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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

MONTHLY OPERATION REPORT
OF
WATER TREATMENT PLANT

ENTERED

For Month of December 2012

Flint Water Plant	2310	Genesee
NAME OF WATER SYSTEM	WSSN	COUNTY
Michael Glasgow		F-1R S-3
CERTIFIED OPERATOR		CLASSIFICATION

DEQ
RESOURCE MANAGEMENT DIVISION
JAN 14 2013
LANSING DISTRICT

Michael Glasgow
SIGNATURE OF APPROPRIATE OFFICIAL

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons _____
11. Total Power Cost per Million Gallons _____

Remarks:

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

MP

Coagulation Parameters **WSSN 2310** **Dec-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	25.61	11.03	14.58								3	0.09	0.10
2	25.21	10.80	14.41								3	0.10	0.12
3	27.35	10.07	17.28								3	0.13	0.14
4	21.23	6.76	14.47								3	0.11	0.13
5	20.69	9.97	10.72								3	0.07	0.07
6	20.21	8.45	11.76								3	0.07	0.09
7	20.08	9.52	10.57								3	0.07	0.07
8	21.05	10.83	10.21								3	0.06	0.06
9	21.06	10.17	10.90								2	0.06	0.07
10	22.04	10.91	11.13								3	0.06	0.06
11	21.94	11.09	10.85								3	0.07	0.08
12	23.16	11.12	12.05								3	0.08	0.09
13	22.39	10.37	12.02								3	0.07	0.07
14	23.72	9.66	14.06								3	0.08	0.10
15	21.88	9.44	12.44								3	0.07	0.07
16	19.93	10.52	9.40								3	0.07	0.08
17	22.40	11.01	11.39								3	0.07	0.07
18	25.69	13.40	12.29								3	0.06	0.07
19	25.08	13.92	11.16								3	0.07	0.08
20	22.44	10.57	11.87								3	0.11	0.12
21	21.94	9.56	12.38								3	0.07	0.07
22	21.15	9.79	11.36								3	0.09	0.10
23	21.27	9.47	11.80								3	0.08	0.10
24	21.10	9.68	11.42								3	0.09	0.10
25	21.48	9.08	12.39								3	0.09	0.10
26	21.98	9.59	12.39								3	0.08	0.08
27	21.41	10.28	11.12								3	0.08	0.09
28	21.49	10.24	11.25								3	0.07	0.08
29	21.72	9.65	12.07								3	0.07	0.70
30	22.09	10.11	11.98								3	0.08	0.09
31	22.39	9.77	12.62								3	0.07	0.08
AVG	22.30	10.22	12.08								3	0.08	0.11
MAX	27.35	13.92	17.28								3	0.13	0.70
MIN	19.93	6.76	9.40								2	0.06	0.06
Total	691.17	316.82	374.35										

Flouridation & Chlorination **WSSN 2310** **Dec-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl	Post Chlorine (lbs/day)	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.71					0.8	0.9	n/a	0.8			0.9	
2			0.65					0.8	0.9	n/a	0.9			0.8	
3			0.74					0.8	0.9	0.8	0.8			0.7	
4			0.75					0.8	0.9	0.8	1.0			0.7	
5			0.77					0.9	0.9	0.9	0.9			0.8	
6			0.69					0.7	0.9	0.8	0.8			0.8	
7			0.74					0.7	0.9	0.8	0.8			0.9	
8			0.74					0.7	0.8	0.8	0.8			0.8	
9			0.69					0.8	0.9	0.8	0.8			0.9	
10			0.68					0.8	0.9	0.7	0.7			0.7	
11			0.72					0.6	1.0	0.8	0.7			0.8	
12			0.70					0.8	0.9	0.8	0.7			0.7	
13			0.68					0.7	0.9	0.7	0.8			0.8	
14			0.68					0.8	0.9	0.9	0.7			0.8	
15			0.71					0.8	1.0	0.9	0.9			0.9	
16			0.76					0.6	0.9	0.7	0.6			0.7	
17			0.76					0.8	0.9	0.9	0.8			0.8	
18			0.72					0.7	0.9	0.8	0.8			0.7	
19			0.72					0.7	0.8	0.8	0.8			0.8	
20			0.72					0.6	0.9	0.7	0.7			0.7	
21			0.73					0.8	0.8	0.8	0.7			0.8	
22			0.72					0.9	0.9	0.8	0.8			0.9	
23			0.75					0.6	0.9	0.7	0.7			0.8	
24			0.71					0.6	0.8	0.7	0.7			0.7	
25			0.73					0.7	0.8	0.8	0.7			0.8	
26			0.77					0.8	0.7	0.8	0.8			0.7	
27			0.70					0.5	0.8	0.8	0.7			0.7	
28			0.70					0.8	0.8	0.8	0.7			0.8	
29			0.66					0.8	0.8	0.7	0.7			0.9	
30			0.71					0.7	0.8	0.7	0.7			0.7	
31			0.67					0.7	0.8	0.7	0.7			0.8	
AVG			0.72					0.7	0.9	0.8	0.8			0.8	
MAX			0.77					0.9	1.0	0.9	1.0			0.9	
MIN			0.65					0.5	0.7	0.7	0.6			0.7	

