

CITY of FLINT WATER TREATMENT PLANT MONTHLY OPERATION REPORT

SUPPLY NAME: CITY of FLINT WATER PLANT
 WSSN: 2310

Michael Glasgow May 2015
 Operator-in-Charge Month/Year

F-1R, F-2 F-1
 Certification of Operator-in-Charge Water Plant Classification

Genesee
 Signature of Operator-in-Charge County

Treatment Rate and Filter Data

Maximum Treatment Rate:	<u>20.3</u>	Million Gallons per Day
Rated Plant Capacity:	<u>36</u>	Million Gallons per Day
Average Filter Run:	<u>69</u>	Hours
Average Head Loss:	<u>n/a</u>	Feet *(filter head loss meters not operational)
Average Filtration Rate:	<u>3.1</u>	Gallons Per Square Feet per Minute
Maximum Filtration Rate:	<u>2.3</u>	Gallons Per Square Feet per Minute
Average Wash Water Use:	<u>3.5%</u>	Percent of Treated Water

Chemical Data

Chlorine on hand:	<u>24,000</u> lb.	Est. supply:	<u>33</u> days
Primary Coagulant (Ferric Chloride) on hand:	<u>126,000</u> lb.	Est. supply:	<u>7</u> days
Lime (CaO) on hand:	<u>289</u> tons	Est. supply:	<u>24</u> days
Fluoride on Hand:	<u>15,000</u> lb.	Est. supply:	<u>40</u> days
Cost of All Chemicals per Million Gallons:	<u>n/a</u>	dollars	
Total Power Cost per Million Gallons:	<u>n/a</u>	dollars	

Remarks	Confluence Point # 1 (N)	Confluence Point # 2 (S)
Number of filter confluence samples > 0.3 NTU:	<u>0</u>	<u>0</u>
Number of filter confluence samples collected:	<u>229</u>	<u>229</u>
Percent of filter confluence samples > 0.3 NTU:	<u>0.0%</u>	<u>0.0%</u>
Number of filter confluence samples > 1 NTU	<u>0</u>	<u>0</u>
Did any individual filter exceed:		
1.0 NTU in two consecutive measurements taken 15 minutes apart?		<u>NO</u>
If yes, attach specific filter(s) information and indicate required follow-up status.		
0.5 NTU in two consecutive measurements taken 15 minutes apart after 4 hours of operation?		<u>NO</u>
If yes, attach specific filter(s) information and indicate required follow-up status.		
1.0 NTU in two consecutive measurements taken 15 minutes apart for 3 consecutive months?		<u>NO</u>
If yes, attach specific filter(s) information and indicate required follow-up status.		
2.0 NTU in two consecutive measurements taken 15 minutes apart for 2 consecutive months?		<u>NO</u>
If yes, attach specific filter(s) information and indicate required follow-up status.		
Was continuous (every 15 minutes) filter monitoring equipment off-line during the month?		<u>NO</u>
If yes, indicate date(s), duration, and individual filter grab sampling frequency on a separate sheet.		
Did POE disinfectant residual fall below 0.2 ppm during the month?		<u>NO</u>
If yes, indicate date(s) and duration on a separate sheet.		
Was minimum C*T credit achieved for the entire month?		<u>YES</u>
If no, indicate on a separate sheet the date(s) not achieved.		
Was continuous POE chlorine residual monitoring equipment off-line during the month?		<u>NO</u>
If yes, indicate date(s) and duration on a separate sheet.		

