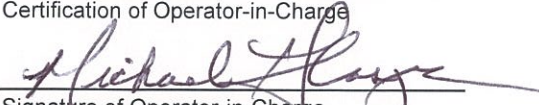


CITY of FLINT WATER TREATMENT PLANT MONTHLY OPERATION REPORT

SUPPLY NAME: CITY of FLINT WATER PLANT
WSSN: 2310

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

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


 Signature of Operator-in-Charge Genesee
 County

Treatment Rate and Filter Data

Maximum Treatment Rate:	<u>20.2</u>	Million Gallons per Day
Rated Plant Capacity:	<u>36</u>	Million Gallons per Day
Average Filter Run:	<u>68</u>	Hours
Average Head Loss:	<u>n/a</u>	Feet *(filter head loss meters not operational)
Average Filtration Rate:	<u>2.2</u>	Gallons Per Square Feet per Minute
Maximum Filtration Rate:	<u>2.9</u>	Gallons Per Square Feet per Minute
Average Wash Water Use:	<u>3.4%</u>	Percent of Treated Water

Chemical Data

Chlorine on hand:	<u>20,000</u> lb.	Est. supply:	<u>24</u> days
Primary Coagulant (Ferric Chloride) on hand:	<u>179,000</u> lb.	Est. supply:	<u>14</u> days
Lime (CaO) on hand:	<u>192</u> tons	Est. supply:	<u>19</u> days
Fluoride on Hand:	<u>18,000</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>213</u>	<u>213</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? If yes, attach specific filter(s) information and indicate required follow-up status.	<u>NO</u>
0.5 NTU in two consecutive measurements taken 15 minutes apart after 4 hours of operation? If yes, attach specific filter(s) information and indicate required follow-up status.	<u>NO</u>
1.0 NTU in two consecutive measurements taken 15 minutes apart for 3 consecutive months? If yes, attach specific filter(s) information and indicate required follow-up status.	<u>NO</u>
2.0 NTU in two consecutive measurements taken 15 minutes apart for 2 consecutive months? If yes, attach specific filter(s) information and indicate required follow-up status.	<u>NO</u>

Was continuous (every 15 minutes) filter monitoring equipment off-line during the month? NO
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? NO
If yes, indicate date(s) and duration on a separate sheet.

Was minimum C*T credit achieved for the entire month? YES
If no, indicate on a separate sheet the date(s) not achieved.

Was continuous POE chlorine residual monitoring equipment off-line during the month? NO
If yes, indicate date(s) and duration on a separate sheet.

