE CALCULATIONS:

Month (mm/yy)	# 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
01/22	1	39	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.17
02/22	1	36	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.03
03/22	1	63	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.80
04/22	1	43	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.23
05/22	1	49	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.40
06/22	1	31	35	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	TWSUVA	1.00
07/22	1	37	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.06
08/22	1	29	35	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	TWSUVA	1.00
09/22	1	36	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.03
10/22	1	41	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.17
11/22	1	38	35	<input type="checkbox"/> YES <input type="checkbox"/> NO		1.09
12/22	1	32	35	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	TWSUVA	1.00
Sum of Past 12 Months:						13.98
Compliance Value (Sum of Past 12 Months/ 12):						1.17

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: 1/11/2023

In accordance with 310 CMR 22.15(2), if mailing paper reports, ONE copy 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.

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.

⁴For 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 _____	



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

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

PWS ID #: 4244001 City / Town: RANDOLPH

PWS Name: RANDOLPH HOLBROOK WATER BOARD PWS Class: COM [x] NTNC [] TNC []

Table with columns: DEP LOCATION (LOC) ID#, DEP Location Name, Sample Information, Date Collected, Collected By. Includes rows for A (Great Pond WTP - Raw Water) and B (Combined Filter Effluent).

II ANALYTICAL LABORATORY INFORMATION

Primary Lab MA Cert. #: M-MA022 Primary Lab Name: Analytical Balance Subcontracted?(Y/N) Y
Analysis Lab MA Cert. #: M-R1002 Analysis Lab Name: ESS Laboratory

Table with columns: TOC Analyzed by (check one), Samples Acidified?, TOC Result (mg/L), Result Qualifier, MDL (mg/L), MRL (mg/L), Dilution Factor, Lab Method, Date Analyzed, Primary Lab Sample ID#, Analytical Lab or PWS Sample ID#.

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

Table with columns: Alkalinity Analyzed by (check one), Alkalinity Result (mg/L as CaCO3), Result Qualifier, MDL (mg/L), MRL (mg/L), Dilution Factor, Lab Method, Date Analyzed, Primary Lab Sample ID#, Analytical Lab or PWS Sample ID#.

If using conventional filtration - Raw water alkalinity must be measured at the same time as the raw water TOC sample is collected. Alkalinity analysis does not require the use of a Massachusetts or EPA certified laboratory

Table with columns: LAB SAMPLE COMMENTS, Result Qualifier, Result Qualifier Description. Includes row for Alkalinity analyzed by primary lab.

I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge. Primary Certified Operator or Primary Lab Director Signature: Laurel Stoddard Date: 12/14/2022

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

Table with columns: DEP REVIEW STATUS (Initial & Date), Review Comments, [] WQTS Data Entered. Includes checkbox for Accepted and Disapproved.



CERTIFICATE OF ANALYSIS

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

Project Name: DOC SUVA
Work Order Number: A2L0108
Date Received: 12/05/2022

Sampled By: Paul Hennessy
Location: Raw

Date Sampled: 12/5/22 10:00
Matrix: Surface Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Detection Limit	DW/MCL/Recommended Limit #	Result
<i>Test Parameters</i>				LAB-ID#: <u>A2L0108-01</u>		
Dissolved Organic Carbon (Average)	5310B	12/6/2022	mg/L	0.500	—	4.77
SUVA	4153	12/6/2022	/100 ml	N/A	—	0.0164
UV 254	5910B	12/6/2022	abs/cm	0.002	—	0.078

Sampled By: Paul Hennessy
Location: Combined Alter Effluent

Date Sampled: 12/5/22 10:00
Matrix: Surface Water

RESULTS OF ANALYSIS

Parameter	Analytical Method	Date Analyzed	Units	Detection Limit	DW/MCL/Recommended Limit #	Result
<i>Test Parameters</i>				LAB-ID#: <u>A2L0108-02</u>		
Dissolved Organic Carbon (Average)	5310B	12/6/2022	mg/L	0.500	—	3.16
SUVA	4153	12/6/2022	/100 ml	N/A	—	0.0129
UV 254	5910B	12/6/2022	abs/cm	0.002	—	0.041

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

Approved By: *Lance Stoddard*

Work Order Narrative:

No unusual observations noted.

