

**CITY of FLINT WATER TREATMENT PLANT MONTHLY OPERATION REPORT**

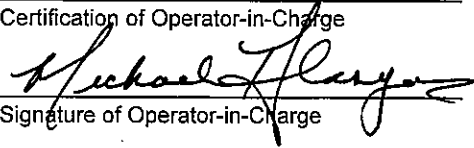
**SUPPLY NAME:** CITY of FLINT WATER PLANT  
**WSSN:** 2310

Michael Glasgow  
 Operator-in-Charge

March 2015  
 Month/Year

F-1R, F-2  
 Certification of Operator-in-Charge

F-1  
 Water Plant Classification

  
 Signature of Operator-in-Charge

Genesee  
 County

**Treatment Rate and Filter Data**

Maximum Treatment Rate:	<u>25.4</u>	Million Gallons per Day
Rated Plant Capacity:	<u>36</u>	Million Gallons per Day
Average Filter Run:	<u>96</u>	Hours
Average Head Loss:	<u>n/a</u>	Feet *(filter head loss meters not operational)
Average Filtration Rate:	<u>2.3</u>	Gallons Per Square Feet per Minute
Maximum Filtration Rate:	<u>3.3</u>	Gallons Per Square Feet per Minute
Average Wash Water Use:	<u>1.3%</u>	Percent of Treated Water

**Chemical Data**

Chlorine on hand:	<u>20,000</u> lb.	Est. supply:	<u>19</u> days
Primary Coagulant (Ferric Chloride) on hand:	<u>157,700</u> lb.	Est. supply:	<u>9</u> days
Lime (CaO) on hand:	<u>348</u> tons	Est. supply:	<u>29</u> days
Fluoride on Hand:	<u>23,300</u> lb.	Est. supply:	<u>48</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>2</u>	<u>4</u>
Number of filter confluence samples collected:	<u>242</u>	<u>242</u>
Percent of filter confluence samples > 0.3 NTU:	<u>0.8%</u>	<u>1.7%</u>
Number of filter confluence samples > 1 NTU	<u>0</u>	<u>0</u>
<b>Did any individual filter exceed:</b>		
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? If yes, indicate date(s), duration, and individual filter grab sampling frequency on a separate sheet.		<u>NO</u>
Did POE disinfectant residual fall below 0.2 ppm during the month? If yes, indicate date(s) and duration on a separate sheet.		<u>NO</u>
Was minimum C*T credit achieved for the entire month? If no, indicate on a separate sheet the date(s) not achieved.		<u>YES</u>
Was continuous POE chlorine residual monitoring equipment off-line during the month? If yes, indicate date(s) and duration on a separate sheet.		<u>NO</u>