Date	Turbidity, Units												Point of Entry Plant Tap NTU
	Confluence Point. No.1 (N) North						Confluence Point. No.2 (S) South						
	Number of Samples	Avg.	Max	No. of 4 Hr. Compliance periods	No. of 4 Hr. Compliance periods >0.3 NTU	No. of Samples >0.3 NTU	Number of Samples	Avg.	Max	No. of 4 Hr. Compliance periods	No. of 4 Hr. Compliance periods >0.3 NTU	No. of Samples >0.3 NTU	
1	8	0.07	0.09	6	0	0	8	0.07	0.08	6	0	0	0.07
2	8	0.06	0.09	6	0	0	8	0.06	0.08	6	0	0	0.06
3	8	0.07	0.11	6	0	0	8	0.07	0.08	6	0	0	0.07
4	8	0.08	0.09	6	0	0	8	0.07	0.09	6	0	0	0.07
5	7	0.08	0.09	6	0	0	7	0.07	0.08	6	0	0	0.07
6	7	0.08	0.11	6	0	0	7	0.08	0.12	6	0	0	0.08
7	6	0.08	0.11	6	0	0	6	0.07	0.09	6	0	0	0.07
8	7	0.07	0.08	6	0	0	7	0.08	0.09	6	0	0	0.07
9	8	0.08	0.09	6	0	0	8	0.07	0.08	6	0	0	0.07
10	8	0.06	0.08	6	0	0	8	0.06	0.07	6	0	0	0.06
11	7	0.06	0.06	6	0	0	7	0.06	0.09	6	0	0	0.06
12	7	0.08	0.12	6	0	0	7	0.07	0.09	6	0	0	0.08
13	7	0.07	0.09	6	0	0	7	0.07	0.09	6	0	0	0.06
14	7	0.06	0.08	6	0	0	7	0.07	0.12	6	0	0	0.06
15	6	0.06	0.07	6	0	0	6	0.06	0.11	6	0	0	0.07
16	7	0.07	0.09	6	0	0	7	0.07	0.08	6	0	0	0.07
17	7	0.07	0.09	6	0	0	7	0.06	0.07	6	0	0	0.07
18	4	0.07	0.09	5	0	0	4	0.06	0.07	5	0	0	0.07
19	8	0.07	0.09	5	0	0	8	0.07	0.09	5	0	0	0.08
20	8	0.07	0.08	4	0	0	8	0.07	0.08	4	0	0	0.08
21	7	0.06	0.07	6	0	0	7	0.06	0.07	6	0	0	0.08
22	7	0.07	0.12	6	0	0	7	0.07	0.08	6	0	0	0.07
23	8	0.08	0.18	6	0	0	8	0.07	0.08	6	0	0	0.08
24	8	0.08	0.10	6	0	0	8	0.08	0.11	6	0	0	0.08
25	8	0.07	0.09	6	0	0	8	0.06	0.08	6	0	0	0.07
26	8	0.08	0.10	6	0	0	8	0.08	0.10	6	0	0	0.08
27	8	0.08	0.11	6	0	0	8	0.08	0.09	6	0	0	0.08
28	8	0.09	0.11	6	0	0	8	0.08	0.09	6	0	0	0.11
29	8	0.10	0.18	6	0	0	8	0.08	0.10	6	0	0	0.09
30	7	0.09	0.12	6	0	0	7	0.09	0.13	6	0	0	0.11
31	7	0.08	0.11	6	0	0	7	0.08	0.10	6	0	0	0.10
Avg.	7	0.07	0.10	6	0	0	7	0.07	0.09	6	0	0	
Max.	8	0.10	0.18	6	0	0	8	0.09	0.13	6	0	0	0.11
Min.	4	0.06	0.06	4	0	0	4	0.06	0.07	4	0	0	

