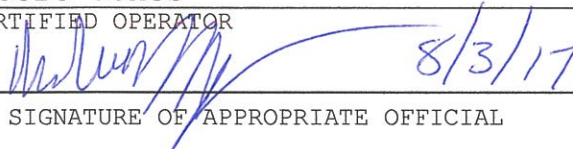


**MONTHLY OPERATION REPORT
OF
WATER TREATMENT PLANT**

For Month of July 2017

<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	
<u> 8/3/17</u> SIGNATURE OF APPROPRIATE OFFICIAL		

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum 14.64 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 4088 gal.: Estimated supply 34 days
8. Sodium Hypochlorite on hand at outstations 368.5 gal: Estimated supply 32 days
9. Phosphoric Acid on hand 1378 gal.: Estimated supply 53 days
9. Sodium Hydroxide on hand 4180 gal.: Estimated supply 35 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

Jul-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			0.80		1.53				0.8						1.8	
2			0.79		1.33				0.8						1.9	
3			0.74		1.37				0.8						1.7	
4			0.65		1.38				0.9						1.9	
5			0.71		1.24				1.1						1.9	
6			0.73		1.37				0.9						1.9	
7			0.68		1.55				0.7						1.9	
8			0.74		1.58				0.8						1.9	
9			0.76		1.47				0.8						1.9	
10			0.75		1.48				0.8						2.0	
11			0.75		1.46				0.8						1.9	
12			0.80		1.51				0.7						1.9	
13			0.75		1.48				0.8						1.8	
14			0.77		1.55				0.7						1.8	
15			0.76		1.53				0.9						1.8	
16			0.76		1.52				0.7						1.8	
17			0.79		1.49				0.8						1.9	
18			0.82		1.42				0.8						1.9	
19			0.78		1.29				0.8						1.8	
20			0.79		1.43				0.7						1.8	
21			0.79		1.55				0.7						1.8	
22			0.71		1.74				0.6						1.8	
23			0.77		1.73				0.6						1.9	
24			0.74		1.69				0.5						2.0	
25			0.77		1.55				0.6						1.9	
26			0.75		1.34				0.8						0.9	
27			0.75		1.47				0.7						1.8	
28			0.76		1.79				0.6						1.9	
29			0.78		1.64				0.6						1.9	
30			0.75		1.45				0.7						2.0	
31			0.84		1.49				0.7						1.8	
AVG			0.76		1.50				0.8						1.8	
MAX			0.84		1.79				1.1						2.0	
MIN			0.65		1.24				0.5						0.9	



Chemical Analyses WSSN 2310 Jul-17

D A T E	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	7.44	7.45		98		72		26		0.01		31.3		4.9		13
2	7.31	7.46		98		74		24		0.01		29.7		5.8		14
3	7.46	7.54		98		76		22		0.01		28.9		6.3		13
4	7.43	7.48		100		74		26		0.02		29.7		6.3		13
5	7.43	7.45		98		76		22		0.01		29.7		5.8		14
6	7.33	7.48		100		76		26		0.01		29.7		6.3		13
7	7.42	7.44		100		74		26		0.01		30.5		5.8		13
8	7.44	7.55		100		74		26		0.02		31.3		5.3		13
9	7.50	7.54		100		76		24		0.02		31.3		5.3		14
10	7.42	7.57		98		74		24		0.01		30.5		5.3		13
11	7.34	7.45		98		74		24		0.02		29.7		5.8		13
12	7.28	7.55		98		74		24		0.01		29.7		5.8		13
13	7.31	7.52		100		74		26		0.01		29.7		6.3		13
14	7.38	7.57		98		74		24		0.01		30.5		5.3		13
15	7.33	7.58		100		72		28		0.01		30.5		5.8		13
16	7.41	7.63		102		74		28		0.02		32.9		4.9		13
17	7.42	7.49		100		72		28		0.01		29.7		6.3		13
18	7.51	7.54		100		76		24		0		29.7		6.3		13
19	7.41	7.60		100		72		28		0.01		30.5		5.8		14
20	7.32	7.50		100		74		26		0.01		32.1		4.8		13
21	7.46	7.51		100		76		24		0.01		31.3		5.3		13
22	7.25	7.51		104		78		26		0.01		30.5		6.8		14
23	7.43	7.53		104		78		26		0.01		30.5		6.8		14
24	7.47	7.56		104		80		22		0.01		31.3		5.8		14
25	7.29	7.53		104		78		24		0.01		29.7		6.8		15
26	7.38	7.60		102		78		24		0.01		31.3		5.8		15
27	7.46	7.50		100		78		22		0.01		30.5		5.8		15
28	7.42	7.45		102		80		22		0.01		31.3		5.8		15
29	7.37	7.50		102		78		24		0.03		31.3		5.8		14
30	7.36	7.46		100		78		22		0.01		32.1		4.9		15
31	7.41	7.51		100		78		22		0.01		31.3		5.3		15
AVG	7.39	7.52		100		76		25		0.01		30.6		5.8		14
MAX	7.51	7.63		104		80		28		0.03		32.9		6.8		15.0
MIN	7.25	7.44		98		72		22		0.00		28.9		4.8		13.0