Chemical Analyses **WSSN 2310** **Dec-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.29		98		71		27				30.5		5.3		
2		7.24		98		66		32				28.9		6.3		
3		7.36		98		68		30				29.7		5.8		
4		7.54		98		72		26				28.9		6.3		
5		7.37		96		70		26				29.7		5.3		
6		7.34		96		69		27				30.5		4.9		
7		7.26		98		68		30				29.7		5.8		
8		7.33		96		68		28				30.5		4.9		
9		7.32		96		69		27				28.9		5.8		
10		7.28		98		70		28				28.9		6.3		
11		7.22		100		67		33				30.5		5.8		
12		7.35		96		68		28				29.7		5.3		
13		7.38		98		71		27				29.7		5.8		
14		7.39		98		70		28				29.7		5.8		
15		7.28		96		71		25				28.9		5.8		
16		7.23		98		70		28				28.9		6.3		
17		7.39		100		72		28				28.9		6.8		
18		7.35		98		73		25				29.7		5.8		
19		7.32		98		72		26				30.5		5.3		
20		7.38		100		70		30				28.9		6.8		
21		7.31		98		64		34				28.9		6.3		
22		7.25		96		71		25				29.7		5.3		
23		7.22		100		69		31				29.7		6.3		
24		7.24		100		73		27				28.9		6.3		
25		7.28		96		71		25				28.1		6.3		
26		7.29		100		73		27				28.9		6.8		
27		7.32		98		69		29				30.5		5.3		
28		7.32		94		69		25				28.1		5.8		
29		7.26		98		69		29				28.1		6.8		
30		7.29		100		74		26				29.7		6.3		
31		7.20		98		60		38				29.7		5.8		
AVG		7.31		98		70		28				29.4		5.9		
MAX		7.54		100		74		38				30.5		6.8		
MIN		7.20		94		60		25				28.1		4.9		

Bacteriological & Physical Parameters **WSSN 2310** **Dec-12**

DATE	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap														
	B&P		Dort	3MG Well	Sta II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		0/0	2/0	2/0	2/0					16.5				
2	1/0		0/0	2/0	2/0	2/0					16.8				
3	1/0		2/0	2/0	2/0	2/0					15.9				
4	1/0		2/0	2/0	2/0	2/0					15.9				
5	1/0		2/0	2/0	2/0	2/0					16.7				
6	1/0		2/0	2/0	2/0	2/0					15.0				
7	1/0		2/0	2/0	2/0	2/0					16.0				
8	1/0		2/0	2/0	2/0	2/0					16.6				
9	1/0		1/0	1/0	1/0	1/0					17.1				
10	1/0		2/0	2/0	2/0	2/0					16.5				
11	1/0		2/0	2/0	2/0	2/0					15.4				
12	1/0		2/0	2/0	2/0	2/0			<2		15.0				
13	1/0		2/0	2/0	2/0	2/0					16.5				
14	1/0		2/0	2/0	2/0	2/0					15.9				
15	1/0		2/0	2/0	2/0	2/0					14.9				
16	1/0		2/0	2/0	2/0	2/0					16.2				
17	1/0		2/0	2/0	2/0	2/0					15.1				
18	1/0		2/0	2/0	2/0	2/0					15.2				
19	1/0		2/0	2/0	2/0	2/0					15.8				
20	1/0		2/0	2/0	2/0	2/0					14.8				
21	1/0		2/0	2/0	2/0	2/0					15.6				
22	1/0		2/0	2/0	2/0	2/0					15.2				
23	1/0		2/0	2/0	2/0	2/0					16.0				
24	1/0		2/0	2/0	2/0	2/0					14.2				
25	1/0		2/0	2/0	2/0	2/0					13.8				
26	1/0		2/0	2/0	2/0	2/0					13.9				
27	1/0		2/0	2/0	2/0	2/0					14.6				
28	1/0		2/0	2/0	2/0	2/0					14.2				
29	1/0		2/0	2/0	2/0	2/0					13.7				
30	1/0		2/0	2/0	2/0	2/0					14.2				
31	1/0		2/0	2/0	2/0	2/0					13.1				
											15.4				
											17.1				
											13.1				

Distribution System Monitoring WSSN 2310 Dec-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1											0.9	0.9	2
2											0.9	0.9	2
3									0.2	0.8	0.9	0.9	4
4									0.7	0.8	0.9	0.8	4
5	0.4	0.5	0.7		0.5	0.6	0.5	0.7	0.5	0.9	0.9	0.8	11
6	0.6	0.7	0.7	0.5	0.5	0.5	0.6	0.8	0.5	0.6	0.9	0.9	12
7									0.5	0.7	0.9	0.9	4
8											0.8	0.8	2
9												0.9	1
10									0.3	0.9	0.8	0.9	4
11											1.0	0.9	2
12	0.8	0.7	0.6	0.5	0.5	0.3	0.7	0.7	0.2	0.8	0.9	0.9	12
13	0.7	0.5	0.5	0.7	0.5	0.4	0.6	0.7	0.3	0.8	0.9	0.8	12
14									0.3	0.9	0.9	0.9	4
15											0.9	1.0	2
16											0.8	0.9	2
17									0.4	0.7	0.9	0.9	4
18									0.4	0.7	0.9	0.9	4
19	0.7	0.7	0.7	0.3	0.6	0.6	0.6	0.7	0.3	0.5	0.8	0.8	12
20	0.7	0.7	0.4	0.8	0.5	0.6	0.5	0.6	0.3	0.5	0.8	0.9	12
21									0.2	0.4	0.8	0.8	4
22											0.9	0.8	2
23											0.9	0.9	2
24											0.8	0.8	2
25											0.8	0.8	2
26	0.3	0.5	0.5	0.3	0.5		0.3	0.7	0.3	0.6	0.7	0.7	11
27									0.3	0.4	0.7	0.8	4
28									0.3	0.6	0.8	0.8	4
29											0.8	0.8	2
30											0.8	0.8	2
31											0.8	0.8	2