WSSN: 2310

Date	Turbidity, Units												Plant Tap NTU	
	Confluence Point. No.1 (N) North						Confluence Point. No.2 (S) South							Point of Entry
	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	0.15	0.18	6	0	0	8	0.11	0.15	6	0	0	0.16	
2	8	0.10	0.15	6	0	0	8	0.09	0.14	6	0	0	0.11	
3	8	0.11	0.16	6	0	0	8	0.11	0.18	6	0	0	0.11	
4	8	0.14	0.20	6	0	0	8	0.12	0.18	6	0	0	0.14	
5	8	0.16	0.20	6	0	0	8	0.11	0.17	6	0	0	0.12	
6	8	0.11	0.20	6	0	0	8	0.15	0.29	6	0	0	0.16	
7	8	0.09	0.13	6	0	0	8	0.07	0.09	6	0	0	0.12	
8	8	0.14	0.19	6	0	0	8	0.11	0.18	6	0	0	0.13	
9	8	0.12	0.20	6	0	0	8	0.10	0.14	6	0	0	0.13	
10	8	0.10	0.13	6	0	0	8	0.13	0.17	6	0	0	0.12	
11	8	0.12	0.18	6	0	0	8	0.09	0.11	6	0	0	0.11	
12	8	0.12	0.16	6	0	0	8	0.10	0.13	6	0	0	0.11	
13	8	0.10	0.12	6	0	0	8	0.12	0.15	6	0	0	0.11	
14	8	0.11	0.15	6	0	0	8	0.08	0.09	6	0	0	0.10	
15	8	0.12	0.17	6	0	0	8	0.14	0.20	6	0	0	0.14	
16	8	0.15	0.17	6	0	0	8	0.14	0.17	6	0	0	0.17	
17	8	0.11	0.18	6	0	0	8	0.09	0.12	6	0	0	0.16	
18	2	0.07	0.07	1	0	0	2	0.07	0.07	1	0	0	0.08	
19	8	0.14	0.22	6	0	0	8	0.14	0.22	6	0	0	0.19	
20	8	0.27	0.35	6	1	2	8	0.29	0.36	6	3	4	0.42	
21	8	0.15	0.16	6	0	0	8	0.15	0.20	6	0	0	0.33	
22	8	0.20	0.23	6	0	0	8	0.18	0.20	6	0	0	0.35	
23	8	0.19	0.23	6	0	0	8	0.17	0.23	6	0	0	0.37	
24	8	0.19	0.20	6	0	0	8	0.16	0.18	6	0	0	0.23	
25	8	0.16	0.21	6	0	0	8	0.12	0.15	6	0	0	0.14	
26	8	0.17	0.22	6	0	0	8	0.10	0.12	6	0	0	0.15	
27	8	0.13	0.16	6	0	0	8	0.14	0.24	6	0	0	0.13	
28	8	0.11	0.17	6	0	0	8	0.10	0.12	6	0	0	0.09	
29	8	0.09	0.13	6	0	0	8	0.09	0.12	6	0	0	0.07	
30	8	0.09	0.12	6	0	0	8	0.08	0.09	6	0	0	0.10	
31	8	0.07	0.09	6	0	0	8	0.08	0.12	6	0	0	0.11	
Avg.	8	0.13	0.17	6	0	0	8	0.12	0.16	6	0	0		
Max.	8	0.27	0.35	6	1	2	8	0.29	0.36	6	3	4	0.42	