Subcontracted Analyses:

ESS Laboratory - Cranston, RI (M-RI002)

Dissolved Organic Carbon 5310B; UVA 254

REVIEWED
By A. Cronin at 11:03 am, Dec 16, 2022



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 Reporting Guidance and Instructions" for details.

PWS Name¹: **RANDOLPH-HOLBROOK JW** Town¹: **RANDOLPH-Holbrook** PWSID¹: **424001**
 Treatment Plant Name²: **RANDOLPH WATER PLANT** Treatment Plant ID#²: **4244001-01T** Reporting Period³: **December, 2017**
 Month Year

II. Chemical & Operational Information

Chemical Name⁴: **POLYALUMINUM CHLORIDE** Purchased Strength⁵: **1.0** Target Range/min¹²: **14**
 Manufacturer⁴: **HOLLAND COMPANY** Purchased Density (lbs/gal)⁵: **10.3** Target Dose¹³: **18**
 Product Name⁴: **PCH-180** Dilution Factor or Mix Ratio¹⁰: **NA** Alarm Setting (low)¹⁴: **NA**
 Reason for Adding Chemical⁷: **COAGULATION** NSF Approved (Y/N)¹¹: **Y** Alarm Setting (high)¹⁴: **NA**
 Date of last anti-siphon valve inspection/replacement¹⁵: **NA**

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

Day	Treated Water ¹⁶		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 (A)nalyzer ²¹			O&M Notes/Comments ²²
	<input type="checkbox"/> Gallons <input type="checkbox"/> MG	Volume ¹⁶ (gal/day)	Weight ¹⁶ (lbs/day)	Volume ¹⁶ (gal/day)			Weight ¹⁶ (lbs/day)	a. RAW PH DAILY AVG EG <input type="checkbox"/> A	b. <input type="checkbox"/> G <input type="checkbox"/> A	
1	2.8	131			1349	18	6.85			
2	2.8	128			1318	19	6.80			
3	2.7	124			1277	19	6.85			
4	2.8	125			1288	18	6.85			
5	3.7	120			1236	18	6.90			
6	2.8	111			1143	16	6.85			
7	2.7	115			1184	17	6.80			
8	2.8	119			1226	17	6.75			
9	2.8	135			1390	20	6.85			
10	2.7	148			1524	22	6.90			
11	2.8	146			1504	21	6.80			
12	2.7	130			1339	20	6.85			
13	2.8	126			1298	18	6.85			
14	2.7	106			1092	16	6.90			
15	2.8	128			1318	19	6.85			
16	2.7	120			1236	18	6.90			
17	2.8	109			1123	16	6.90			
18	2.8	105			1082	15	6.85			
19	2.8	114			1174	17	6.85			
20	1.9	97			999	21	6.70			
21	3.0	110			1133	15	6.80			plant shutdown 4-11 pm
22	2.9	115			1184	16	6.75			
23	2.8	122			1257	18	6.85			
24	2.9	115			1184	16	6.80			
25	2.9	110			1133	15	6.85			
26	2.9	126			1298	18	6.90			
27	2.9	140			1442	20	6.90			
28	2.8	129			1329	19	6.85			
29	2.9	127			1308	18	6.95			
30	2.9	140			1442	20	6.85			
31	2.8	114			1174	17	6.80			
Total										

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

*Describe result (daily average, min/max, instantaneous reading, grab, etc), sample location (entry-point, before/after filters, tanks, etc.) and instrumentation used (SCADA, chart recorder, test kit, bench, etc.)²⁴.

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

b. _____

c. _____

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

PWS Authorized Person - Signature & Date²⁴:

 Print Name: **William T. Platt** Title: **Plant 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 Report Guidance and Instructions" for details.