Monthly Cl_2 Avg.	**0.674**
Quarterly Cl_2 Avg.	**0.640**
Yearly Cl_2 Avg.	**0.641**
Total Samples	**149**

Distribution System Monitoring WSSN 2310 Dec-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1											1.1	1.1	2
2											1.1	1.1	2
3									0.3	1.0	1.1	1.0	4
4									0.9	1.0	1.1	1.0	4
5	0.5	0.7	0.9		0.6	0.8	0.7	0.9	0.6	1.2	1.1	1.0	11
6	0.9	0.8	0.9	0.6	0.7	0.7	0.8	1.0	0.7	0.8	1.0	1.0	12
7									0.7	0.9	1.1	1.1	4
8											0.9	0.9	2
9												1.0	1
10									0.4	1.1	1.0	1.1	4
11											1.1	1.1	2
12	1.0	0.9	0.8	0.7	0.7	0.4	0.9	0.9	0.4	1.0	1.0	1.1	12
13	0.9	0.6	0.7	0.9	0.6	0.5	0.8	0.8	0.4	1.0	1.0	1.0	12
14									0.5	1.0	1.1	1.0	4
15											1.1	1.2	2
16											1.0	1.0	2
17									0.6	0.8	1.1	1.0	4
18									0.6	0.9	1.1	1.0	4
19	0.9	0.9	0.9	0.4	0.7	0.7	0.7	0.8	0.5	0.6	1.0	1.0	12
20	0.9	0.9	0.6	1.0	0.6	0.8	0.7	0.8	0.5	0.6	1.0	1.0	12
21									0.4	0.6	1.0	1.0	4
22											1.0	1.0	2
23											1.0	1.1	2
24											1.0	1.0	2
25											1.0	1.0	2
26	0.4	0.7	0.7	0.4	0.6		0.4	0.8	0.4	0.8	0.9	0.9	11
27									0.5	0.6	0.9	1.0	4
28									0.4	0.8	1.0	1.0	4
29											1.0	1.0	2
30											1.0	1.0	2
31											1.0	1.0	2

Monthly Cl_2 Avg.	**0.845**
Quarterly Cl_2 Avg.	**0.810**
Yearly Cl_2 Avg.	**0.804**
Total Samples	**149**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Dec-12

Total number of positive routine samples: 0				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**149**
Total number of routine distribution samples required:	**100**

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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

MONTHLY OPERATION REPORT
OF
WATER TREATMENT PLANT

ENTERED

For Month of November 2012

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

Michael Glasgow — CERTIFIED OPERATOR
F-1R S-3 — CLASSIFICATION

SIGNATURE OF APPROPRIATE OFFICIAL

DEQ
RESOURCE MANAGEMENT DIVISION
DEC 12 2012
LANSING DISTRICT

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons
11. Total Power Cost per Million Gallons

Remarks:

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

MP

Coagulation Parameters **WSSN 2310** **Nov-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	23.30	10.25	13.05								3	0.14	0.17
2	21.69	9.68	12.01								3	0.17	0.27
3	21.24	10.36	10.88								3	0.09	0.09
4	20.74	10.56	10.18								3	0.10	0.14
5	20.15	9.91	10.24								3	0.15	0.30
6	20.42	9.71	10.71								3	0.08	0.10
7	20.30	9.98	10.32								3	0.07	0.08
8	20.76	9.62	11.13								3	0.07	0.08
9	20.40	9.48	10.91								3	0.07	0.08
10	20.10	10.34	9.76								3	0.07	0.08
11	20.41	10.29	10.12								3	0.07	0.07
12	20.36	10.17	10.20								3	0.07	0.07
13	21.34	9.30	12.05								3	0.09	0.09
14	23.26	9.15	14.12								3	0.09	0.11
15	25.32	9.64	15.69								3	0.14	0.15
16	21.64	11.14	10.50								3	0.11	0.12
17	20.76	10.33	10.43								3	0.09	0.11
18	21.64	11.14	10.50								3	0.07	0.08
19	23.79	9.31	14.48								3	0.12	0.18
20	22.26	9.58	12.68								3	0.09	0.12
21	21.63	9.96	11.67								3	0.07	0.08
22	21.35	10.26	11.09								3	0.06	0.07
23	20.24	10.31	9.93								3	0.06	0.07
24	20.35	10.32	10.03								3	0.07	0.08
25	21.46	10.58	10.88								3	0.06	0.06
26	22.19	10.64	11.55								3	0.07	0.08
27	21.03	10.68	10.35								3	0.09	0.14
28	23.02	10.51	12.51								3	0.09	0.10
29	21.47	10.03	11.44								3	0.08	0.08
30	22.89	10.03	12.86								3	0.07	0.08
AVG	21.52	10.11	11.41								3	0.09	0.11
MAX	25.32	11.14	15.69								3	0.17	0.30
MIN	20.10	9.15	9.76								3	0.06	0.06
Total	645.49	303.24	342.26										