Date	Turbidity, Units												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	3	0.09	0.11	3	0	0	3	0.08	0.09	3	3	0	0.09
2	7	0.10	0.12	6	0	0	7	0.09	0.10	6	0	0	0.09
3	7	0.07	0.09	6	0	0	7	0.08	0.09	6	0	0	0.11
4	7	0.13	0.26	6	0	0	7	0.10	0.11	6	0	0	0.13
5	7	0.10	0.12	6	0	0	7	0.10	0.11	6	0	0	0.12
6	7	0.11	0.15	6	0	0	7	0.13	0.16	6	0	0	0.13
7	7	0.13	0.14	6	0	0	7	0.12	0.13	6	0	0	0.15
8	7	0.13	0.15	6	0	0	7	0.10	0.12	6	0	0	0.14
9	7	0.14	0.17	6	0	0	7	0.11	0.12	6	0	0	0.15
10	7	0.12	0.13	6	0	0	7	0.10	0.11	6	0	0	0.14
11	7	0.11	0.14	6	0	0	7	0.10	0.11	6	0	0	0.13
12	7	0.10	0.11	6	0	0	7	0.11	0.13	6	0	0	0.14
13	7	0.12	0.14	6	0	0	7	0.11	0.13	6	0	0	0.14
14	7	0.11	0.18	6	0	0	7	0.10	0.11	6	0	0	0.11
15	7	0.11	0.17	6	0	0	7	0.09	0.09	6	0	0	0.10
16	7	0.11	0.12	6	0	0	7	0.09	0.11	6	0	0	0.12
17	7	0.09	0.11	6	0	0	7	0.10	0.12	6	0	0	0.15
18	7	0.10	0.12	6	0	0	7	0.10	0.12	6	0	0	0.12
19	7	0.11	0.16	6	0	0	7	0.09	0.10	6	0	0	0.12
20	7	0.10	0.14	6	0	0	7	0.11	0.12	6	0	0	0.11
21	7	0.10	0.11	6	0	0	7	0.11	0.11	6	0	0	0.10
22	7	0.12	0.14	6	0	0	7	0.10	0.12	6	0	0	0.11
23	7	0.09	0.10	6	0	0	7	0.10	0.12	6	0	0	0.10
24	7	0.10	0.11	6	0	0	7	0.10	0.12	6	0	0	0.11
25	7	0.10	0.13	6	0	0	7	0.10	0.12	6	0	0	0.09
26	7	0.10	0.11	6	0	0	7	0.09	0.11	6	0	0	0.10
27	7	0.09	0.12	6	0	0	7	0.11	0.13	6	0	0	0.09
28	7	0.11	0.11	6	0	0	7	0.10	0.12	6	0	0	0.10
29	7	0.10	0.11	6	0	0	7	0.09	0.09	6	0	0	0.09
30	7	0.10	0.11	6	0	0	7	0.09	0.09	6	0	0	0.09
31	7	0.11	0.17	6	0	0	7	0.10	0.12	6	0	0	0.10
Avg.	7	0.11	0.13	6	0	0	7	0.10	0.11	6	0	0	
Max.	7	0.14	0.26	6	0	0	7	0.13	0.16	6	3	0	0.15
Min.	3	0.07	0.09	3	0	0	3	0.08	0.09	3	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	0.6	0.18	0.78	0.74	2.2	3.6	5.8	0.4	0.6	2.3	2.6	2.0	2.4
