



The City of Flint and F&V Operations and Resource Management are submitting the following report(s) to Michigan Department of Environment, Great Lakes and Energy:

MOR December 2020

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons or persons who manage the system or those persons directly responsible for gathering such information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

City of Flint Representative: _____

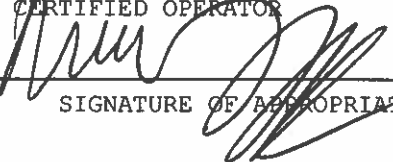
Signature: _____ Date: _____

F&V Operations Representative: Robert Jones _____

Signature: _____ Date: 1/7/21

**MONTHLY OPERATION REPORT
OF
WATER TREATMENT PLANT**

For Month of December 2020

<u>Flint Water Plant</u> NAME OF WATER SYSTEM	<u>2310</u> WSSN	<u>Genesee</u> COUNTY
<u>Robert Jones</u> CERTIFIED OPERATOR		<u>D-1</u> CLASSIFICATION
 SIGNATURE OF APPROPRIATE OFFICIAL		

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum 10.14 Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity 36 Million Gallons per Day
3. Average Filter Run N/A Hours, Average Head Loss N/A Feet
4. Average Filtration Rate N/A Gallons per Square Ft. per Minute
5. Maximum Filtration Rate N/A Gallons per Square Ft. per Minute
6. Average Wash Water Use N/A percent of Treated Water

CHEMICAL DATA

7. Sodium Hypochlorite on hand at CS2 2282 gal.: Estimated supply 34 days
8. Sodium Hypochlorite on hand at outstations 367 gal: Estimated supply 58 days.
9. Phosphoric Acid on hand 950 gal.: Estimated supply 49 days
10. Sodium Hydroxide on hand 5052 gal.: Estimated supply 54 days

Remarks:

Submit to: MDEQ - Office of Drinking Water & Municipal Assistance
LANSING DISTRICT OFFICE
525 West Allegan Street, 1st Floor South
(Constitution Hall)
PO Box 30242
Lansing, MI 48909-7742



Fluoridation & Chlorination

WSSN 2310

Dec-20

DATE	Fluoride Applied F mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l					Chlorine Residual mg/l				
		Raw	Tap	Dist	Chlorine App. Mg/l	Chlorine (prior to filtration) mg/L OCT	Post Chlorine mg/L	Sta II Free	Dort Free	3MG Well Free	Tap Free			
											26	27	28	
1	0.63	0.67			0.96			0.9				1.6		
2	0.76	0.72			0.94			1.0				1.6		
3	0.72	0.72			0.92			1.0				1.6		
4	0.70	0.71			0.96			1.0				1.7		
5	0.78	0.85			0.91			1.1				1.7		
6	0.70	0.70			0.94			1.0				1.7		
7	0.74	0.76			0.90			1.1				1.7		
8	0.81	0.88			0.90			1.1				1.7		
9	0.85	0.70			0.89			1.1				1.6		
10	0.66	0.68			0.86			1.0				1.7		
11	0.77	0.79			0.90			1.1				1.7		
12	0.81	0.81			0.91			1.0				1.6		
13	0.64	0.70			1.01			1.1				1.7		
14	0.66	0.65			0.96			1.1				1.6		
15	0.75	0.77			0.94			0.9				1.6		
16	0.59	0.59			0.99			1.0				1.7		
17	0.81	0.74			0.97			1.1				1.6		
18	0.67	0.72			0.94			1.1				1.7		
19	0.61	0.74			1.02			1.1				1.8		
20	0.72	0.70			0.92			1.1				1.6		
21	0.64	0.77			0.98			1.0				1.6		
22	0.65	0.64			1.00			1.0				1.6		
23	0.67	0.67			0.97			0.9				1.6		
24	0.64	0.68			1.01			1.0				1.7		
25	0.76	0.74			0.98			1.0				1.7		
26	0.62	0.57			0.94			1.1				1.6		
27	0.61	0.72			0.96			1.1				1.7		
28	0.64	0.73			0.92			1.1				1.6		
29	0.73	0.86			0.95			1.0				1.6		
30	0.68	0.63			0.98			1.0				1.6		
31	0.63	0.73			1.01			1.0				1.7		
AVG		0.72			0.95			1.0				1.6		
MAX		0.88			1.02			1.1				1.8		
MIN		0.57			0.86			0.9				1.6		