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

II. Chemical & Operational Information

Chemical Name ⁴ :	CHLORINE	Purchased Strength ⁸ :	1.0	Target Range/min ¹² :	0.20
Manufacturer ⁵ :	AXIALL, LLC	Purchased Density (lbs/gal) ⁹ :	12.3	Target Dose ¹³ :	NA
Product Name ⁶ :	CHLORINE	Dilution Factor or Mix Ratio ¹⁰ :	NA	Alarm Setting (low) ¹⁴ :	1.0
Reason for Adding Chemical ⁷ :	DISINFECTANT	NSF Approved (Y/N) ¹¹ :	Y	Alarm Setting (high) ¹⁴ :	3.0
		Date of last anti-siphon valve inspection/replacement ¹⁵ :	NA		

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

Day	Treated Water ¹⁶		Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁸	Chemical Dosage ¹⁹ (mg/L)	Parameters Measured ²⁰ , Results, Units and Method ²⁰ : (G) Grab or Continuous (A) Analyzer ²¹			O&M Notes/Comments ²²
	<input checked="" type="checkbox"/> Gallons	<input checked="" type="checkbox"/> MG	Volume ¹⁷ (gal/day)	Weight ¹⁷ (lbs/day)			a. FREE CL ²⁰	b. FREE CL ²⁰	c.	
1	2.8			80		3.4	2.03	1.76		
2	2.8			80		3.4	2.09	1.93		
3	2.7			76		3.4	2.06	1.84		
4	2.8			78		3.3	2.05	1.88		
5	2.7			79		3.5	2.02	1.79		
6	2.8			68		2.9	2.03	1.97		
7	2.7			75		3.3	2.10	1.84		
8	2.8			75		3.2	2.11	1.92		
9	2.8			75		3.4	2.08	1.92		
10	2.7			75		3.3	2.07	1.96		
11	2.8			79		3.4	2.11	1.91		
12	2.7			80		3.6	2.01	1.78		
13	2.8			75		3.2	2.05	1.83		
14	2.7			79		3.5	2.01	1.74		
15	2.8			71		3.0	2.01	1.83		
16	2.7			82		3.6	2.04	1.81		
17	2.8			75		3.2	1.80	1.56		
18	2.8			80		3.4	1.89	1.72		
19	2.8			77		3.3	2.03	1.88		
20	1.9			58		3.7	2.10	1.94		Plant Shutdown - Basin Cleaning
21	3.0			83		3.3	2.11	1.92		
22	2.9			78		3.2	2.01	1.82		
23	2.8			80		3.7	2.08	1.74		
24	2.9			83		3.4	2.13	1.94		
25	2.9			81		3.3	2.16	1.98		
26	2.9			82		3.4	2.22	2.06		
27	2.9			84		3.5	1.95	1.69		
28	2.8			89		3.8	2.12	1.94		
29	2.9			77		3.2	2.13	2.01		
30	2.9			83		3.4	2.14	2.05		
31	2.8			77		3.3	2.20	2.00		

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. Daily Average, Free Chlorine, Finished Water, Grab Sample	I certify under penalties of law that I am the person authorized to fill out this form and the information contained herein is true, accurate and complete to the best extent of my knowledge. PWS Authorized Person - Signature & Date ²⁴ :
b. Daily Minimum, Free Chlorine, Finished Water, Test Kit	
c.	

Print Name: William T. Platt Title: Plant Operator



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

C-ADD

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

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

II. Chemical & Operational Information

Chemical Name ³ :	CALCIUM HYDROXIDE	Purchased Strength ³ :		Target Range/min ¹² :	
Manufacturer ³ :	CARMEUSE LIME & STONE	Purchased Density (lbs/gal) ³ :		Target Dose ¹³ :	
Product Name ³ :	HYDRATED LIME	Dilution Factor or Mix Ratio ¹⁰ :		Alarm Setting (low) ¹⁴ :	
Reason for Adding Chemical ⁴ :	PH ADJUSTMENT	NSF Approved (Y/N) ¹¹ :		Alarm Setting (high) ¹⁴ :	
		Date of last anti-siphon valve inspection/replacement ¹⁵ :			