Min.	2	0.07	0.07	1	0	0	2	0.07	0.07	1	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	0.3	0.24	0.60		2.3	2.5	4.8	0.6	0.7	2.4	2.7	1.9	2.1
2	0.3	0.25	0.62		2.2	2.6	4.8	0.4	0.6	2.5	2.8	2.0	2.4
3	0.3	0.23	0.57	0.55	2.2	2.8	5.0	0.6	0.7	2.5	2.9	2.0	2.5
4	0.3	0.24	0.59		2.3	2.6	4.9	0.5	0.7	2.3	2.9	2.1	2.3
5	0.3	0.22	0.57		2.2	2.5	4.7	0.5	0.7	2.7	3.1	2.3	2.8
6	0.3	0.25	0.58		2.2	2.3	4.5	0.4	0.6	2.5	3.0	1.9	2.5
7	0.3	0.23	0.56		2.2	2.8	5.0	0.4	0.7	2.3	2.7	1.8	2.3
8	0.3	0.23	0.61		2.2	2.8	5.0	0.6	0.8	2.5	2.8	2.5	2.8
9	0.3	0.26	0.64		2.2	2.8	5.0	0.5	0.7	2.5	2.8	2.5	2.8
10	0.3	0.23	0.56		2.7	2.9	5.6	0.4	0.6	2.6	3.2	2.2	2.7
11	0.3	0.23	0.52		2.2	3.0	5.2	0.6	0.8	2.4	2.7	2.2	2.6
12	0.3	0.23	0.53	0.50	2.3	2.9	5.2	0.4	0.6	2.8	3.1	2.3	2.7
13	0.3	0.24	0.54		2.3	2.9	5.2	0.4	0.7	2.6	3.3	2.0	2.5
14	0.3	0.24	0.52		2.3	2.7	5.0	0.6	0.8	3.2	3.5	2.0	2.4
15	0.3	0.21	0.49		2.3	3.4	5.7	1.0	1.4	1.7	2.0	1.8	2.0
16	0.3	0.19	0.52		2.5	4.9	7.4	1.6	1.9	2.0	2.3	2.0	2.2
17	0.3	0.21	0.54		2.4	4.3	6.7	0.6	1.0	2.8	3.1	2.5	3.1
18	0.3	0.21	0.51	0.52	2.3	3.4	5.7	0.3	0.5	3.0	3.5	3.0	3.5
19	0.3	0.20	0.52		2.4	3.2	5.6	0.6	1.1	3.0	3.3	2.5	2.8
20	0.3	0.17	0.55		2.2	3.9	6.1	0.3	1.0	2.9	3.3	1.3	1.6
21	0.3	0.17	0.48		2.5	4.1	6.6	0.6	1.3	2.6	3.3	1.7	2.3
22	0.3	0.14	0.51		2.7	3.7	6.4	0.5	1.4	2.6	2.9	2.5	2.8
23	0.3	0.16	0.55		2.7	3.6	6.3	0.5	1.3	2.6	3.0	2.6	2.9
24	0.4	0.16	0.58		2.9	3.5	6.4	0.3	0.8	2.7	3.2	2.5	2.9
25	0.4	0.17	0.62	0.53	2.8	3.4	6.2	0.3	0.7	2.5	2.9	2.3	3.0
26	0.4	0.15	0.56		2.8	3.3	6.1	0.3	0.5	2.8	3.3	2.4	2.8
27	0.5	0.19	0.64		2.9	3.1	6.0	0.3	0.5	2.5	3.1	2.0	2.6
28	0.5	0.16	0.66		2.9	2.8	5.7	0.6	0.8	3.0	3.5	2.3	3.0
29	0.5	0.14	0.59		2.9	2.8	5.7	0.5	0.7	2.7	3.1	2.5	3.0
30	0.4	0.18	0.66		2.5	2.5	5.0	0.8	1.0	2.6	3.0	2.6	3.0
31	0.5	0.17	0.65		2.1	2.6	4.7	0.5	0.7	2.4	2.7	2.0	2.3