Flouridation & Chlorination **WSSN 2310** **Nov-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl	Post Chlorine (lbs/day)	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.72					0.9	0.8	0.7	0.7			0.7	
2			0.69					0.8	0.8	0.8	0.8			0.9	
3			0.70					0.7	0.8	0.7	0.7			0.7	
4			0.66					0.7	0.8	0.7	0.7			0.8	
5			0.74					0.7	0.8	0.7	0.7			0.8	
6			0.76					0.7	0.8	0.7	0.8			0.7	
7			0.70					0.7	0.8	0.6	0.8			0.7	
8			0.73					0.7	0.7	0.8	0.8			0.8	
9			0.71					0.8	0.8	0.8	0.8			0.8	
10			0.74					0.6	0.9	0.7	0.7			0.7	
11			0.70					0.7	0.8	0.7	0.8			0.7	
12			0.69					0.8	0.8	0.7	0.8			0.7	
13			0.70					0.7	0.7	0.8	0.8			0.8	
14			0.70					0.8	0.8	0.7	0.7			0.8	
15			0.65					0.8	0.8	0.7	0.7			0.9	
16			0.71					0.7	0.9	0.8	0.8			0.8	
17			0.63					0.7	0.9	0.7	0.7			0.7	
18			0.63					0.6	0.8	0.7	0.8			0.7	
19			0.68					0.8	0.7	0.8	0.8			0.7	
20			0.71					0.8	0.7	0.8	0.8			0.7	
21			0.66					0.8	0.8	0.8	0.8			0.8	
22			0.63					0.6	0.8	0.8	0.7			0.7	
23			0.69					0.7	0.8	0.7	0.7			0.7	
24			0.60					0.8	0.8	0.6	0.7			0.8	
25			0.75					0.7	0.9	0.7	0.7			0.7	
26			0.68					0.8	0.9	0.7	0.8			0.9	
27			0.72					0.7	0.9	0.8	0.8			0.7	
28			0.76					0.9	0.9	0.7	0.8			0.9	
29			0.69					0.7	0.9	0.7	0.8			0.7	
30			0.75					0.9	0.9	n/a	0.8			0.9	
AVG			0.70					0.7	0.8	0.7	0.8			0.8	
MAX			0.76					0.9	0.9	0.8	0.8			0.9	
MIN			0.60					0.6	0.7	0.6	0.7			0.7	

Chemical Analyses **WSSN 2310** **Nov-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.28		100		72		28				29.7		6.3		
2		7.31		96		72		24				29.7		5.3		
3		7.26		98		72		26				28.9		6.3		
4		7.19		100		67		33				29.7		6.3		
5		7.18		100		66		34				30.5		5.8		
6		7.26		100		69		31				30.5		5.8		
7		7.25		98		67		31				29.7		5.8		
8		7.32		98		67		31				29.7		5.8		
9		7.26		96		68		28				28.9		5.8		
10		7.22		98		70		28				30.5		5.3		
11		7.21		98		68		30				30.5		5.3		
12		7.33		96		67		29				29.7		5.3		
13		7.21		100		68		32				28.9		6.8		
14		7.22		96		69		27				29.7		5.3		
15		7.35		n/a		n/a		n/a				n/a		n/a		
16		7.34		100		72		28				28.9		6.8		
17		7.30		98		66		32				29.7		5.3		
18		7.23		98		67		31				28.9		5.8		
19		7.35		100		73		27				30.5		5.8		
20		7.33		98		73		25				29.7		5.8		
21		7.30		98		71		27				28.9		6.3		
22		7.25		98		70		28				28.9		6.3		
23		7.27		98		72		26				28.9		6.3		
24		7.23		98		73		25				28.9		6.3		
25		7.26		98		67		31				28.9		6.3		
26		7.32		100		64		36				31.3		5.3		
27		7.33		98		71		27				28.9		6.3		
28		7.30		100		71		29				31.3		5.3		
29		7.39		98		67		31				28.9		6.3		
30		7.27		96		69		27				29.7		5.3		
AVG		7.28		98		69		29				29.6		5.9		
MAX		7.39		100		73		36				31.3		6.8		
MIN		7.18		96		64		24				28.9		5.3		

Bacteriological & Physical Parameters WSSN 2310 Nov-12

DATE	Total Coliform Plant Tap							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	B&P		Dort	3MG Well	Sta II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		2/0	2/0	2/0	2/0					18.0				
2	1/0		2/0	2/0	2/0	2/0					17.8				
3	1/0		2/0	2/0	2/0	2/0					17.8				
4	1/0		2/0	2/0	2/0	2/0					17.6				
5	1/0		2/0	2/0	2/0	2/0					17.6				
6	1/0		2/0	2/0	2/0	2/0					16.9				
7	1/0		2/0	2/0	2/0	2/0					16.5				
8	1/0		2/0	2/0	2/0	2/0					17.7				
9	1/0		2/0	2/0	2/0	2/0					16.6				
10	1/0		2/0	2/0	2/0	2/0					16.1				
11	1/0		2/0	2/0	2/0	2/0					14.7				
12	1/0		2/0	2/0	2/0	2/0					14.7				
13	1/0		2/0	2/0	2/0	2/0					14.0				
14	1/0		2/0	2/0	2/0	2/0			<2		13.1				
15	1/0		2/0	2/0	2/0	2/0					12.7				
16	1/0		2/0	2/0	2/0	2/0					15.7				
17	1/0		2/0	2/0	2/0	2/0					16.3				
18	1/0		2/0	2/0	2/0	2/0					16.0				
19	1/0		2/0	2/0	2/0	2/0					16.9				
20	1/0		2/0	2/0	2/0	2/0					15.6				
21	1/0		2/0	2/0	2/0	2/0					17.7				
22	1/0		2/0	2/0	2/0	2/0					17.8				
23	1/0		2/0	2/0	2/0	2/0					16.7				
24	1/0		2/0	2/0	2/0	2/0					17.1				
25	1/0		2/0	2/0	2/0	2/0					16.6				
26	1/0		2/0	2/0	2/0	2/0					16.9				
27	1/0		2/0	2/0	2/0	2/0					15.9				
28	1/0		2/0	2/0	2/0	2/0					17.0				
29	1/0		2/0	2/0	2/0	2/0					15.3				
30	1/0		0/0	2/0	2/0	2/0					16.6				
											16.3				
											18.0				
											12.7				