Date	Fluoride Applied as F-mg/L	Fluoride Analysis (mg/L)			Chlorine Application (mg/L)			Chlorine Residual (mg/L)					
					Intermediate Chlorine	Post Chlorine	Total Chlorine	Filtered		3 MG Well		Tap	
		Raw	Tap	Dist.				Free	Total	Free	Total	Free	Total
1	0.5	0.19	0.69		1.9	2.5	4.4	0.6	0.8	2.0	2.4	1.7	2.0
2	0.6	0.19	0.74		1.4	2.9	4.3	0.2	0.5	1.8	2.0	1.6	1.8
3	0.6	0.20	0.75		1.4	3.1	4.5	0.2	0.4	1.8	2.0	1.8	2.0
4	0.5	0.19	0.74		1.4	3.2	4.6	0.2	0.4	2.1	2.3	2.0	2.3
5	0.5	0.20	0.73		1.4	3.0	4.4	0.3	0.5	2.0	2.2	2.0	2.2
6	0.5	0.21	0.69	0.69	1.2	2.9	4.1	0.4	0.6	1.8	2.1	1.6	1.8
7	0.5	0.19	0.70		1.2	3.1	4.3	0.3	0.5	1.8	2.1	1.7	1.9
8	0.5	0.20	0.68		1.1	3.3	4.4	0.6	0.8	1.7	2.1	1.4	1.7
9	0.6	0.20	0.75		1.1	3.5	4.6	0.5	0.6	1.7	1.9	1.7	1.9
10	0.6	0.18	0.74		1.1	3.2	4.3	0.4	0.7	1.8	2.2	1.3	1.6
11	0.6	0.19	0.78		1.0	3.5	4.5	0.4	0.6	1.5	1.8	1.1	1.4
12	0.6	0.19	0.79		0.7	3.9	4.6	0.4	0.5	1.7	2.1	1.6	2.0
13	0.6	0.19	0.79	0.74	0.7	4.1	4.8	0.4	0.6	2.1	2.4	1.8	2.0
14	0.6	0.20	0.79		0.7	3.4	4.1	0.3	0.4	1.9	2.3	1.8	2.2
15	0.6	0.20	0.82		0.7	3.4	4.1	0.4	0.5	1.6	2.0	1.5	1.9
16	0.6	0.20	0.82		0.7	3.4	4.1	0.4	0.6	1.8	2.1	1.7	2.1
17	0.5	0.17	0.76		0.7	3.2	3.9	0.3	0.5	1.5	1.8	1.5	1.8
18	0.6	0.20	0.76		0.7	3.6	4.3	0.3	0.5	1.8	2.1	1.3	1.5
19	0.6	0.18	0.73		0.7	3.5	4.2	0.5	0.6	1.8	2.0	1.7	1.9
20	0.5	0.18	0.75	0.73	0.9	2.4	3.3	0.4	0.5	1.9	2.2	0.6	0.8
21	0.6	0.19	0.78		1.6	3.2	4.8	0.5	0.7	1.9	2.2	1.8	2.1
22	0.5	0.20	0.78		1.6	3.0	4.6	0.2	0.8	2.0	2.4	0.9	1.1
23	0.5	0.19	0.72		1.7	4.0	5.7	0.5	0.6	1.6	1.9	1.6	1.7
24	0.6	0.19	0.76		2.0	2.8	4.8	0.4	0.6	1.6	1.7	1.6	1.8
25	0.6	0.21	0.79		2.0	2.5	4.5	0.5	0.7	1.9	2.2	1.7	2.0
26	0.6	0.20	0.79		2.2	2.9	5.1	0.3	0.5	1.4	1.6	1.4	1.6
27	0.5	0.18	0.74	0.73	2.1	3.2	5.3	0.6	0.9	1.6	1.8	1.5	1.9
28	0.5	0.20	0.70		2.5	3.1	5.6	0.5	0.6	1.9	2.2	1.8	2.2
29	0.5	0.22	0.75		2.7	2.8	5.5	0.6	0.8	1.8	2.2	1.8	2.2
30	0.6	0.18	0.78		2.9	3.2	6.1	0.4	0.5	1.6	1.8	1.6	1.8
31	0.6	0.18	0.77		2.8	2.8	5.6	0.3	0.5	2.2	2.5	2.3	2.5

Avg.	0.56	0.19	0.75	0.72	1.4	3.2	4.6	0.4	0.6	1.8	2.1	1.6	1.9
Max.	0.60	0.22	0.82	0.74	2.9	4.1	6.1	0.6	0.9	2.2	2.5	2.3	2.5
Min.	0.50	0.17	0.68	0.69	0.7	2.4	3.3	0.2	0.4	1.4	1.6	0.6	0.8