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

Day	Treated Water ¹⁶ <input type="checkbox"/> Gallons <input type="checkbox"/> mcg	Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁷	Chemical Dosage ¹⁸ (mg/l)	Parameters Measured ¹⁹ , Results, Units and Method ²⁰ - (Grab 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 <input type="checkbox"/> G <input type="checkbox"/> A	b. <input type="checkbox"/> G <input type="checkbox"/> A	c. <input type="checkbox"/> G <input type="checkbox"/> A	
1	2.4		50		2.5	6.9			
2	2.5		50		2.4	7.0			
3	2.4		50		2.5	6.9			
4	2.5		50		2.4	6.9			
5	2.5		50		2.4	6.9			
6	2.5		50		2.4	6.9			
7	2.4		50		2.5	6.9			
8	2.5		50		2.4	7.0			
9	2.5		50		2.4	7.0			
10	2.4		50		2.5	6.9			
11	2.5		50		2.4	6.9			
12	2.5		50		2.4	6.9			
13	2.6		50		2.3	6.9			
14	2.4		50		2.5	7.0			
15	2.6		50		2.3	7.0			
16	2.5		50		2.4	7.0			
17	2.6		50		2.3	7.0			
18	2.7		50		2.2	7.0			
19	2.6		50		2.3	6.9			
20	1.8		33		2.2	6.9			Plant Shutdown - Basin Cleaning
21	2.7		50		2.2	6.9			
22	2.6		50		2.3	6.9			
23	2.5		50		2.4	6.9			
24	2.5		50		2.4	6.9			
25	2.5		50		2.4	7.0			
26	2.6		50		2.3	7.0			
27	2.6		50		2.3	7.0			
28	2.5		50		2.4	7.0			
29	2.6		50		2.3	6.9			
30	2.6		50		2.3	6.9			
31	2.5		50		2.4	6.9			

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

¹⁹Describe 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.

PWS Authorized Person - Signature & Date²⁴:

Print Name: William T. Platt Title: Plant Operator



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

C-ADD

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

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

II. Chemical & Operational Information

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

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

Day	Treated Water ¹⁶		Measured Chemical Used		Calculated Chemical Used (lbs) ¹⁸	Chemical Dosage ¹⁹ (mg/L)	Parameters Measured ⁴ , Results, Units and Method ²⁰ - (G)rab or Continuous (A)nalyzer ²¹			O&M Notes/Comments ²²
	<input type="checkbox"/> Gallons <input type="checkbox"/> MG	Volume ¹⁷ (gal/day)	Weight ¹⁷ (lbs/day)	a. FINISHED PH			b.	c.		
1		2.4		50		2.5	6.9			
2		2.7		50		2.4	7.0			
3		2.4		50		2.5	6.9			
4		2.5		50		2.4	6.9			
5		2.5		50		2.4	6.9			
6		2.5		50		2.4	6.9			
7		2.4		50		2.5	6.9			
8		2.5		50		2.4	7.0			
9		2.5		50		2.4	7.0			
10		2.4		50		2.5	6.9			
11		2.5		50		2.4	6.9			
12		2.5		50		2.4	6.9			
13		2.6		50		2.3	6.9			
14		2.4		50		2.5	7.0			
15		2.6		50		2.3	7.0			
16		2.5		50		2.4	7.0			
17		2.6		50		2.3	7.0			
18		2.7		50		2.2	7.0			
19		2.6		50		2.3	6.9			
20		1.8		50		3.3	6.9			Plant Shutdown - Basin Cleaning
21		2.7		50		2.2	6.9			
22		2.6		50		2.3	6.9			
23		2.5		50		2.4	6.9			
24		2.5		50		2.4	6.9			
25		2.5		50		2.4	7.0			
26		2.6		50		2.3	7.0			
27		2.6		50		2.3	7.0			
28		2.5		50		2.4	7.0			
29		2.6		50		2.3	6.9			
30		2.6		50		2.3	6.9			
31		2.5		50		2.4	6.9			