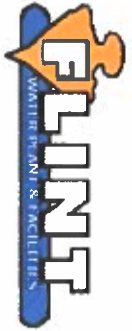


Chemical Analyses

WSSN 2310

Dec-20

DATE	pH	Total Hardness as CaCO ₃ , mg/l		Total Alkalinity as CaCO ₃ , mg/l		Non-carbonate Hardness as CaCO ₃ , mg/l		Iron mg/L		Calcium Ca ²⁺ mg/l		Magnesium as Mg ²⁺ mg/l		Chloride as Cl ⁻ mg/l		
		CSII	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	Raw	Tap	
1	7.31	7.41	100	98	76	80	30	28	0.01	0.01	28.1	28.1	7.3	6.8	15	15
2	7.26	7.50		100		78		26	0.0	0.02		29.7		6.3		15
3	7.29	7.58		100		80		30	0.01	0.01		28.1		7.3		15
4	7.55	7.59		102		80		34	0.03	0.01		27.3		8.3		14
5	7.26	7.49		100		80		30	0	0.01		28.1		7.3		14
6	7.31	7.58		104		80		30	0.01	0.01		29.7		7.3		15
7	7.27	7.48		102		78		32	0.01	0.01		29.7		7.8		14
8	7.41	7.55	98	100	74	74	30	30	0.01	0.01	27.3	28.1	7.3	7.3	14	14
9	7.27	7.52		100		76		32	0.02	0.00		27.3		7.8		15
10	7.25	7.48		100		80		28	0.01	0.01		28.9		6.8		14
11	7.20	7.38		102		82		34	0	0.00		27.3		8.3		15
12	7.27	7.56		100		78		28	0.01	0.01		28.1		6.8		15
13	7.30	7.50		100		78		30	0.01	0.01		28.1		7.3		15
14	7.27	7.53		96		80		24	0.01	0.01		28.9		5.8		13
15	7.25	7.54	102	100	74	84	32	30	0.02	0.01	28.1	28.1	7.8	7.3	14	15
16	7.31	7.54		100		80		28	0	0.02		28.9		6.8		15
17	7.25	7.55		102		82		30	0	0.00		28.9		7.3		14
18	7.66	7.74		100		82		30	0	0.00		28.1		7.3		15
19	7.44	7.66		102		80		32	0.01	0.02		28.6		7.8		15
20	7.43	7.66		98		80		28	0.01	0.03		28.1		6.8		15
21	7.30	7.55		102		80		32	0	0.02		29.7		7.8		16
22	7.24	7.46	102	104	78	78	32	34	0.01	0.01	28.1	28.1	7.8	8.3	14	13
23	7.24	7.48		102		78		34	0.01	0.01		27.3		8.3		15
24	7.22	7.44		100		78		28	0.02	0.02		28.9		6.8		14
25	7.44	7.51		102		80		34	0.01	0.01		27.3		8.3		14
26	7.22	7.45		102		80		30	0.01	0.02		28.9		7.3		14
27	7.30	7.63		100		80		30	0.01	0.00		28.1		7.3		15
28	7.25	7.49		102		84		32	0.02	0.01		29.7		7.8		13
29	7.22	7.41	100	102	78	80	28	30	0	0.01	28.9	28.9	6.8	7.3	13	13
30	7.28	7.48		102		78		32	0	0.01		28.1		7.8		13
31	7.18	7.41		100		78		30	0.01	0.03		28.1		7.3		14
AVG	7.30	7.52		101		80		30	0.01	0.01		28.4		7.4		14
MAX	7.66	7.74		104		84		34	0.03	0.03		29.7		8.3		16.0
MIN	7.18	7.38		96		74		24	0.00	0.00		27.3		5.8		13.0