2	0.6	0.19	0.64		2.2	4.6	6.8	0.6	0.9	2.3	2.6	2.1	2.4
3	0.6	0.19	0.84		0.9	5.6	6.5	0.2	0.5	2.6	3.0	2.6	3.0
4	0.6	0.19	0.77		0.0	4.9	4.9	0.0	0.0	2.3	2.9	1.2	1.6
5	0.6	0.20	0.77		0.0	5.4	5.4	0.0	0.0	2.3	2.7	1.8	2.1
6	0.6	0.18	0.78	0.76	0.0	5.6	5.6	0.0	0.0	2.5	3.0	2.4	2.9
7	0.6	0.19	0.76		0.0	5.3	5.3	0.0	0.0	2.5	2.9	2.0	2.5
8	0.5	0.19	0.72		0.0	5.3	5.3	0.0	0.0	2.4	2.8	2.0	2.3
9	0.6	0.19	0.78		0.0	5.7	5.7	0.0	0.0	2.4	2.8	2.0	2.3
10	0.6	0.18	0.75		0.0	5.2	5.2	0.0	0.0	2.2	2.5	1.8	2.2
11	0.5	0.19	0.76		0.0	5.8	5.8	0.0	0.0	2.3	2.7	1.1	1.4
12	0.5	0.20	0.78	0.75	0.0	5.3	5.3	0.0	0.0	1.8	2.4	1.6	1.9
13	0.6	0.20	0.76		0.0	5.5	5.5	0.0	0.0	2.3	3.0	2.2	2.6
14	0.6	0.20	0.73		0.0	5.4	5.4	0.0	0.0	2.4	2.9	2.1	2.4
15	0.6	0.18	0.75		0.0	5.6	5.6	0.0	0.0	2.2	2.4	2.0	2.3
16	0.6	0.20	0.75		0.0	5.1	5.1	0.0	0.0	2.6	2.9	1.7	1.9
17	0.6	0.19	0.76		0.0	5.6	5.6	0.0	0.0	2.1	2.3	2.0	2.3
18	0.6	0.17	0.74		0.0	5.1	5.1	0.0	0.0	2.6	2.9	2.4	2.7
19	0.6	0.20	0.76	0.79	0.0	5.2	5.2	0.0	0.0	2.4	2.7	2.2	2.5
20	0.6	0.19	0.74		0.0	5.7	5.7	0.0	0.0	2.4	2.7	1.7	2.1
21	0.6	0.19	0.71		0.0	5.8	5.8	0.0	0.0	2.0	2.4	1.6	1.9
22	0.5	0.21	0.72		0.0	5.2	5.2	0.0	0.0	2.2	2.5	2.0	2.4
23	0.5	0.20	0.72		0.0	5.0	5.0	0.0	0.0	2.2	2.5	1.3	1.5
24	0.6	0.21	0.76		0.0	4.9	4.9	0.0	0.0	2.4	2.7	2.4	2.7
25	0.5	0.19	0.74		0.0	4.8	4.8	0.0	0.0	2.2	2.5	1.8	2.2
26	0.5	0.21	0.75	0.79	0.0	5.0	5.0	0.0	0.0	2.2	2.5	2.0	2.3
27	0.5	0.20	0.79		0.0	5.1	5.1	0.0	0.0	2.7	2.9	2.3	2.7
28	0.5	0.19	0.67		0.0	5.2	5.2	0.0	0.0	2.3	2.5	1.9	2.3
29	0.6	0.20	0.78		0.0	5.1	5.1	0.0	0.0	2.3	2.6	2.3	2.6
30	0.6	0.20	0.79		0.0	4.7	4.7	0.0	0.0	2.3	2.6	2.3	2.6
31	0.5	0.20	0.70		0.0	4.7	4.7	0.0	0.0	2.2	2.5	1.9	2.3

