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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

MONTHLY OPERATION REPORT
OF
WATER TREATMENT PLANT

For Month of May 2017

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

John Monsees — CERTIFIED OPERATOR
D-1 — CLASSIFICATION

SIGNATURE OF APPROPRIATE OFFICIAL

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum 14.40 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 1038 gal.: Estimated supply 12 days
8. Sodium Hypochlorite on hand at outstations 467 gal: Estimated supply 139 days
9. Phosphoric Acid on hand 1505 gal.: Estimated supply 58 days
9. Sodium Hydroxide on hand 1372 gal.: Estimated supply 16 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.

May-17

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 A	1 B	6	6a	7	8	9	10	11	12	13
1	11.8	1.2	2.53	3.7	2.02					2	0.07	0.07
2	9.0	1.2	2.64	3.8	2.00					2	0.06	0.07
3	10.1	1.0	2.65	3.7	2.00					2	0.06	0.06
4	13.7	1.2	2.60	3.7	2.03					2	0.08	0.08
5	10.3	1.2	2.64	3.7	2.00					2	0.08	0.09
6	10.7	1.4	2.66	3.8	2.00					2	0.07	0.07
7	14.2	1.1	2.58	3.7	2.00					2	0.08	0.08
8	10.7	1.1	2.59	3.7	2.00					2	0.08	0.09
9	10.8	1.1	2.61	3.6	2.00					2	0.08	0.07
10	13.8	1.2	2.61	3.7	2.00					2	0.09	0.09
11	9.5	1.2	2.70	3.8	2.01					2	0.08	0.08
12	11.1	1.2	2.66	3.7	2.00					2	0.07	0.08
13	13.6	1.2	2.61	3.7	2.00					2	0.10	0.11
14	11.9	1.2	2.57	3.8	2.00					2	0.09	0.09
15	9.8	1.2	2.61	3.7	2.10					2	0.07	0.08
16	11.7	1.1	2.62	3.6	2.00					2	0.08	0.08
17	13.3	1.3	2.63	3.9	2.00					2	0.17	0.18
18	10.5	1.3	2.74	3.8	2.04					2	0.17	0.20
19	10.8	1.2	2.61	3.7	2.05					2	0.08	0.09
20	13.9	1.2	2.57	3.8	2.01					2	0.08	0.08
21	12.8	1.2	2.56	3.6	2.03					2	0.07	0.08
22	9.9	1.2	2.56	3.6	2.02					2	0.07	0.07
23	10.5	1.1	2.57	3.6	2.04					2	0.07	0.08
24	13.9	1.2	2.61	3.6	2.03					2	0.10	0.10
25	11.1	1.3	2.67	3.7	2.00					2	0.10	0.11
26	12.0	1.2	2.58	3.6	2.01					2	0.11	0.12
27	11.3	1.2	2.52	3.7	2.01					2	0.08	0.08
28	9.9	1.2	2.42	3.6	2.03					2	0.06	0.06
29	13.0	1.2	2.47	3.6	2.02					2	0.06	0.06
30	12.0	1.3	2.54	3.6	2.01					2	0.10	0.10
31	11.5	1.3	2.49	3.8	2.05					2	0.14	0.17
AVG	11.58	1.19	2.59	3.69	2.02					2	0.09	0.09
MAX	14.21	1.41	2.74	3.87	2.10					2	0.17	0.20
MIN	8.95	1.04	2.42	3.58	2.00					2	0.06	0.06
Total	358.93											

Fluoridation & Chlorination **WSSN 2310** **May-17**

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 OCl⁻	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			0.63		1.15				0.9					1.8	
2			0.75		1.14				0.9					1.8	
3			0.83		1.12				0.9					1.9	
4			0.84		1.17				0.9					1.9	
5			0.80		1.15				0.8					1.8	
6			0.87		1.15				0.9					1.9	
7			0.86		1.14				0.9					1.9	
8			0.79		1.16				0.9					1.7	
9			0.82		1.22				0.9					1.8	
10			0.86		1.14				0.9					1.8	
11			0.83		1.16				0.9					1.8	
12			0.74		1.07				0.9					1.8	
13			0.76		1.11				0.9					1.9	
14			0.77		1.07				0.9					1.9	
15			0.75		1.12				0.9					1.8	
16			0.82		1.15				0.9					1.7	
17			0.80		1.11				1.0					1.8	
18			0.79		1.10				0.9					1.7	
19			0.88		1.06				0.9					1.8	
20			0.83		1.16				0.9					1.9	
21			0.77		1.13				0.9					1.8	
22			0.83		1.08				0.8					1.8	
23			0.83		1.05				0.9					1.7	
24			0.80		1.11				0.8					1.8	
25			0.84		1.09				1.0					1.9	
26			0.78		1.29				0.8					1.8	
27			0.84		1.17				0.9					1.9	
28			0.81		1.17				0.9					1.8	
29			0.72		1.18				0.9					2.0	
30			0.87		1.03				0.9					1.9	
31			0.76		1.10				0.9					1.6	
AVG			0.80		1.13				0.9					1.8	
MAX			0.88		1.29				1.0					2.0	
MIN			0.63		1.03				0.8					1.6	