WSSN 2310

Jul-17

D A T E	Total Coliform						Standard Plate Count		Conductivity (mS)	Temp deg.C	Color		Odor	
	Plant Tap						Raw	Tap			Raw	Tap	Raw	Tap
			Dort	3MG Well	Sta II	Lab Tap								
	60	61	62	63	64	65	66	67	68	69		71	72	73
1					2/0	2/0			0.23	14.2				
2					2/0	2/0			0.22	14.3				
3					2/0	2/0			0.23	14.8				
4					2/0	2/0			0.23	14.7				
5					2/0	2/0			0.23	14.0				
6					2/0	2/0		<2	0.23	14.2				
7					2/0	2/0			0.23	14.8				
8					2/0	2/0			0.23	15.5				
9					2/0	2/0			0.23	15.7				
10					2/0	2/0			0.23	16.0				
11					2/0	2/0			0.23	15.9				
12					2/0	2/0		<2	0.23	17.1				
13					2/0	2/0			0.23	17.8				
14					2/0	2/0			0.23	17.3				
15					2/0	2/0			0.23	16.0				
16					2/0	2/0			0.22	15.9				
17					2/0	2/0			0.23	14.8				
18					2/0	2/0		<2	0.23	15.3				
19					2/0	2/0			0.23	17.0				
20					2/0	2/0			0.23	18.3				
21					2/0	2/0			0.24	19.0				
22					2/0	2/0			0.24	19.2				
23					2/0	2/0			0.24	19.4				
24					2/0	2/0			0.24	19.4				
25					2/0	2/0			0.25	19.4				
26					2/0	2/0			0.24	19.3				
27					2/0	2/0			0.24	18.5				
28					2/0	2/0			0.25	19.2				
29					2/0	2/0			0.25	19.5				
30					2/0	2/0			0.24	19.8				
31					2/0	2/0			0.24	19.9				
AVG									0.23	17.0				
MAX									0.25	19.9				
MIN									0.22	14.0				



Jul-17

DATE	Total Million Gallons Purchased	Phosphate as PO ₄ (mg/L)	Phosphate applied as PO ₄ (mg/L)	Phosphate as PO ₄ (mg/L)	25% Caustic Soda (mg/l)	Turbidity, NTU units						
						CSII	Tap	Raw				Plant Tap
		# of Samples	Avg.	Max	# of Samples			Avg.	Max			
		1	1A	1B	6			6a	7	8		9
1	10.6	1.1	2.56	3.7	2.7					2	0.07	0.08
2	13.5	1.2	2.49	3.7	2.8					2	0.11	0.12
3	13.8	1.2	2.48	3.7	2.8					2	0.10	0.11
4	13.8	1.2	2.53	3.6	2.8					2	0.13	0.14
5	14.1	1.2	2.52	3.8	2.9					2	0.15	0.23
6	8.9	1.2	2.61	3.7	2.9					2	0.08	0.10
7	9.3	1.1	2.60	3.7	3.0					2	0.07	0.08
8	10.9	1.1	2.50	3.7	3.0					2	0.07	0.08
9	13.6	1.1	2.50	3.5	2.9					2	0.08	0.09
10	13.6	1.1	2.48	3.6	2.9					2	0.09	0.09
11	14.0	1.2	2.20	3.6	2.9					2	0.10	0.10
12	13.1	1.1	2.20	3.0	2.7					2	0.07	0.10
13	10.2	1.1	2.46	3.5	2.9					2	0.08	0.08
14	8.5	1.1	2.58	3.6	3.0					2	0.08	0.08
15	9.0	1.0	2.60	3.6	3.0					1	0.06	0.06
16	11.5	0.9	2.56	3.4	2.8					1	0.07	0.07
17	13.7	1.3	2.66	3.8	3.3					2	0.10	0.10
18	14.0	1.3	2.64	3.9	2.9					2	0.19	0.21
19	14.6	1.3	2.48	3.8	3.0					2	0.17	0.19
20	13.4	1.3	2.52	3.7	3.1					2	0.12	0.13
21	9.0	1.2	2.69	3.7	3.0					2	0.11	0.11
22	8.4	1.2	2.70	3.9	3.2					2	0.11	0.11
23	10.9	1.1	2.51	3.7	3.1					2	0.10	0.10
24	13.9	1.3	2.54	3.8	3.2					2	0.19	0.21
25	14.5	1.3	2.53	3.5	3.2					2	0.18	0.18
26	14.1	1.2	2.56	3.6	3.1					2	0.14	0.16
27	9.3	1.2	2.62	3.8	3.1					2	0.18	0.18
28	8.6	1.5	2.61	3.9	3.2					2	0.18	0.19
29	10.2	1.2	2.68	3.7	3.1					2	0.09	0.10
30	13.7	1.4	2.54	3.8	3.0					2	0.17	0.17
31	14.0	1.4	2.51	3.6	3.0					2	0.15	0.16
AVG	11.95	1.20	2.54	3.65	2.98					2	0.11	0.13
MAX	14.64	1.45	2.70	3.88	3.30					2	0.19	0.23
MIN	8.44	0.90	2.20	3.01	2.70					1	0.06	0.06
Total	370.45											