Avg.	0.57	0.19	0.75	0.76	0.2	5.2	5.4	0.0	0.1	2.3	2.7	2.0	2.3
Max.	0.60	0.21	0.84	0.79	2.2	5.8	6.8	0.6	0.9	2.7	3.0	2.6	3.0
Min.	0.50	0.17	0.64	0.74	0.0	3.6	4.7	0.0	0.0	1.8	2.3	1.1	1.4

WSSN: 2310

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	8.01	7.48	248	160	212	64	36	96	81.8	57.7	10.7	3.9	44	87
2	8.06	7.45	254	142	210	50	44	92	81.8	48.9	12.2	4.9	42	86
3	8.09	7.28	238	126	208	38	30	88	72.9	40.9	13.6	5.8	45	87
4	8.23	7.24	254	126	212	34	42	92	81.0	43.3	12.6	4.4	43	80
5	8.22	7.26	250	138	208	40	42	98	81.0	44.9	11.7	6.3	44	85
6	8.27	7.38	254	128	208	38	46	90	83.4	42.5	11.2	5.3	43	82
7	8.37	7.24	244	130	206	38	38	92	77.0	37.7	12.6	8.7	46	86
8	8.33	7.38	252	128	216	36	36	92	81.8	41.7	10.2	5.8	43	81
9	8.33	7.53	260	122	216	38	44	84	82.6	40.9	13.1	4.9	42	80
10	8.24	7.25	256	124	222	34	34	90	84.2	41.7	11.2	4.9	41	80
11	8.21	7.17	254	128	218	36	36	92	82.6	46.5	11.7	3.9	44	81
12	8.23	7.26	258	132	224	40	34	92	69.7	38.5	20.4	8.7	44	85
13	8.40	7.27	254	130	214	44	40	86	72.9	36.9	17.5	9.2	45	82
14	8.28	7.42	252	128	216	42	36	86	91.4	47.3	5.8	2.4	45	81
15	8.20	7.44	254	134	210	40	44	94	80.2	43.3	13.1	6.3	42	89
16	8.25	7.30	260	136	216	38	44	98	85.0	45.7	11.7	5.3	43	85
17	8.33	7.32	260	138	218	34	42	104	79.4	44.1	15.1	6.8	44	90
18	8.30	7.40	256	128	220	38	36	90	81.0	39.3	13.1	7.3	44	89
19	8.21	7.33	254	134	222	44	32	90	76.2	38.5	15.6	9.2	46	84
20	8.11	7.42	252	128	216	46	36	82	74.5	43.3	16.0	4.9	51	86
21	8.20	7.40	252	124	218	40	34	84	73.7	40.1	16.5	5.8	45	90
22	8.20	7.37	256	132	212	40	44	92	79.4	38.5	14.1	8.7	45	83
23	8.23	7.34	262	130	214	38	48	92	85.0	41.7	12.2	6.3	44	85
24	8.33	7.39	258	128	222	38	36	90	81.0	41.7	13.6	5.8	45	85
25	8.30	7.43	260	138	222	44	38	94	82.6	50.5	13.1	5.3	46	90
26	8.26	7.21	262	130	218	38	44	92	85.0	42.5	12.2	5.8	45	84
27	8.24	7.33	256	134	226	40	30	94	82.6	44.1	12.2	5.8	47	88
28	8.30	7.38	254	134	214	40	40	94	89.0	48.9	7.8	2.9	44	83
29	8.30	7.19	262	128	218	34	44	94	86.6	40.1	11.2	6.8	44	85
30	8.23	7.41	258	132	214	30	44	102	81.8	44.1	13.1	5.3	45	85
31	8.38	7.41	266	134	228	40	38	94	85.8	45.7	12.6	4.9	43	83

Avg.	8.25	7.34	255	132	216	40	39	92	81.1	43.3	12.8	5.9	44	85
Max.	8.40	7.53	266	160	228	64	48	104	91.4	57.7	20.4	9.2	51	90
Min.	8.01	7.17	238	122	206	30	30	82	69.7	36.9	5.8	2.4	41	80

Date	Total Coliform						Standard Plate Count (Simplate MPN)		Conductivity (mS)	Temp. C	Color		Odor	
	Raw (Colilert MPN)		3 MG Well		Plant Tap		Raw	Tap			Raw	Tap	Raw	Tap
	# Samples	Count	# Samples	# pos	# Samples	# pos			Raw	Tap				
1	1	9208	1	0	1	0	1660	< 2	0.46	25.3				
2	1	6896	1	0	1	0	1940	< 2	0.39	25.0				
3	1	24066	1	0	1	0	4960	2	0.41	25.1				
4	1	9222	1	0	1	0	2240	< 2	0.38	25.6				
5	1	7746	1	0	1	0	3320	< 2	0.38	24.2				
6	1	4494	1	0	1	0	2080	2	0.40	24.4				
7	1	6152	1	0	1	0	3900	< 2	0.39	25.0				
8	1	6896	6	0	1	0	3660	< 2	0.38	24.7				
9	1	5510	6	0	1	0	3900	< 2	0.38	24.2				
10	1	9222	6	0	1	0	6220	< 2	0.38	24.7				
11	1	4978	6	0	1	0	5140	< 2	0.37	23.6				
12	1	4128	6	0	1	0	4040	< 2	0.39	23.7				
13	1	3348	6	0	1	0	3660	< 2	0.39	26.6				
14	1	5510	6	0	1	0	5140	< 2	0.40	24.4				
15	1	16328	6	0	1	0	12460	< 2	0.42	24.1				
16	1	6510	6	0	1	0	4960	< 2	0.41	24.9				
17	1	8704	6	0	1	0	3540	< 2	0.41	25.7				
18	1	8212	6	0	1	0	3540	< 2	0.40	25.8				
19	1	8212	6	0	1	0	4180	< 2	0.39	25.9				
20	1	17328	6	0	1	0	4460	< 2	0.41	25.1				
21	1	5526	6	0	1	0	2820	< 2	0.41	25.4				
22	1	6510	6	0	1	0	3540	< 2	0.40	23.7				
23	1	6152	6	0	1	0	3420	< 2	0.40	23.5				
24	1	11588	6	0	1	0	3020	< 2	0.41	23.4				
25	1	5818	6	0	1	0	1480	< 2	0.41	22.3				
26	1	20924	6	0	1	0	3220	< 2	0.39	21.8				
27	1	2548	6	0	1	0	2320	< 2	0.41	21.1				
28	1	2878	6	0	1	0	2080	< 2	0.40	20.4				
29	1	5226	6	0	1	0	4040	< 2	0.39	20.9				
30	1	1808	6	0	1	0	960	< 2	0.38	21.3				
31	1	2500	6	0	1	0	1600	< 2	0.40	21.9				