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 PH Daily Average, Test Kit

b. *[Signature]*

c. *[Signature]*

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:

Print Name: William T. Platt Title: 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** Glass: 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 Analytical Method: SM 4500-Cl: D E F G H I ASTM D1253-86

Notes:

DEP Sample Type ^{1,4}	DEP Location Code # ¹	DEP APPROVED SAMPLE SITE INFORMATION ¹		CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³ :		COLLECTED AND ANALYZED BY:
		DEP Approved SAMPLE LOCATION ¹	DEP Approved SAMPLE LOCATION ¹		DATE	TIME	
RS	001	TOWN HALL	TOWN HALL	1.18	12/15/2022	07:45	J. Maclane
RS	004	COTTAGE VARIETY	COTTAGE VARIETY	1.34	12/15/2022	08:20	J. Maclane
RS	008E	STEWARTS POWER EQUIPMENT	STEWARTS POWER EQUIPMENT	.02	12/15/2022	09:25	J. Maclane
RS	006	COMMUNITY CENTER	COMMUNITY CENTER	.18	12/15/2022	08:05	J. Maclane
RS	001	TOWN HALL	TOWN HALL	1.32	12/12/2022	07:30	J. Maclane
RS	004	COTTAGE VARIETY	COTTAGE VARIETY	1.45	12/12/2022	08:10	J. Maclane
RS	008E	STEWARTS POWER EQUIPMENT	STEWARTS POWER EQUIPMENT	.03	12/12/2022	07:50	J. Maclane
RS	006	COMMUNITY CENTER	COMMUNITY CENTER	.29	12/12/2022	07:50	J. Maclane
RS	001	TOWN HALL	TOWN HALL	1.11	12/19/2022	07:30	J. Maclane
RS	004	COTTAGE VARIETY	COTTAGE VARIETY	1.23	12/19/2022	08:15	J. Maclane
RS	008E	STEWARTS POWER EQUIPMENT	STEWARTS POWER EQUIPMENT	.03	12/19/2022	08:50	J. Maclane
RS	006	COMMUNITY CENTER	COMMUNITY CENTER	.12	12/19/2022	08:00	J. Maclane
RS	001	TOWN HALL	TOWN HALL	1.38	12/28/2022	07:50	J. Maclane
RS	004	COTTAGE VARIETY	COTTAGE VARIETY	1.43	12/28/2022	08:30	J. Maclane
RS	008E	STEWARTS POWER EQUIPMENT	STEWARTS POWER EQUIPMENT	.01	12/28/2022	09:00	J. Maclane
RS	006	COMMUNITY CENTER	COMMUNITY CENTER	.23	12/28/2022	08:10	J. Maclane

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III. COMPLIANCE REPORTING: Total # of Samples Collected for Month⁵: Average Chlorine Result of All Samples For Month⁵ (mg/L):
 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:

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 Colliform 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 Type ¹	DEP Location Code # ¹	DEP Approved Sample Location ¹	CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³ :		COLLECTED AND ANALYZED BY:
				DATE	TIME	
RS	003	TOWER HILL SCHOOL - ADAMS STREET	1.55	12/5/22	10:00 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.35		7:30 AM	
RS	005	MARTIN E. YOUNG SCHOOL - COURTNEY DRIVE	1.06		9:00 AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	1.61		11:00 AM	
RS	008	COMMUNITY MIDDLE SCHOOL - HIGH STREET	1.48		10:30 AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.32		9:30 AM	
RS	012	7-11 FOOD SHOP - 675 NORTH STREET	.88		8:30 AM	
RS	014 A	ENTERPRISE - 249 NORTH MAIN STREET				
RS	014 B	RR AUTO - 317 NORTH MAIN STREET	1.55		8:00 AM	
RS		OAK GROVE STANDPIPE	1.01		9:15 AM	
RS		SOUTH MAIN STREET STANDPIPE	.93		8:45 AM	

