23D-5a 1/86
Authority: Act 399, P.A. 1976

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

MONTHLY OPERATION REPORT
OF
WATER TREATMENT PLANT

For Month of June 2019

Flint Water Plant — NAME OF WATER SYSTEM
2310 — WSSN
Genesee — COUNTY

Robert Jones — CERTIFIED OPERATOR
D-1 — CLASSIFICATION

SIGNATURE OF APPROPRIATE OFFICIAL

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum 11.36 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 3775 gal.: Estimated supply 39 days
8. Sodium Hypochlorite on hand at outstations 415 gal: Estimated supply 48 days.
9. Phosphoric Acid on hand 833 gal.: Estimated supply 38 days
9. Sodium Hydroxide on hand 5112 gal.: Estimated supply 37 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

Failure to complete this form is a violation of Act 399, P.A. 1976 and is subject to penalties as outlined in the Act.

FLINT
WATER PLANT & FACILITIES

Jun-19

DATE	Total Million Gallons Purchased	Phosphate as PO_4 (mg/L) CSII	Phosphate applied as PO_4 (mg/L)	Phosphate as PO_4 (mg/L) Tap	25% Caustic Soda (mg/l)	Turbidity, NTU units: Raw # of Samples	Raw Avg.	Raw Max		Plant Tap # of Samples	Plant Tap Avg.	Plant Tap Max
	1	1.29	1 B	6	6a	7	8	9	10	11	12	13
1	10.2	1.2	2.33	3.6	3.1					2	0.07	0.08
2	10.4	1.2	2.38	3.7	3.1					2	0.07	0.07
3	10.1	1.2	2.44	3.5	3.3					2	0.07	0.08
4	10.6	1.2	2.41	3.6	3.3					2	0.09	0.09
5	10.4	1.2	2.52	3.4	3.4					2	0.09	0.10
6	10.9	1.1	2.45	3.5	3.5					2	0.17	0.21
7	10.5	1.1	2.47	3.5	3.6					2	0.09	0.10
8	10.0	1.5	2.17	3.5	3.5					2	0.08	0.08
9	11.0	1.2	2.33	3.5	3.5					2	0.08	0.09
10	10.2	1.2	2.31	3.5	3.5					2	0.08	0.08
11	10.4	1.2	2.32	3.4	3.6					2	0.10	0.12
12	10.8	1.2	2.29	3.5	3.6					2	0.10	0.11
13	11.4	1.2	2.32	3.5	3.5					2	0.13	0.16
14	9.1	1.1	2.36	3.4	3.7					2	0.10	0.10
15	10.5	1.2	2.37	3.6	3.6					2	0.07	0.07
16	10.1	1.2	2.33	3.5	3.8					2	0.11	0.12
17	10.0	1.2	2.37	3.5	3.6					2	0.08	0.08
18	10.7	1.2	2.38	3.5	3.7					2	0.13	0.13
19	10.5	1.3	2.45	3.5	3.7					2	0.13	0.14
20	10.6	1.2	2.49	3.5	3.7					2	0.11	0.12
21	10.4	1.2	2.37	3.5	3.7					2	0.12	0.14
22	10.5	1.2	2.37	3.5	3.5					2	0.13	0.13
23	10.1	1.2	2.22	3.5	3.7					2	0.10	0.11
24	10.1	1.3	2.28	3.6	3.6					2	0.11	0.12
25	10.8	1.2	2.33	3.5	3.6					2	0.16	0.20
26	10.7	1.2	2.41	3.5	3.8					2	0.21	0.30
27	10.7	1.2	2.49	3.5	3.9					2	0.13	0.14
28	11.3	1.3	2.38	3.5	3.9					2	0.14	0.14
29	10.9	1.2	2.45	3.4	3.9					2	0.13	0.15
30	10.0	1.2	2.33	3.4	3.9					2	0.13	0.13
31												
AVG	10.47	1.21	2.37	3.51	3.59					2	0.11	0.12
MAX	11.36	1.49	2.52	3.68	3.91					2	0.21	0.30
MIN	9.12	1.11	2.17	3.36	3.05					2	0.07	0.07
Total	314.18											