Distribution System Monitoring WSSN 2310 Nov-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1	0.7	0.6	0.5	0.4	0.3	0.3	0.5	0.6	0.4	0.4	0.7	0.9	12
2									0.3	0.3	0.8	0.8	4
3											0.7	0.8	2
4											0.8	0.8	2
5									0.3	0.4	0.8	0.8	4
6									0.4	0.5	0.8	0.8	4
7	0.8	0.4	0.4	0.3	0.3		0.5	0.7	0.4	0.6	0.8	0.8	11
8	0.6	0.4	0.3	0.3	0.3	0.3	0.7	0.7	0.2	0.2	0.7	0.7	12
9									0.2	0.3	0.8	0.7	4
10											0.8	0.9	2
11											0.9	0.7	2
12									0.4	0.5	0.8	0.8	4
13									0.4	0.6	0.7	0.7	4
14	0.6	0.6	0.4	0.3	0.4	0.4	0.8	0.7	0.4	0.6	0.7	0.8	12
15	0.5	0.5	0.5	0.4	0.5	0.4	0.7	0.5	0.3	0.6	0.8	0.8	12
16									0.3	0.5	0.9	0.8	4
17											0.8	0.9	2
18											0.8	0.8	2
19									0.7	0.7	0.7	0.7	4
20	0.3	0.5	0.4	0.5	0.4	0.5	0.5	0.8	0.4	0.8	0.6	0.8	12
21	0.7	0.7	0.4	0.3	0.4	0.5	0.5	0.7	0.4	0.5	0.8	0.8	12
22											0.8	0.8	2
23											0.8	0.7	2
24											0.8	0.8	2
25											0.9	0.8	2
26									0.3	0.6	0.9	0.9	4
27										2.1	0.9	0.9	3
28									0.3	0.7	0.9	0.9	4
29	0.9	0.6	0.6	0.7	0.6	0.4	0.6	0.7	0.4	0.8	0.9	0.8	12
30									0.3	1.7	0.8	0.9	4

Monthly Cl_2 Avg.	**0.620**
Quarterly Cl_2 Avg.	**0.615**
Yearly Cl_2 Avg.	**0.633**
Total Samples	**162**

Distribution System Monitoring WSSN 2310 Nov-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1	0.9	0.8	0.6	0.5	0.4	0.4	0.7	0.8	0.6	0.6	0.9	1.1	12
2									0.4	0.5	1.0	1.0	4
3											0.9	0.9	2
4											0.9	0.9	2
5									0.5	0.6	1.0	0.9	4
6									0.5	0.6	1.0	1.0	4
7	1.0	0.5	0.6	0.5	0.4		0.7	0.9	0.6	0.8	1.0	1.0	11
8	0.8	0.5	0.4	0.4	0.4	0.4	0.9	0.9	0.4	0.4	0.9	0.9	12
9									0.4	0.5	1.0	0.9	4
10											1.0	1.0	2
11											1.0	0.9	2
12									0.5	0.7	1.0	0.9	4
13									0.6	0.8	0.8	0.8	4
14	0.8	0.9	0.6	0.4	0.5	0.6	1.0	0.9	0.5	0.8	0.9	0.9	12
15	0.8	0.6	0.6	0.5	0.6	0.5	0.9	0.8	0.5	0.8	1.0	1.1	12
16									0.5	0.7	1.1	1.0	4
17											0.9	1.0	2
18											0.9	0.9	2
19									0.9	0.9	0.9	0.9	4
20	0.4	0.7	0.6	0.7	0.5	0.6	0.6	1.0	0.6	1.0	0.8	1.0	12
21	0.9	0.9	0.5	0.4	0.4	0.7	0.7	0.8	0.5	0.7	1.0	1.0	12
22											1.0	1.0	2
23											0.9	0.9	2
24											1.0	1.0	2
25											1.0	0.9	2
26									0.5	0.8	1.1	1.0	4
27										2.4	1.1	1.0	3
28									0.4	0.9	1.1	1.1	4
29	1.1	0.8	0.7	0.9	0.7	0.6	0.8	0.9	0.5	1.1	1.1	1.0	12
30									0.5	1.9	1.1	1.2	4

Monthly Cl_2 Avg.	**0.791**
Quarterly Cl_2 Avg.	**0.781**
Yearly Cl_2 Avg.	**0.796**
Total Samples	**162**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Nov-12

Total number of positive routine samples: 0				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**162**
Total number of routine distribution samples required:	**100**

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 October 2012

RECEIVED

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

Michael Glasgow — CERTIFIED OPERATOR
F-1R S-3 — CLASSIFICATION

SIGNATURE OF APPROPRIATE OFFICIAL

DEQ
RESOURCE MANAGEMENT DIVISION
NOV 13 2012
LANSING DISTRICT

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons
11. Total Power Cost per Million Gallons

Remarks:

* In September we began adding chlorine gas at our 3 MG Well to boost chlorine residuals in the distribution system, and to reduce our chlorine gas storage. On average we are increasing the residual by 0.5mg/L - 0.7mg/L at the 3 MG well, which has an average flow of 6 MGD. Chlorine addition continued until October 22nd.