Avg.	0.34	0.20	0.57	0.53	2.4	3.1	5.6	0.5	0.8	2.6	3.0	2.2	2.6
Max.	0.50	0.26	0.66	0.55	2.9	4.9	7.4	1.6	1.9	3.2	3.5	3.0	3.5
Min.	0.30	0.14	0.48	0.50	2.1	2.3	4.5	0.3	0.5	1.7	2.0	1.3	1.6

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	8.27	8.09	366	229	297	122	69	107	113.0	72.1	20.4	11.2	51	89
2	7.95	8.06	358	243	295	111	63	132	110.6	68.9	20.4	18.5	52	88
3	7.95	7.74	360	234	297	122	63	112	116.2	71.3	16.5	14.1	52	87
4	7.81	7.82	354	243	285	129	69	114	129.1	89.8	8.3	4.4	54	85
5	7.97	7.77	360	235	290	126	70	109	117.0	71.3	16.5	13.6	54	95
6	7.55	7.69	362	239	288	124	74	115	133.1	89.0	7.3	2.9	55	89
7	7.90	7.94	351	234	288	124	63	110	126.7	87.4	18.0	13.6	54	87
8	7.93	8.26	363	235	288	123	75	112	120.2	74.5	15.6	11.7	48	87
9	7.96	7.84	357	237	286	125	71	112	116.2	74.5	16.5	12.2	57	95
10	8.01	8.08	349	233	273	129	76	104	122.6	81.0	10.7	7.3	64	98
11	7.92	8.29	347	233	281	117	66	116	115.4	72.1	13.6	11.2	61	95
12	8.00	7.94	345	233	279	127	66	106	125.0	84.2	8.7	5.3	54	91
13	8.07	7.92	348	235	282	127	66	108	126.7	84.2	7.8	5.3	54	88
14	7.99	8.11	343	226	273	112	70	114	123.4	81.8	8.7	3.9	54	85
15	8.00	8.15	309	210	236	99	73	111	97.0	65.7	17.5	12.6	51	87
16	8.00	7.97	251	176	198	78	53	98	79.4	50.5	15.1	12.2	42	76
17	7.99	7.66	305	191	242	92	63	99	97.8	55.3	14.1	11.7	46	76
18	8.00	7.95	270	203	223	104	47	99	89.0	72.1	12.6	4.4	46	84
19	7.90	9.90	256	151	204	58	52	93	79.4	38.5	15.6	12.2	41	78
20	7.85	7.30	240	240	189	135	51	105	81.8	87.4	8.7	5.3	38	70
21	7.97	7.34	214	210	175	119	39	91	78.6	81.8	5.3	1.5	34	73
22	7.95	7.37	219	211	173	104	46	107	63.3	60.9	15.6	14.1	33	69
23	8.01	7.53	212	187	173	92	39	95	64.9	59.3	12.6	9.7	34	69
24	7.94	7.45	211	170	171	77	40	93	74.5	59.3	6.3	5.3	33	69
25	8.01	7.80	218	173	172	77	46	96	67.3	56.1	11.7	9.2	32	72
26	8.03	7.72	214	171	173	78	41	93	71.3	59.3	9.7	5.3	31	69
27	8.02	7.67	215	168	174	77	41	91	75.4	60.1	6.8	4.4	31	68
28	8.05	7.73	218	169	174	77	44	92	78.6	63.3	5.8	1.5	30	72
29	8.12	7.95	229	177	182	80	47	97	71.3	53.7	12.6	9.7	31	73
30	8.18	7.85	229	171	182	79	47	92	73.7	53.7	11.7	8.7	34	71
31	8.08	7.80	228	168	183	70	45	98	68.9	52.1	13.6	10.7	33	72

Avg.	7.98	7.89	290	208	233	104	57	104	97.0	68.7	12.4	8.8	45	81
Max.	8.27	9.90	366	243	297	135	76	132	133.1	89.8	20.4	18.5	64	98
Min.	7.55	7.30	211	151	171	58	39	91	63.3	38.5	5.3	1.5	30	68

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				
1	1	155	12	0	1	0	120	< 2	0.60	2.2				
2	1	135	12	0	1	0	146	< 2	0.60	2.8				
3	1	214	12	0	1	0	83	< 2	0.58	1.0				
4	1	84	12	0	1	0	100	< 2	0.61	2.5				
5	1	118	12	0	1	0	120	< 2	0.64	1.2				
6	1	79	12	0	1	0	43	< 2	0.62	1.5				
7	1	162	12	0	1	0	51	< 2	0.60	1.7				
8	1	86	12	0	1	0	100	< 2	0.62	2.6				
9	1	225	12	0	1	0	189	< 2	0.64	2.0				
10	1	205	12	0	1	0	248	< 2	0.64	2.6				
11	1	387	12	0	1	0	339	< 2	0.61	3.2				
12	1	770	12	0	1	0	440	< 2	0.31	3.7				
13	1	442	12	0	1	0	340	< 2	0.43	4.7				
14	1	4196	12	0	1	0	1120	< 2	0.58	5.7				
15	1	48392	12	0	1	0	> 14760	< 2	0.56	5.7				
16	1	> 48392	12	0	1	0	> 14760	< 2	0.43	4.2				
17	1	39726	12	0	1	0	12460	< 2	0.45	2.8				
18	1	24066	12	0	1	0	> 14760	< 2	0.55	3.6				
19	1	> 48392	12	0	1	0	11100	< 2	0.38	6.5				
20	1	34658	12	0	1	0	7100	< 2	0.56	4.8				
21	1	12262	12	0	1	0	9400	< 2	0.49	6.3				
22	1	4764	12	0	1	0	2920	< 2	0.49	4.5				
23	1	1596	12	0	1	0	1940	< 2	0.45	4.1				
24	1	1182	12	0	1	0	960	< 2	0.41	4.0				
25	1	550	12	0	1	0	1060	< 2	0.41	4.5				
26	1	399	12	0	1	0	560	< 2	0.41	5.6				
27	1	195	12	0	1	0	450	< 2	0.40	6.0				
28	1	122	12	0	1	0	400	< 2	0.41	5.9				
29	1	98	12	0	1	0	480	< 2	0.42	4.9				
30	1	201	12	0	1	0	> 738	< 2	0.40	5.9				
31	1	187	12	0	1	0	507	< 2	0.42	5.2				