Fluoridation & Chlorination **WSSN 2310** **Jun-19**

DATE	Fluoride Applied F⁻ mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
					Chlorine App. Mg/l	Chlorine (prior to filtration) mg/L OCT	Post Chlorine mg/L		Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist					Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1		0.73	0.63		1.06				1.1					1.7	
2		0.64	0.62		1.11				1.0					1.7	
3		0.51	0.78		1.06				1.0					1.7	
4		0.69	0.83		1.15				1.1					1.7	
5		0.32	0.48		1.17				1.1					1.7	
6		0.58	0.58		1.15				1.0					1.6	
7		0.57	0.57		1.11				1.0					1.6	
8		0.55	0.45		1.14				1.0					1.7	
9		0.65	0.67		1.06				1.0					1.7	
10		0.50	0.44		1.23				1.0					1.6	
11		0.70	0.80		1.17				1.0					1.6	
12		0.70	0.69		1.27				1.0					1.6	
13		0.57	0.60		1.19				1.0					1.7	
14		0.64	0.59		1.11				0.9					1.7	
15		0.68	0.69		1.14				1.0					1.8	
16		0.74	0.66		1.09				1.1					1.7	
17		0.72	0.62		0.97				1.0					1.7	
18		0.74	0.68		1.08				1.0					1.7	
19		0.63	0.65		1.07				1.0					1.7	
20		0.59	0.59		1.08				1.0					1.7	
21		0.60	0.59		1.26				0.9					1.7	
22		0.68	0.58		1.14				0.9					1.7	
23		0.65	0.71		1.22				0.9					1.6	
24		0.62	0.64		1.31				0.9					1.7	
25		0.64	0.57		1.27				0.9					1.6	
26		0.87	0.97		1.21				0.9					1.7	
27		0.70	0.68		1.22				0.9					1.6	
28		0.62	0.62		1.20				0.9					1.7	
29		0.61	0.66		1.15				0.8					1.7	
30		0.72	0.68		1.19				0.9					1.7	
31															
AVG			0.64		1.15				1.0					1.7	
MAX			0.97		1.31				1.1					1.8	
MIN			0.44		0.97				0.8					1.6	