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

Coagulation Parameters **WSSN 2310** **Oct-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	23.29	11.63	11.65								3	0.10	0.12
2	23.01	11.67	11.34								3	0.10	0.10
3	23.01	12.07	10.95								3	0.10	0.10
4	21.53	10.83	10.70								3	0.13	0.14
5	22.85	11.79	11.06								3	0.09	0.09
6	23.03	12.10	10.93								3	0.09	0.09
7	23.21	12.00	11.20								3	0.10	0.11
8	23.12	11.38	11.74								3	0.11	0.12
9	21.93	10.68	11.25								3	0.08	0.08
10	21.96	10.23	11.73								3	0.11	0.13
11	21.81	10.30	11.51								3	0.08	0.08
12	22.41	10.04	12.37								3	0.07	0.08
13	21.07	10.89	10.18								3	0.10	0.14
14	21.91	10.40	11.51								3	0.09	0.11
15	21.50	10.07	11.43								3	0.13	0.24
16	21.72	10.03	11.69								3	0.08	0.09
17	19.69	11.12	8.57								3	0.09	0.09
18	18.72	11.65	7.07								3	0.08	0.09
19	18.34	11.21	7.13								3	0.08	0.09
20	19.42	10.74	8.68								3	0.08	0.08
21	20.52	10.15	10.37								3	0.09	0.10
22	20.47	10.69	9.78								3	0.09	0.10
23	20.53	10.09	10.44								3	0.10	0.11
24	20.31	9.40	10.91								3	0.13	0.16
25	22.10	10.07	12.03								3	0.11	0.12
26	22.69	10.84	11.84								3	0.10	0.11
27	21.82	11.69	10.13								3	0.12	0.13
28	21.33	11.37	9.96								3	0.11	0.12
29	22.17	10.08	12.09								3	0.12	0.14
30	20.50	10.48	10.02								3	0.13	0.16
31	21.51	10.07	11.44								3	0.13	0.15
AVG	21.53	10.83	10.70								3	0.10	0.11
MAX	23.29	12.10	12.37								3	0.13	0.24
MIN	18.34	9.40	7.07								3	0.07	0.08
Total	667.46	335.77	331.69										

Flouridation & Chlorination **WSSN 2310** **Oct-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) lbs/day	Post Chlorine (lbs/day)	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.70				30	0.7	0.8	0.7	1.4			1.1	
2			0.76				30	0.8	0.9	0.8	1.3			0.9	
3			0.75				30	0.8	0.9	0.8	1.3			0.9	
4			0.74				30	0.7	0.9	0.8	1.4			0.9	
5			0.74				30	0.7	0.8	0.8	1.3			1.0	
6			0.73				30	0.8	0.8	0.7	1.4			0.9	
7			0.76				30	0.7	0.8	0.6	1.2			0.8	
8			0.75				40	0.9	0.8	0.6	1.5			1.0	
9			0.80				38	0.7	0.8	0.6	1.4			0.7	
10			0.77				38	0.7	0.8	0.7	1.4			0.9	
11			0.70				40	0.7	0.7	0.7	1.4			0.9	
12			0.76				40	0.7	0.8	0.8	1.4			0.8	
13			0.75				40	0.8	0.9	0.8	1.6			1.2	
14			0.72				40	0.8	0.8	0.7	1.3			1.0	
15			0.77				40	0.8	0.9	0.8	1.4			1.1	
16			0.76				40	0.9	0.8	0.8	1.4			0.9	
17			0.73				40	0.9	0.8	0.8	1.4			0.9	
18			0.76				40	0.7	0.8	0.7	1.4			0.9	
19			0.76				40	0.8	0.8	0.8	1.5			1.0	
20			0.74				40	0.8	0.8	0.8	1.5			1.1	
21			0.78				40	0.7	0.8	0.7	1.3			1.0	
22			0.71				10	0.8	0.8	0.7	1.3			0.9	
23			0.72					0.7	0.9	0.8	0.8			0.8	
24			0.74					0.8	0.9	0.7	0.8			0.9	
25			0.68					0.8	1.0	0.8	0.7			0.8	
26			0.74					0.8	0.8	0.8	0.8			0.9	
27			0.62					0.7	0.8	0.7	0.8			0.7	
28			0.69					0.7	0.8	0.7	0.8			0.7	
29			0.75					0.8	0.8	0.7	0.7			0.8	
30			0.74					0.6	0.8	0.7	0.7			0.7	
31			0.74					0.8	0.8	0.7	0.7			0.7	
AVG			0.74				35	0.8	0.8	0.7	1.2			0.9	
MAX			0.80				40	0.9	1.0	0.8	1.6			1.2	
MIN			0.62				10	0.6	0.7	0.6	0.7			0.7	