Date	pH (S.U.)		Total Hardness as CaCO3 (mg/L)		Total Alkalinity as CaCO3 (mg/L)		Non-Carbonate Hardness as CaCO3 (mg/L)		Calcium as Ca2+ (mg/L)		Magnesium as Mg2+ (mg/L)		Chloride as Cl- (mg/L)	
	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap
1	7.91	7.88	265	163	214	61	51	102	84.2	48.9	14.1	8.3	47	92
2	7.88	7.82	267	163	214	60	53	103	89.8	54.5	10.7	6.3	45	92
3	7.91	7.75	278	178	219	73	59	105	96.2	64.9	8.3	4.9	50	96
4	7.88	7.75	270	171	218	66	52	105	90.6	55.3	10.2	7.8	50	90
5	7.80	7.68	270	166	218	66	52	100	81.0	60.9	16.5	3.3	51	92
6	7.81	7.70	266	161	216	64	50	97	88.2	57.7	11.2	4.1	48	84
7	7.74	7.67	266	172	216	70	50	102	88.2	60.9	11.2	4.9	50	88
8	7.82	7.68	268	164	218	60	50	104	81.8	54.5	15.6	6.8	49	88
9	7.79	7.51	265	168	214	65	51	103	94.6	59.3	8.7	4.9	45	93
10	7.83	7.58	267	172	216	66	51	106	92.2	64.9	8.7	2.4	47	90
11	7.78	7.48	260	170	217	65	43	105	81.8	59.3	15.6	4.4	49	91
12	7.80	7.53	268	162	216	56	52	106	97.0	63.3	6.3	1.0	48	90
13	7.88	7.35	266	174	216	70	50	104	95.4	60.1	6.8	4.4	46	92
14	7.77	7.56	274	158	216	50	58	108	95.4	60.1	8.7	1.9	44	90
15	7.92	7.57	270	167	220	64	50	103	90.6	64.1	10.7	2.4	46	90
16	7.85	7.56	270	185	220	80	50	105	80.2	72.1	17.0	2.4	46	91
17	7.88	7.55	266	163	220	54	46	109	94.6	56.9	7.3	2.4	44	87
18	7.85	7.43	272	156	222	44	50	112	81.8	56.9	16.5	3.4	47	91
19	7.89	7.54	278	175	219	64	59	111	94.6	63.3	10.7	3.0	46	88
20	7.87	7.63	275	176	218	74	57	102	82.6	69.7	17.5	1.9	45	90
21	7.85	7.53	276	159	220	52	56	107	78.6	56.9	18.9	4.9	46	92
22	7.94	7.45	272	148	218	40	54	108	90.6	54.5	11.2	2.9	47	93
23	7.86	7.44	276	168	217	54	59	114	94.6	60.9	9.7	3.9	46	93
24	7.92	7.51	275	175	215	63	60	112	96.2	65.7	8.7	2.4	46	89
25	7.94	7.65	275	170	221	58	54	112	94.6	64.9	9.7	2.9	46	91
26	7.90	7.57	276	177	224	68	52	109	85.8	61.7	15.1	5.3	47	93
27	7.87	7.61	278	161	224	54	54	107	81.0	57.7	18.4	4.4	47	91
28	8.20	7.60	279	175	233	71	46	104	97.0	60.1	8.3	5.8	46	86
29	8.25	7.60	274	164	220	64	54	100	80.2	56.9	18.0	5.3	51	90
30	8.21	7.68	278	192	222	86	56	106	94.6	64.9	10.2	6.8	47	85
31	8.17	7.69	275	182	220	68	55	114	93.0	60.1	11.2	8.3	45	84

Avg.	7.90	7.60	271	169	219	63	53	106	89.3	60.4	12.0	4.3	47	90
Max.	8.25	7.88	279	192	233	86	60	114	97.0	72.1	18.9	8.3	51	96
Min.	7.74	7.35	260	148	214	40	43	97	78.6	48.9	6.3	1.0	44	84

Date	Total Coliform						Standard Plate Count (Simplate MPN)		Conductivity (mS)	Temp. C	Color		Odor	
	Raw (Colilert MPN)		Filter Confluence (N&S)		Plant Tap		Raw	Tap			Raw	Tap	Raw	Tap
	# Samples	Count	# Samples	# pos	# Samples	# pos	Raw	Tap	Tap	Raw	Raw	Tap	Raw	Tap
1	1	70	12	0	1	0	195	< 2	0.46	11.1				
2	1	61	12	0	1	0	239	< 2	0.45	11.9				
3	1	79	12	0	1	0	248	< 2	0.48	12.7				
4	1	88	12	0	1	0	202	< 2	0.46	14.3				
5	1	67	12	0	1	0	202	< 2	0.46	14.3				
6	1	86	12	0	1	0	231	< 2	0.46	13.9				
7	1	88	12	0	1	0	372	< 2	0.48	14.5				
8	1	142	12	1	1	0	392	< 2	0.46	14.4				
9	1	199	12	0	1	0	555	< 2	0.50	15.7				
10	1	138	12	1	1	0	440	< 2	0.47	15.7				
11	1	548	12	0	1	0	299	< 2	0.46	15.9				
12	1	921	12	3	1	0	738	< 2	0.46	15.4				
13	1	253	12	1	1	0	260	< 2	0.50	14.9				
14	1	225	12	6	1	0	738	< 2	0.44	14.7				
15	1	365	12	6	1	0	> 738	< 2	0.48	14.9				
16	1	722	12	4	1	0	> 738	< 2	0.47	15.1				
17	1	225	12	6	1	0	> 738	< 2	0.41	16.6				
18	1	262	12	2	1	0	2400	< 2	0.44	16.5				
19	1	292	12	2	1	0	1940	< 2	0.46	16.4				
20	1	134	12	0	1	0	830	< 2	0.46	16.2				
21	1	185	12	0	1	0	1160	< 2	0.47	15.8				
22	1	328	12	0	1	0	324	< 2	0.44	15.7				
23	1	199	12	0	1	0	150	< 2	0.48	16.7				
24	1	199	12	0	1	0	400	< 2	0.47	17.6				
25	1	272	12	0	1	0	590	< 2	0.46	17.0				
26	1	218	12	0	1	0	510	< 2	0.46	17.8				
27	1	365	12	0	1	0	470	< 2	0.43	18.3				
28	1	980	12	0	1	0	555	< 2	0.47	20.9				
29	1	909	12	0	1	0	1120	< 2	0.47	21.4				
30	1	5794	12	0	1	0	1040	< 2	0.49	22.7				
31	1	4884	12	0	1	0	1000	< 2	0.49	20.1				