Distribution System Monitoring WSSN 2310

Jul-17

DATE	Free 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	21	22	23	24	25					
1																										0				
2																										0				
3	1.17	1.27	1.41	1.45	1.39															0.86						6				
4																										0				
5											1.66	0.89	1.57	1.23	1.44	1.61	1.05						1.80			8				
6					1.66	0.56													0.84	1.13				1.25	5					
7												1.24	1.68	0.67	1.58	1.53	0.72								1.28	7				
8																										0				
9																										10				
10	1.18	1.26	1.47	1.44	1.37	1.27														0.91						7				
11							1.26	1.70	1.61	1.62		1.44										1.01				6				
12													0.97	1.50	0.88	1.52	1.55	0.95					1.76			7				
13								1.54	1.48	1.68									0.55					1.34		5				
14	1.06	1.09	1.42	1.42															0.72	0.94						6				
15																										0				
16																										0				
17	1.15	1.19	1.38	1.41	1.38	1.21															0.76					7				
18							1.12	1.56	1.46	1.50		1.47										1.12				6				
19													0.99	1.50	0.95		1.51						1.59			5				
20					1.41	1.00														0.66	1.17					4				
21													1.13	1.39	0.82	1.37	1.34	0.67							0.72	7				
22																										0				
23																										0				
24	1.09	1.18	1.30	1.32	1.37	1.09															0.75					7				
25							0.95	1.45	1.28	1.56		1.36										0.91				6				
26													0.88	0.32	1.11	1.40	1.45	0.87					1.28			7				
27							1.21	1.53	1.50	1.31									0.53					1.09		6				
28	1.09	1.03	1.20	1.18										1.39					0.58	1.01					1.07	8				
29																										0				
30																										0				
31	0.94	1.04	1.31	1.30	1.34	1.12															0.80					7				
Monthly Cl₂ Avg.					1.21	**Midway Market is being used until West Side Reservoir activities are complete and until further notice (11/15/2016)																								
Total Samples					127																									



Distribution System Monitoring

WSSN 2310

Jul-17

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	21	22	23	24	25						
1																										0					
2																											0				
3	1.39	1.42	1.53	1.65	1.54																1.15					6					
4																										0					
5												1.78	1.12	1.66	1.36	1.75	1.75	1.19					2.00			8					
6					1.82	0.73														0.97	1.39			1.55		5					
7													1.39	1.80	0.94	1.70	1.66	0.86							1.46	7					
8																										0					
9																										0					
10	1.32	1.38	1.59	1.60	1.53	1.40																1.10				7					
11							1.42	1.83	1.70	1.76		1.57											1.18			6					
12													1.09	1.63	1.11	1.64	1.66	1.04						1.90		7					
13								1.68	1.60	1.68										0.77					1.52	5					
14	1.21	1.19	1.47	1.51															0.86	1.15						6					
15																										0					
16																										0					
17	1.33	1.39	1.43	1.52	1.52	1.36																0.95				7					
18							1.46	1.71	1.64	1.68		1.62											1.34			6					
19													1.11	1.63	1.25		1.66							1.74		5					
20					1.57	1.30																				4					
21																				0.78	1.41					7					
22													1.29	1.62	0.91	1.51	1.54	0.80							1.22	0					
23																										0					
24	1.21	1.28	1.49	1.51	1.51	1.39																0.86				7					
25							1.25	1.60	1.40	1.71		1.52											1.12			6					
26													1.06	0.57	1.25	1.54	1.63	1.06						1.49		7					
27							1.35	1.65	1.63	1.75										0.66				1.29		6					
28	1.25	1.14	1.31	1.43										1.54						0.71	1.22				1.37	8					
29																										0					
30																										0					
31	1.04	1.21	1.48	1.43	1.45	1.31																0.96				7					
Monthly Cl₂ Avg.					1.38		**Midway Market is being used until West Side Reservoir activities are complete and until further notice (11/15/2016)																								
Total Samples					127		*On 12/8/16, Premier Insurance was used. Water was shut of at Liquor Palace.																								



ROUTINE POSITIVE DISTRIBUTION SAMPLES

Jul-17

Total number of positive routine samples:				Total Coliform: <u>0</u>			E.coli Bacteria: <u>0</u>		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:				127						
Total number of routine distribution samples required:				100						