Avg.									0.40	24.0				
Max.		24066					12460	< 2	0.46	26.6				
Min.									0.37	20.4				

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	0.9	1.4	1.8	0.1	0.1	0.1	0.5	1.8	0.8	2.0	10
4											0
5	0.4	1.2	1.3	0.2	0.1	0.1	0.5	1.1	0.5	1.5	10
6											0
7											0
8											0
9											0
10											0
11	0.9	1.2	1.2	1.0	0.3	0.2	1.0	1.6	1.1	1.5	10
12	0.1	1.4	1.7	1.2	0.6	0.3	0.5	1.7	1.3	1.9	10
13											0
14											0
15											0
16											0
17											0
18	1.0	1.0	1.4	1.0	0.4	0.2	0.8	1.8	1.0	1.9	10
19	0.1	1.0	1.3	0.9	0.2	0.2	0.1	1.2	1.0	1.5	10
20	0.8	1.3	1.4	0.7	0.6	0.2	0.8	1.3	1.1	1.6	10
21											0
22											0
23											0
24											0
25	0.4	1.2	1.5	0.6	0.4	0.3	0.5	1.5	0.7	1.1	10
26	0.1	1.2	1.3	1.0	0.3	0.1	0.5	1.3	1.4	1.8	10
27	0.1	1.3	1.5	1.0	0.4	0.2	0.2	1.5	1.7	2.3	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 Bacteriological Summary	
Total # of positive routine distribution samples	0
Percent of routine distribution samples positive	0%

See page 9 for positive sample information.

Distribution Disinfectant Total Residual Summary	
Percentage of samples with a detectable disinfectant residual	100%
Average disinfectant residual this month	0.92

WSSN: 2310

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	1.3	1.8	2.2	0.4	0.3	0.3	0.7	2.2	1.1	2.3	10
4											0
5	0.6	1.5	1.6	0.4	0.2	0.5	0.8	1.4	0.8	1.8	10
6											0
7											0
8											0
9											0
10											0
11	1.2	1.5	1.5	1.3	0.5	0.3	1.3	1.9	1.3	1.8	10
12	0.1	1.6	1.9	1.4	0.8	0.5	0.7	1.9	1.5	2.1	10
13											0
14											0
15											0
16											0
17											0
18	1.3	1.3	1.7	1.3	0.5	0.3	1.1	2.1	1.3	2.2	10
19	0.2	1.3	1.7	1.2	0.4	0.4	0.3	1.5	1.3	1.7	10
20	1.0	1.5	1.7	1.0	0.9	0.3	1.1	1.5	1.4	1.8	10
21											0
22											0
23											0
24											0
25	0.6	1.5	1.8	0.9	0.5	0.4	0.7	1.8	1.0	1.0	10
26	0.2	1.4	1.5	1.3	0.5	0.2	0.7	1.5	1.6	2.0	10
27	0.2	1.5	1.8	1.3	0.5	0.3	0.4	1.8	2.0	2.6	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	1.2