Avg.									0.46	16.1				
Max.		5794					2400	< 2	0.50	22.7				
Min.									0.41	11.1				

Date	Free Chlorine Residual at Bacteriological Monitoring Stations mg/l										Number of Samples
	1	2	3	4	5	6	7	8	CS	WS	
1											0
2											0
3											0
4											0
5	0.4	1.0	1.2	1.1	0.8	0.4	0.5	1.5	0.3	1.5	10
6	0.3	1.1	1.2	1.0	0.6	0.3	0.4	1.6	0.7	1.3	10
7	0.5	0.8	1.0	0.8	0.5	0.7	0.4	1.5	0.2	1.2	10
8											0
9											0
10											0
11											0
12	0.6	0.7	1.0	0.6	0.1	0.6	0.7	1.3	0.1	1.2	10
13	0.1	0.8	1.0	0.8	0.6	0.4	0.6	1.1	0.7	1.0	10
14	1.5	1.2	1.0	1.0	0.5	0.4	1.0	1.4	0.1	1.3	10
15											0
16											0
17											0
18	1.2	1.0	0.9	0.7	0.4	0.2	0.7	1.1	0.6	1.1	10
19											0
20	1.0	0.9	1.3	1.0	0.2	0.3	0.9	1.3	0.7	0.1	10
21											0
22											0
23											0
24											0
25											0
26	0.3	0.6	1.0	0.8	0.4	0.3	0.6	1.3	0.6	1.0	10
27	0.2	0.6	1.0	0.7	0.3	0.3	0.5	1.2	0.4	0.3	10
28											0
29											0
30											0
31											0

Distribution Sample Summary	
Total # of routine distribution samples analyzed	100
Total # of routine distribution samples required	100

Distribution Disinfectant Total Residual Summary	
Percentage of samples with a detectable disinfectant residual	100%
Average disinfectant residual this month	0.76

Distribution Bacteriological Summary	
Total # of positive routine distribution samples	0
Percent of routine distribution samples positive	0%

See page 9 for positive sample information.

Date	Total Chlorine Residual at Bacteriological Monitoring Stations mg/l										Number of Samples
	1	2	3	4	5	6	7	8	CS	WS	
1											0
2											0
3											0
4											0
5	0.6	1.2	1.5	1.4	1.0	0.7	0.7	1.8	0.5	1.8	10
6	0.5	1.4	1.5	1.3	1.0	0.5	0.6	1.8	1.0	1.6	10
7	0.8	1.0	1.3	1.0	0.8	1.0	0.7	1.7	0.4	1.4	10
8											0
9											0
10											0
11											0
12	0.9	1.0	1.3	1.0	0.2	0.7	0.9	1.5	0.2	1.5	10
13	0.3	1.0	1.3	1.0	0.8	0.6	0.8	1.3	1.0	1.3	10
14	1.8	1.5	1.4	1.3	0.7	0.6	1.3	1.7	0.3	1.7	10
15											0
16											0
17											0
18	1.6	1.4	1.3	1.0	0.6	0.4	0.9	1.5	0.9	1.4	10
19											0
20	1.4	1.3	1.7	1.3	0.5	0.5	1.1	1.5	1.1	0.4	10
21											0
22											0
23											0
24											0
25											0
26	0.4	1.0	1.4	1.1	0.7	0.4	0.9	1.6	0.9	1.4	10
27	0.4	1.0	1.2	1.0	0.5	0.4	0.7	1.4	0.5	0.5	10
28											0
29											0
30											0
31											0

Distribution Disinfectant Total Residual Summary	
Percent samples with a detectable disinfectant residual	100%
Average disinfectant residual this month	1.0