Chemical Analyses **WSSN 2310** **May-17**

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	39	40	41	42	43	44
1	7.31	7.36		98		68		30		0.01		29.7		5.8		13
2	7.26	7.24		98		74		24		0.01		30.5		5.3		12
3	7.21	7.33		96		70		26		0.01		31.3		4.4		12
4	7.27	7.31		100		70		30		0.01		32.1		4.9		12
5	7.31	7.39		96		72		24		0.01		29.7		5.3		13
6	7.29	7.37		94		74		20		0.00		30.5		4.4		12
7	7.27	7.37		96		74		22		0.00		30.5		4.9		12
8	7.31	7.40		96		72		24		0.01		29.7		5.3		12
9	7.28	7.32		100		70		30		0.02		30.5		5.8		13
10	7.36	7.37		100		72		28		0.01		31.3		5.3		13
11	7.36	7.33		98		70		28		0.01		32.1		4.4		13
12	7.32	7.31		96		68		28		0.01		29.7		5.3		12
13	7.39	7.41		98		68		30		0.01		32.1		4.4		12
14	7.45	7.40		98		68		30		0.01		31.3		4.9		13
15	7.40	7.44		98		72		26		0.01		30.5		5.3		13
16	7.26	7.29		98		74		24		0.01		31.3		4.9		12
17	7.31	7.30		96		72		24		0.02		32.1		3.9		13
18	7.32	7.30		98		70		28		0.01		30.5		5.3		12
19	7.35	7.37		96		72		24		0.01		30.5		4.9		13
20	7.25	7.29		98		74		24		0		29.7		5.8		13
21	7.33	7.40		96		70		26		0.01		31.3		4.4		13
22	7.38	7.37		96		70		26		0.01		30.5		4.9		13
23	7.39	7.31		98		76		22		0.02		30.5		5.3		13
24	7.28	7.31		98		74		24		0.01		32.1		4.4		13
25	7.29	7.23		98		68		30		0.01		32.9		3.9		13
26	7.37	7.40		96		70		26		0.02		31.3		4.4		12
27	7.36	7.39		98		72		26		0.01		32.9		3.9		13
28	7.40	7.37		96		72		26		0.01		30.5		4.9		13
29	7.35	7.32		96		74		22		0.01		30.5		4.9		13
30	7.33	7.31		98		72		26		0.01		29.7		5.8		12
31	7.35	7.38		98		76		22		0.01		29.7		5.8		13
AVG	7.33	7.34		97		72		26		0.01		30.9		4.9		13
MAX	7.45	7.44		100		76		30		0.02		32.9		5.8		13.0
MIN	7.21	7.23		94		68		20		0.00		29.7		3.9		12.0

WSSN 2310 **May-17**

DATE	Total Coliform Plant Tap							Standard Plate Count		Conductivity (mS)	Temp deg.C	Color		Odor	
			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	2/ 0				0.21	7.6				
2					2/ 0	2/ 0			<2	0.21	7.9				
3					2/ 0	2/ 0				0.21	7.2				
4					2/ 0	2/ 0				0.21	7.5				
5					1/ 0	1/ 0				0.21	7.5				
6					2/ 0	2/ 0				0.20	7.9				
7					2/ 0	2/ 0				0.20	7.6				
8					2 / 0	2/ 0				0.21	8.1				
9					2 / 0	2 / 0			<2	0.21	7.9				
10					2/ 0	2/ 0				0.21	7.8				
11					2/ 0	2/ 0				0.21	8.0				
12					2 / 0	2 / 0				0.21	8.1				
13					2 / 0	2 / 0				0.21	8.2				
14					2/ 0	2/ 0				0.22	8.4				
15					2/ 0	2/ 0				0.22	8.3				
16					2/ 0	2/ 0			2	0.21	8.8				
17					2/ 0	2/ 0				0.21	9.6				
18					2/ 0	2/ 0				0.21	9.4				
19					2/ 0	2/ 0				0.21	9.6				
20					2/ 0	2/ 0				0.20	9.4				
21					2/ 0	2/ 0				0.21	9.3				
22					2/ 0	2/ 0				0.21	9.4				
23					2/ 0	2/ 0				0.21	9.6				
24					2/ 0	2/ 0				0.21	10.1				
25					2/ 0	2/ 0				0.21	10.2				
26					2 / 0	2 / 0			2	0.21	10.0				
27					2/ 0	2/ 0				0.21	10.2				
28					2/ 0	2/ 0				0.21	10.9				
29					2/ 0	2/ 0				0.22	11.0				
30					2/ 0	2/ 0				0.21	10.7				
31					2/ 0	2/ 0			<2	0.21	10.6				
AVG										0.21	8.9				
MAX										0.22	11.0				
MIN										0.20	7.2				