Chemical Analyses **WSSN 2310** **Jun-19**

DATE	pH		Total Hardness as $CaCO_3$ mg/l		Total Alkalinity as $CaCO_3$ mg/l		NonCarbonate 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	Raw	Tap
	29	30	31	32	33	34	35	36	37	38.00	39	40	41	42	43	44
1	7.30	7.54		104		82		36	0.00	0.00		27.3		8.7		13
2	7.43	7.61		102		82		32	0.01	0.01		28.1		7.8		13
3	7.41	7.55		104		82		34	0.01	0.02		28.1		8.3		15
4	7.34	7.58	100	102	80	82	34	34	0.04	0.02	26.5	27.3	8.3	8.3	16	15
5	7.38	7.54		100		84		32	0.00	0.02		27.3		7.8		16
6	7.29	7.57		100		80		30	0.03	0.01		28.1		7.3		17
7	7.26	7.49		102		80		32	0.02	0.01		28.1		7.8		15
8	7.30	7.40		106		84		38	0.01	0.00		27.3		9.2		13
9	7.40	7.60		104		84		34	0.04	0.02		28.1		8.3		13
10	7.30	7.52		104		80		34	0.05	0.01		28.1		8.3		17
11	7.36	7.64	102	106	84	86	32	36	0.02	0.02	28.1	28.1	7.8	8.7	15	16
12	7.12	7.53		102		82		32	0.01	0.01		28.1		7.8		14
13	7.30	7.63		104		80		34	0.02	0.03		28.1		8.3		16
14	7.29	7.48		104		80		34	0.01	0.02		28.1		8.3		15
15	7.30	7.67		102		80		34	0.02	0.02		27.3		8.3		16
16	7.39	7.46		100		84		30	0.02	0.00		28.1		7.3		16
17	7.44	7.59		102		82		32	0.01	0.00		28.1		7.8		16
18	7.34	7.51	100	104	80	82	32	34	0.02	0.01	27.3	28.1	7.8	8.3	15	15
19	7.37	7.41		104		84		34	0.03	0.03		28.1		8.3		14
20	7.37	7.62		102		84		32	0.03	0.01		28.1		7.8		16
21	7.36	7.61		106		80		36	0.02	0.02		28.1		8.7		16
22	7.29	7.61		104		84		34	0.02	0.02		28.1		8.3		16
23	7.27	7.49		106		84		38	0.06	0.04		27.3		9.3		17
24	7.41	7.64		104		82		32	0.01	0.00		28.9		7.8		16
25	7.28	7.56	102	104	80	80	30	36	0.02	0.03	28.9	27.3	7.3	8.7	16	17
26	7.36	7.44		106		80		38	0.01	0.02		27.3		9.2		17
27	7.23	7.56		104		88		34	0.02	0.03		28.1		8.3		17
28	7.43	7.47		104		86		34	0.01	0.01		28.1		8.3		15
29	7.29	7.52		106		84		34	0.04	0.01		28.9		8.3		17
30	7.46	7.60		104		88		34	0.00	0.00		28.1		8.3		13
31																
AVG	7.34	7.55		104		83		34		0.02		27.9		8.3		15
MAX	7.46	7.67		106		88		38		0.04		28.9		9.3		17.0
MIN	7.12	7.40		100		80		30		0.00		27.3		7.3		13.0

WSSN 2310 **Jun-19**

DATE	Total Coliform							Standard Plate Count		Conductivity (mS)	Temp deg.C	Color		Odor	
	Plant Tap														
			Dort	3MG Well	Sta II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69		71	72	73	74
1						2/0				0.23	10.8				
2						2/0				0.23	11.0				
3						2/0				0.23	10.6				
4						2/0				0.23	11.1				
5						2/0				0.23	11.3				
6						2/0				0.22	11.4				
7						2/0				0.22	11.7				
8						2/0				0.23	11.7				
9						2/0				0.23	12.0				
10						2/0				0.22	12.4				
11						2/0				0.22	11.8				
12						2/0				0.23	12.4				
13						2/0				0.23	12.6				
14						2/0				0.23	12.7				
15						2/0				0.23	12.9				
16						2/0				0.23	12.6				
17						2/0				0.23	12.8				
18						2/0				0.23	12.9				
19						2/0				0.23	12.9				
20						2/0				0.23	13.3				
21						2/0				0.23	13.5				
22						2/0				0.24	13.7				
23						2/0				0.24	13.4				
24						2/0				0.24	13.6				
25						2/0				0.23	13.6				
26						2/0				0.24	13.8				
27						2/0				0.24	13.7				
28						2/0				0.24	13.9				
29						2/0				0.24	14.6				
30						2/0				0.24	14.7				
31															
AVG										0.23	12.6				
MAX										0.24	14.7				
MIN										0.22	10.6				