Chemical Analyses **WSSN 2310** **Oct-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.40		100		72		28				29.7		6.3		
2		7.37		98		72		26				29.7		5.8		
3		7.42		98		73		25				30.5		5.3		
4		7.41		98		75		23				29.7		5.8		
5		7.44		98		71		27				30.5		5.3		
6		7.45		102		72		30				27.3		8.3		
7		7.40		100		73		27				28.9		6.8		
8		7.37		100		70		30				30.5		5.8		
9		7.43		102		73		29				30.5		6.3		
10		7.41		96		74		22				28.9		5.8		
11		7.39		96		71		25				29.7		5.3		
12		7.34		98		68		30				28.9		6.3		
13		7.41		96		71		25				32.1		3.9		
14		7.30		100		73		27				28.9		6.8		
15		7.34		98		69		29				29.7		5.8		
16		7.47		96		74		22				29.7		5.3		
17		7.39		98		72		26				29.7		5.8		
18		7.41		98		74		24				28.9		6.3		
19		7.36		98		72		26				28.9		6.3		
20		7.36		96		74		22				29.7		5.3		
21		7.37		100		73		27				28.9		6.8		
22		7.33		100		74		26				29.7		6.3		
23		7.37		98		74		24				28.9		6.3		
24		7.41		100		74		26				28.9		6.8		
25		7.37		98		75		23				28.9		5.8		
26		7.40		98		74		24				29.7		5.8		
27		7.37		98		71		27				28.9		6.3		
28		7.28		100		72		28				29.7		6.3		
29		7.41		98		73		25				28.9		6.3		
30		7.41		98		69		29				29.7		5.8		
31		7.41		98		74		24				29.7		5.8		
AVG		7.39		98		72		26				29.5		6.0		
MAX		7.47		102		75		30				32.1		8.3		
MIN		7.28		96		68		22				27.3		3.9		

Bacteriological & Physical Parameters WSSN 2310 Oct-12

DATE	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap														
	B&P		Dort	3MG Well	Sta II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		2/0	2/0	2/0	2/0					20.5				
2	1/0		2/0	2/0	2/0	2/0					19.0				
3	1/0		2/0	2/0	2/0	2/0					18.6				
4	1/0		2/0	2/0	2/0	2/0					18.8				
5	1/0		2/0	2/0	2/0	2/0					18.9				
6	1/0		2/0	2/0	2/0	2/0					18.4				
7	1/0		2/0	2/0	2/0	2/0					18.5				
8	1/0		2/0	2/0	2/0	2/0					18.6				
9	1/0		2/0	2/0	2/0	2/0					19.0				
10	1/0		2/0	2/0	2/0	2/0					19.4				
11	1/0		2/0	2/0	2/0	2/0					18.9				
12	1/0		2/0	2/0	2/0	2/0					18.8				
13	1/0		2/0	2/0	2/0	2/0					18.8				
14	1/0		2/0	2/0	2/0	2/0					19.1				
15	1/0		2/0	2/0	2/0	2/0					19.2				
16	1/0		2/0	2/0	2/0	2/0					17.8				
17	1/0		2/0	2/0	2/0	2/0					17.9				
18	1/0		2/0	2/0	2/0	2/1					17.3				
19	1/0		2/0	2/0	2/0	2/0					17.3				
20	1/0		2/0	2/0	2/0	2/0					16.9				
21	1/0		2/0	2/0	2/0	2/0					17.0				
22	1/0		2/0	2/0	2/0	2/0					17.5				
23	1/0		2/0	2/0	2/0	2/0					17.1				
24	1/0		2/0	2/1	2/0	2/0					17.0				
25	1/0		2/0	2/0	2/0	2/0			<2		17.1				
26	1/0		2/0	2/0	2/0	2/0					17.3				
27	1/0		2/0	2/0	2/0	2/0					16.1				
28	1/1		2/0	2/0	2/0	2/0					17.6				
29	1/0		2/0	2/0	2/0	2/0					16.9				
30	1/0		2/0	2/0	2/0	2/0					17.8				
31	1/0		2/0	2/0	2/0	2/0					18.0				
											18.1				
											20.5				
											16.1				

Distribution System Monitoring WSSN 2310 Oct-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1									0.4	0.8	0.7	0.9	4
2											0.9	0.9	2
3	0.6	0.9	0.7	0.6	0.5	0.6	1.0	1.1	0.4	0.8	0.8	0.9	12
4	0.7	1.0	0.7	0.6	0.6	0.7	0.9	1.1	0.4	0.7	0.8	0.9	12
5											0.7	0.8	2
6											0.8	0.8	2
7											0.8	0.8	2
8									0.8	1.0	0.7	0.8	4
9											0.8	0.8	2
10									0.4	0.9	0.8	0.8	4
11	0.7	1.0	1.0	0.8	0.7	0.9	0.9	1.0	0.5	0.9	0.7	0.7	12
12									0.4	0.8	0.8	0.8	4
13											0.9	0.9	2
14											0.8	0.8	2
15									0.5	0.8	0.9	0.9	4
16									0.9	1.1	0.8	0.8	4
17	0.7	0.7	0.8	0.9	0.5	0.5	0.8	1.0	0.4	0.4	0.8	0.8	12
18	0.7	1.0	0.8	0.9	0.4	0.5	0.7	1.1	0.4	0.3	0.8	0.8	12
19									0.2	0.2	0.8	0.8	4
20											0.8	0.8	2
21											0.8	0.8	2
22									0.6	0.7	0.8	0.8	4
23											0.9	0.9	2
24	0.6	0.6	0.5	0.5	0.3	0.3	0.7	0.8	0.5	0.0	0.9	0.8	12
25	0.8	0.6	0.5	0.5	0.3	0.5	0.6	0.8	0.4	0.0	0.9	1.0	12
26									0.6	0.0	0.8	0.8	4
27											0.7	0.8	2
28											0.7	0.9	2
29									0.3	0.4	0.7	0.8	4
30											0.8	0.7	2
31	0.6	0.4	0.4	0.3	0.3	0.3	0.6	0.8	0.3	0.5	0.8	0.7	12