Avg.									0.51	3.9				
Max.		48392					12460	< 2	0.64	6.5				
Min.									0.31	1.0				

Date	Free Chlorine Residual at Bacteriological Monitoring Stations mg/l										
	1	2	3	4	5	6	7	8	CS	WS	Number of Samples
1											0
2											0
3	1.5	1.3	1.8	1.4	1.5	0.3	1.1	1.8		2.6	9
4	1.5	1.3	1.9	1.5	1.5	0.4	1.7	2.1		1.3	9
5	1.0	0.9	1.7	0.9	1.5	0.4	1.0	2.1		1.3	9
6											0
7											0
8											0
9											0
10	1.8	1.2	1.5	1.2	1.4	0.4	1.4	1.9		2.1	9
11	1.4	0.5	1.7	1.3	1.1	0.6	1.5	1.8	1.5	1.1	10
12	1.7	1.0	1.6	1.7	1.6	0.5	1.5	2.0		2.1	9
13											0
14											0
15											0
16											0
17	1.2	1.2	1.6	1.7	1.1	0.6	1.0	2.2	0.7	2.2	10
18	2.0	1.2	2.0	1.9	1.3	0.5	1.7	2.8		0.9	9
19	1.1	1.7	2.2	1.5	0.7	0.5	1.1	0.9		0.9	9
20											0
21											0
22											0
23											0
24	1.9	1.1	2.0	1.9	0.8	0.5	1.7	1.9		2.0	9
25	1.4	1.7	2.1	1.9	1.7	0.6	1.4	1.7		2.0	9
26	1.9	1.4	1.4	1.8	1.3	0.5	1.4	1.9		1.9	9
27											0
28											0
29											0
30											0
31	1.7	0.9	1.6	1.9	1.7	0.7	0.9	1.5		1.0	9

Distribution Sample Summary	
Total # of routine distribution samples analyzed	119
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	1.42

WSSN: 2310

Date	Total Chlorine Residual at Bacteriological Monitoring Stations mg/l										
	1	2	3	4	5	6	7	8	CS	WS	Number of Samples
1											0
2											0
3	1.7	1.6	2.2	1.6	1.6	0.4	1.5	2.0		2.8	9
4	1.8	1.6	2.2	1.7	1.8	0.6	2.0	2.3		1.6	9
5	1.7	1.3	2.2	1.2	1.8	0.5	1.7	2.5		1.5	9
6											0
7											0
8											0
9											0
10	2.1	1.5	1.7	1.5	1.6	0.5	1.7	2.2		2.4	9
11	1.7	0.7	2.0	1.6	1.5	0.7	1.7	2.4	1.7	1.4	10
12	2.0	1.2	1.9	2.0	1.9	0.6	1.7	2.3		2.3	9
13											0
14											0
15											0
16											0
17	1.7	1.5	2.0	1.9	1.4	0.7	1.5	2.7	0.9	2.6	10
18	2.3	1.4	2.3	2.2	1.5	0.6	1.9	3.0		1.1	9
19	1.4	1.9	2.7	1.8	1.0	0.7	1.4	1.5		1.1	9
20											0
21											0
22											0
23											0
24	2.4	1.4	2.3	2.3	1.1	0.7	2.0	2.4		2.5	9
25	1.6	2.3	2.7	2.5	1.9	0.8	1.7	1.9		2.5	9
26	2.4	1.8	1.9	2.1	1.6	0.7	1.8	2.2		2.3	9
27											0
28											0
29											0
30											0
31	2.2	1.2	1.9	2.6	1.9	0.9	1.3	1.8		1.3	9

Distribution Disinfectant Total Residual Summary	
Percent samples with a detectable disinfectant residual	100%
Average disinfectant residual this month	1.7