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Jun-19**

DATE	Free Chlorine Residual at Bacteriological Monitoring Stations mg/l																								Chlorine only sites mg/l					
	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	Number of Samples
1																															0
2																															0
3	1.47	1.61	1.41	0.97	1.79	1.28																	1.38			1.31					8
4							1.43	1.66	1.25	1.50	1.47		0.96								1.57						0.92				8
5														1.49	1.22	1.45	1.44	1.06	0.64					1.65				1.72			8
6	1.19	1.58	1.43	1.42	1.50															1.06		1.54							1.43		8
7																1.47	1.25	1.16	0.61						1.65					1.32	6
8																															0
9																															0
10	1.26	1.52	1.44	1.38	1.74	1.21																	1.23			1.24					8
11							1.34	1.63	1.10	1.55	1.38	0.76	0.92								1.32						1.15				9
12														1.63	1.19	1.54	1.63	1.18	0.60					1.68				1.78			8
13	1.28	1.65		1.05	1.51															1.06		1.57							1.35		7
14																1.55	1.62	1.16	0.54						1.44					1.46	6
15																															0
16																															0
17	1.13	1.62	1.40	1.32	1.72	1.40																	1.11			1.22					8
18							1.18	1.32	1.46	1.58	1.34	0.60	0.99								1.32						1.21				9
19														1.53	1.32	1.66	1.52	1.11	0.57					1.69							7
20	1.18	1.53		1.36	1.70															1.14		1.64							1.25		7
21																1.61	1.54	1.21	0.59						1.64					1.41	6
22																															0
23																															0
24	1.22	1.53	1.13	1.29	1.59	1.28																	1.36			1.15					8
25							1.00	1.61	1.45	1.52	1.26	1.26	0.93								1.24						1.14				9
26														1.52	1.20	1.46	1.57	1.18	0.54					1.55				1.63			8
27	1.16	1.55		1.34	1.65															1.09		1.61							1.27		7
28																1.51	1.58	1.23	0.54						1.53					1.09	6
29																															0
30																															0
31																															0

Monthly Cl_2 Avg.	**1.33**
Total Samples	**132**

Distribution System Monitoring **WSSN 2310** **Jun-19**

DATE	Total Chlorine Residual at Bacteriological Monitoring Stations mg/l																								Chlorine only sites mg/l					
	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	Number of Samples
1																															0
2																															0
3	1.61	1.77	1.62	1.12	2.01	1.49																	1.70			1.60					8
4							1.56	1.90	1.43	1.86	1.57		1.26								1.61						1.51				8
5														1.83	1.45	1.76	1.77	1.47	0.82					1.88				1.96			8
6	1.35	1.83	1.58	1.60	1.82															1.28		1.92							1.64		8
7																1.71	1.77	1.45	0.87						1.84					1.43	6
8																															0
9																															0
10	1.48	1.92	1.67	1.57	1.95	1.40																	1.38			1.53					8
11							1.51	1.89	1.34	1.81	1.54	1.04	1.22								1.62						1.45				9
12														1.78	1.37	1.70	1.82	1.40	0.74					1.80				1.94			8
13	1.49	1.92		1.63	1.78															1.29		1.85							1.61		7
14																1.79	1.87	1.33	0.73						1.83					1.67	6
15																															0
16																															0
17	1.40	1.82	1.64	1.66	1.94	1.55																	1.35			1.53					8
18							1.65	1.89	1.73	1.76	1.52	1.18	1.27								1.65						1.49				9
19														1.71	1.51	1.82	1.72	1.35	0.76					1.84							7
20	1.40	1.73		1.59	1.90															1.33		1.83							1.55		7
21																1.75	1.82	1.44	0.82						1.81					1.55	6
22																															0
23																															0
24	1.39	1.73	1.56	1.56	1.80	1.48																	1.68			1.41					8
25							1.17	1.79	1.63	1.73	1.42	1.48	1.17								1.56						1.34				9
26														1.72	1.52	1.73	1.80	1.45	0.76					1.79				1.85			8
27	1.41	1.79		1.57	1.81															1.29		1.92							1.44		7
28																1.67	1.78	1.41	0.73						1.76					1.29	6
29																															0
30																															0
31																															0

Monthly Cl_2 Avg.	**1.57**
Total Samples	**132**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Jun-19

Total number of positive routine samples:				Total Coliform: 0			E.coli Bacteria: 0		Chlorine Residual (mg/L)	
Date	Monitoring Station	Total Coliform	E.coli Bacteria	Date	Time	Retest of Station, Upstream & Downstream	Total Coliform	E.coli Bacteria	Free	Total
Total number of routine distribution samples analyzed:				132						
Total number of routine distribution samples required:				100						