Distribution System Monitoring WSSN 2310

Dec-20

Free Chlorine Residual at Bacteriological Monitoring Stations mg/l

D A T E	Chlorine only sites mg/l																									Number of Samples						
	1	2	3	4	CS	6	7	8	9	10	WR	12	13	14	15	16	17	18	19	20	26	27	28	29	30		21	22	23	24	25	
1							1.45	1.11	1.39	1.16																	1.21					6
2														1.08	1.14	1.65	1.14		1.23			1.50				1.38		1.47	1.51		9	
3	1.27			1.28	1.63					1.42						1.37	1.54		1.32	1.09		1.67			1.60						7	
4																																4
5																																0
6																																0
7	1.25	1.61		1.37	1.92	1.47												1.25					1.45									7
8																						1.46					1.18					7
9							1.42	1.36	1.59	1.46	1.01			1.24	1.23	1.59	1.64		1.36					1.52			1.79	1.54	1.64		9	
10	1.33																								1.62							7
11				1.22	1.62											1.64	1.57		1.36	1.17												3
12																																0
13																																0
14	1.30	1.35		1.49	1.70	1.54							1.62	1.17	1.63	1.32	1.49				1.44		1.48			1.20			1.42		8	
15																																7
16															1.13	1.25	1.60	1.39	1.11		1.44											9
17	1.31			1.21	1.71														1.08				1.55			1.61						7
18																1.48	1.65		1.34													4
19																																0
20																																0
21	1.39	1.52		1.41	1.66	1.42												1.14					1.31									8
22													1.59	1.19	1.50	1.44	1.02										1.29					7
23															1.50	1.15	1.63	1.65	1.33		1.44											9
24	1.33			1.39	1.34															1.07												6
25																																0
26																																0
27																																0
28	1.29	1.36		1.47	1.53																											10
29													1.42	1.10	1.54	1.29	1.09										1.18					7
30																0.94	1.39	1.60		1.03												8
31	1.20			1.37	1.45															0.72												6
Monthly Cl ₂ Avg.	1.39																															
Total Samples	132																															



Distribution System Monitoring

WSSN 2310

Dec-20

DATE	Total Chlorine Residual at Bacteriological Monitoring Stations mg/l																									Number of Samples							
	1	2	3	4	CS	6	7	8	9	10	WR	12	13	14	15	16	17	18	19	20	26	27	28	29	30		21	22	23	24	25		
1							1.89	1.31	1.82	1.56											1.67						1.37					6	
2														1.43	1.39	1.89	1.81		1.57							1.45		1.96	1.78		9		
3	1.52										1.57									1.32											7		
4													1.73			1.56	1.71		1.53													4	
5																																0	
6																																0	
7	1.50	1.86				1.64	2.16	1.73										1.47														7	
8									1.85	1.57	1.88	1.61	1.21								1.69						1.47					7	
9														1.46	1.46	1.80	1.84		1.58									1.91				9	
10	1.74											1.71								1.46								1.84				7	
11																1.87	1.82		1.55													3	
12																																0	
13																																0	
14	1.51	1.52				1.68	1.87	1.74										1.39			1.77						1.47					8	
15									1.98	1.31	1.94	1.61	1.87						1.60													7	
16														1.43	1.53	1.86	1.79		1.52									1.85	1.90			9	
17	1.59											1.71																				7	
18																1.74	1.78		1.55													4	
19																																	0
20																																	0
21	1.60	1.84				1.67	1.86	1.70										1.42															8
22									1.95	1.46	1.82	1.69	1.31								1.71						1.44					7	
23														1.78	1.49	1.94	1.83		1.62								1.49		1.91	1.79		9	
24	1.54											1.58							1.37													6	
25																																	0
26																																	0
27																																	0
28	1.44	1.87				1.68	1.67									1.60	1.78	1.50	1.89										1.25				10
29									1.92	1.31	1.87	1.54	1.30								1.86												7
30																			1.55														8
31	1.52					1.71	1.65					1.63				1.49	1.83	1.91		1.33						1.43		2.00	1.74			6	
Monthly Cl₂ Avg.																										1.68							
Total Samples																										132							