Distribution System Monitoring **WSSN 2310** **May-17**

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l																									
	1	2	3	4	CS	6	7	8	9	10	WR**	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Number of Samples
1	1.35	1.26	1.52	1.45	1.44	1.31															1.18					7
2							1.45	1.72	1.12	1.66		1.21										1.32				6
3													1.18	1.58	1.06	1.51	1.50	1.00					1.80			7
4					1.20	1.24						1.57							0.97	1.43				1.33		6
5													1.09	1.02	0.99	1.57	1.42	1.11							1.37	7
6																										0
7																										0
8	1.34	1.23	1.49	1.54	1.68	1.01															1.20					7
9							1.52	1.67	1.64	1.70		1.24										1.11				6
10													0.96	1.16	1.31	1.53	1.60	1.14					1.81			7
11							1.41	1.68	1.62	1.69									0.99	1.32				1.44		7
12	1.36	1.48	1.40	1.35																1.39					1.33	6
13																										0
14																										0
15	1.36	1.24	1.47	1.43	1.76	1.15															1.14					7
16							1.32	1.57	1.44	1.37		1.57										1.28				6
17													0.99	1.03	1.20	1.65	1.58	1.16					1.69			7
18					1.39	1.30						1.55							1.12	1.29				1.48		6
19													1.04	1.53	0.93	1.56	1.58	0.99							1.37	7
20																										0
21																										0
22	1.29	0.88	1.43	1.36	1.31	1.15																				6
23							1.32	1.59	1.66	1.59		1.33										1.20				6
24													1.08	0.73	1.05	1.50	1.63	1.02					1.69			7
25							1.36	1.65	1.59	1.63									1.21	1.44				1.29		7
26	1.27	1.19	1.52	1.47															1.35	1.30					1.22	7
27																										0
28																										0
29																										0
30					1.64	1.40	1.26	1.55	1.71	1.47		1.13										1.22				8
31													0.95	1.18	1.14	1.52	1.51	1.08			0.66		1.47			8

Monthly Cl_2 Avg.	**1.35**
Total Samples	**148**

**Westside reservoir will not be sampled until repairs are finished

Distribution System Monitoring **WSSN 2310** **May-17**

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l																									
	1	2	3	4	CS	6	7	8	9	10	WR**	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Number of Samples
1	1.48	1.40	1.62	1.61	1.56	1.41															1.34					7
2							1.56	1.82	1.28	1.77		1.34										1.45				6
3													1.28	1.74	1.21	1.67	1.65	1.17					1.94			7
4					1.49	1.43						1.65							1.07	1.52				1.48		6
5													1.22	1.13	1.18	1.73	1.64	1.25							1.47	7
6																										0
7																										0
8	1.46	1.33	1.66	1.64	1.80	1.24															1.34					7
9							1.68	1.79	1.86	1.80		1.43										1.25				6
10													1.18	1.29	1.44	1.69	1.73	1.31					1.89			7
11							1.56	1.77	1.83	1.81									1.14	1.47				1.55		7
12	1.50	1.61	1.60	1.58																1.47					1.48	6
13																										0
14																										0
15	1.48	1.38	1.58	1.54	1.86	1.28															1.28					7
16							1.45	1.78	1.70	1.56		1.71										1.45				6
17													1.15	1.14	1.44	1.75	1.72	1.27					1.90			7
18					1.51	1.47						1.66							1.23	1.42				1.58		6
19													1.17	1.72	1.08	1.71	1.71	1.09							1.49	7
20																										0
21																										0
22	1.45	1.04	1.54	1.56	1.48	1.30																				6
23							1.61	1.80	1.80	1.75		1.51										1.30				6
24													1.23	0.88	1.25	1.62	1.74	1.17					1.81			7
25							1.60	1.76	1.76	1.73									1.30	1.63				1.47		7
26	1.41	1.37	1.67	1.61															1.54	1.53					1.34	7
27																										0
28																										0
29																										0
30					1.85	1.46	1.41	1.67	1.82	1.61		1.51										1.37				8
31													1.30	1.45	1.37	1.69	1.64	1.24			0.77		1.84			8

Monthly Cl_2 Avg.	**1.50**
Total Samples	**148**

****Westside reservoir will not be sampled until repairs are finished

ROUTINE POSITIVE DISTRIBUTION SAMPLES

May-17

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:	**126**
Total number of routine distribution samples required:	**100**