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³ Collection and Analysis: Chlorine residual shall be measured in the field (immediately upon collection) at the same time and location in the distribution system as total coliforms are sampled. Record ND values as 0 (zero).
⁴ Sample Type: RS-Routine Distribution Sample, RO-Original Site Repeat, UR-Upstream Repeat, DR-Downstream Repeat, AR-Additional Repeat, or SS-Special Sample (as determined by DEP).
⁵ All DISTRIBUTION samples taken and analyzed shall be included in determining compliance, even if that number is greater than the minimum required. If you collect repeat coliform samples within the distribution system during the month, you must also measure for a detectable chlorine residual at the repeat sites and include these samples. DO NOT include raw water (RW) or plant tap (PT) chlorine residual samples in your calculations.

III. COMPLIANCE REPORTING: Total # of Samples Collected for Month⁵: Average Chlorine Result of All Samples For Month⁵ (mg/L):

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:

DEP Review Status: Accepted Disapproved Review Comments:



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

CI

I. PWS INFORMATION:

PWS ID #: **4244000** PWS Name: **RANDOLPH WATER DEPARTMENT** City/Town: **RANDOLPH** Class: COM NTNC TNC
 II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DBPR monitoring plan to help complete this section.
 Type Measured: Free Chlorine Total Chlorine Combined Chlorine Analytical Method: SM 4500-Cl: D E F G H I ASTM D1253-86
 Notes:

DEP Sample Type ¹	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 ⁴		DATE	TIME	
RS	003	TOWER HILL SCHOOL - ADAMS STREET	1.47	12/12/22	10:00AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE	1.29		9:30AM	
RS	005	MARTIN E. YOUNG - 30 LOU COURTNEY DRIVE	1.17		9:00AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET	1.63		11:00AM	
RS	008	COMMUNITY MIDDLE SCHOOL - 225 HIGH ST	1.52		10:30AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE	1.41		9:30AM	
RS	012	7 - 11 FOOD SHOP - 675 NORTH STREET	.68		8:30AM	
RS	014 AE	AXP AUTO - 317 NORTH MAIN ST	1.55		8:00AM	
RS	016	OAK GROVE STANDPIPE	1.11		9:45AM	
RS	017	SOUTH MAIN STREET STANDPIPE	1.00		8:45AM	

¹ DEP Sample Type, Location Code#, and DEP Approved Sample Site Location must correspond to the same information on your DEP Total Coliform Sampling Plan.
² SWTR systems: HPC must be collected at distribution sites with zero chlorine residual and results reported on the DEP Bacteriological Monthly Report form and on the appropriate SWTR Form.
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III. COMPLIANCE REPORTING: Total # of Samples Collected for Month⁵: Average Chlorine Result of All Samples For Month⁵ (mg/L):
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 Primary Certified Operator Signature and Date:

DEP Review Status: Accepted Disapproved Review Comments:



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

CI

I. PWS INFORMATION:

PWS ID #: **4244000** PWS Name: **RANDOLPH WATER DEPARTMENT** City/Town: **RANDOLPH** Class: COM NTNC TNC
 II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DBPR monitoring plan to help complete this section.
 Type Measured: Free Chlorine Total Chlorine Combined Chlorine Analytical Method: SM 4500-Cl: D E F G H I ASTM D1253-86

Notes:

DEP Sample Type	DEP Location Code #	DEP APPROVED SAMPLE SITE INFORMATION ¹		CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³		COLLECTED AND ANALYZED BY:
		DEP Approved SAMPLE LOCATION ¹	DEP Approved SAMPLE LOCATION ¹		DATE	TIME	
RS	003	TOWER HILL SCHOOL - ADAMS STREET		1.55	12/14/22	10:00 AM	A. PIERRE-LOUIS
RS	004	JFK SCHOOL - 20 HURLEY DRIVE		1.18		9:30 AM	
RS	005	MARTIN E. YOUNG - 30 LOU COURTNEY DRIVE		1.09		9:00 AM	
RS	006	COMFORT INN - 1374 NORTH MAIN STREET		1.67		11:00 AM	
RS	008	COMMUNITY MIDDLE SCHOOL - 225 HIGH ST		1.54		10:30 AM	
RS	011	MOBIL STATION - 93 MAZZEO DRIVE		1.30		9:30 AM	
RS	012	7 - 11 FOOD SHOP - 675 NORTH STREET		.52		8:30 AM	
RS	014 AE	AXP AUTO - 317 NORTH MAIN ST		1.52		8:00 AM	
RS	016	OAK GROVE STANDPIPE		1.11		9:45 AM	
RS	017	SOUTH MAIN STREET STANDPIPE		.96		8:45 AM	

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 Primary Certified Operator Signature and Date:

DEP Review Status: Accepted Disapproved Review Comments:



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

CI

I. PWS INFORMATION:

PWS ID #: **4244000** PWS Name: **RANDOLPH WATER DEPARTMENT** City/Town: **RANDOLPH** Class: COM NTNC TNC
 II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DBPR monitoring plan to help complete this section.
 Type Measured: Free Chlorine Total Chlorine Combined Chlorine Analytical Method: SM 4500-Cl: D E F G H I ASTM D1253-86

Notes:

DEP APPROVED SAMPLE SITE INFORMATION ¹		CHLORINE RESULT ² (mg/L)	COLLECTION AND ANALYSIS ³ :		COLLECTED AND ANALYZED BY:
DEP Sample Type ⁴	DEP Location Code # ⁴		DEP Approved SAMPLE LOCATION ¹	DATE	
RS	003	1.43	TOWER HILL SCHOOL - ADAMS STREET	12/19/22	10:00AM
RS	004	1.15	JFK SCHOOL - 20 HURLEY DRIVE		8:00AM
RS	005	.99	MARTIN E. YOUNG - 30 LOU COURTNEY DRIVE		9:00AM
RS	006	1.71	COMFORT INN - 1374 NORTH MAIN STREET		11:00AM
RS	008	1.49	COMMUNITY MIDDLE SCHOOL - 225 HIGH ST		10:30AM
RS	011	1.25	MOBIL STATION - 93 MAZZEO DRIVE		9:30AM
RS	012	.85	7 - 11 FOOD SHOP - 675 NORTH STREET		8:30AM
RS	014 AE	1.46	AXP AUTO - 317 NORTH MAIN ST		7:30AM
RS	016	.62	OAK GROVE STANDPIPE		9:45AM
RS	017	.95	SOUTH MAIN STREET STANDPIPE		9:45AM

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

CI

I. PWS INFORMATION:

PWS ID #: **4244000** PWS Name: **RANDOLPH WATER DEPARTMENT** City/Town: **RANDOLPH** Class: COM NTNC TNC
 II. ANALYTICAL INFORMATION: Refer to your MassDEP Coliform Sampling Plan and/or DBPR monitoring plan to help complete this section.
 Type Measured: Free Chlorine Total Chlorine Combined Chlorine Analytical Method: SM 4500-Cl: D E F G H I ASTM D1253-86
 Notes:

DEP 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 003	TOWER HILL SCHOOL - ADAMS STREET	1.52	12/28	9:30	PS
RS 004	JFK SCHOOL - 20 HURLEY DRIVE	1.01	12/28	8:30	
RS 005	MARTIN E. YOUNG - 30 LOU COURTNEY DRIVE	1.01	12/28	8:50	
RS 006	COMFORT INN - 1374 NORTH MAIN STREET	1.62	12/28	9:50	
RS 008	COMMUNITY MIDDLE SCHOOL - 225 HIGH ST	1.53	12/28	11:30	
RS 011	MOBIL STATION - 93 MAZZEO DRIVE	1.32	12/28	9:15	
RS 012	7 - 11 FOOD SHOP - 675 NORTH STREET	.78	12/28	8:45	
RS 014 AE	AXP AUTO - 317 NORTH MAIN ST	1.62	12/28	1:45	
RS 016	OAK GROVE STANDPIPE	1.14	12/29	10:00	
RS 017	SOUTH MAIN STREET STANDPIPE	1.22	12/29	10:45	

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