Monthly Cl_2 Avg.	**0.696**
Quarterly Cl_2 Avg.	**0.617**
Yearly Cl_2 Avg.	**0.626**
Total Samples	**162**

Distribution System Monitoring WSSN 2310 Oct-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1									0.6	1.0	0.9	1.0	4
2											1.1	1.1	2
3	0.7	1.0	0.9	0.9	0.7	0.9	1.1	1.3	0.6	1.0	1.0	1.1	12
4	0.9	1.2	0.9	0.8	0.8	0.9	1.0	1.3	0.6	0.9	1.0	1.1	12
5											0.9	1.0	2
6											1.0	1.0	2
7											1.0	1.0	2
8									1.0	1.2	0.9	1.0	4
9											1.0	1.0	2
10									0.6	1.1	1.0	1.0	4
11	0.9	1.1	1.2	1.0	0.9	1.1	1.1	1.2	0.6	1.1	0.9	0.9	12
12									0.6	1.0	0.9	1.0	4
13											1.0	1.1	2
14											1.0	1.0	2
15									0.7	1.0	1.0	1.0	4
16									1.0	1.2	1.0	1.0	4
17	0.9	0.9	1.0	1.0	0.7	0.7	1.0	1.2	0.6	0.6	1.0	0.9	12
18	1.0	1.2	1.0	1.0	0.5	0.7	0.9	1.3	0.6	0.5	1.0	1.0	12
19									0.4	0.3	1.0	1.0	4
20											1.0	1.0	2
21											1.0	1.0	2
22									0.8	0.9	1.0	0.9	4
23											1.1	1.1	2
24	0.8	0.8	0.6	0.6	0.4	0.4	0.8	0.9	0.7	0.1	1.1	1.0	12
25	1.0	0.8	0.6	0.7	0.5	0.6	0.8	1.0	0.5	0.1	1.0	1.2	12
26									0.8	0.1	1.0	1.0	4
27											0.9	1.0	2
28											0.9	1.0	2
29									0.5	0.6	0.9	1.0	4
30											1.0	0.9	2
31	0.8	0.5	0.5	0.4	0.4	0.4	0.7	0.9	0.4	0.6	1.0	0.9	12

Monthly Cl_2 Avg.	**0.872**
Quarterly Cl_2 Avg.	**0.783**
Yearly Cl_2 Avg.	**0.786**
Total Samples	**162**

ROUTINE POSITIVE DISTRIBUTION SAMPLES Oct-12

Total number of positive routine samples: 4				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform
10/18/2012	Laboratory Tap	Present	Absent	10/19/2012	Laboratory Tap	Absent	Absent
				10/19/2012	Control Station # 2 (Sta 2)	Absent	Absent
				10/19/2012	Pump Station #4 (3 MG Well)	Absent	Absent
10/24/2012	Pump Station #4 (3 MG Well)	Present	Absent	10/25/2012	Pump Station #4 (3 MG Well)	Absent	Absent
				10/25/2012	Control Station # 2 (Sta 2)	Absent	Absent
				10/25/2012	Laboratory Tap	Absent	Absent
10/26/2012	West Side Reservoir & Pump Station (WS)	Present	Absent	10/27/2012	West Side Reservoir & Pump Station	Absent	Absent
				10/27/2012	Mid-way Market	Absent	Absent
				10/27/2012	Frazier's Accounting	Absent	Absent
10/28/2012	Baxter & Potter Rd. Control Station (B&P)	Present	Absent	10/29/2012	Baxter & Potter Rd. Control Station (B&P)	Absent	Absent
				10/29/2012	Up-stream	n/a	n/a
				10/29/2012	Control Station # 2 (Sta 2)	Absent	Absent
Total number of routine distribution samples analyzed:				**162**			
Total number of routine distribution samples required:				**100**			

2310

ENTERED

FLINT WATER PLANT & FACILITIES

Coagulation Parameters **WSSN 2310** **Oct-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	23.29	11.63	11.65								3	0.10	0.12
2	23.01	11.67	11.34								3	0.10	0.10
3	23.01	12.07	10.95								3	0.10	0.10
4	21.53	10.83	10.70								3	0.13	0.14
5	22.85	11.79	11.06								3	0.09	0.09
6	23.03	12.10	10.93								3	0.09	0.09
7	23.21	12.00	11.20								3	0.10	0.11
8	23.12	11.38	11.74								3	0.11	0.12
9	21.93	10.68	11.25								3	0.08	0.08
10	21.96	10.23	11.73								3	0.11	0.13
11	21.81	10.30	11.51								3	0.08	0.08
12	22.41	10.04	12.37								3	0.07	0.08
13	21.07	10.89	10.18								3	0.10	0.14
14	21.91	10.40	11.51								3	0.09	0.11
15	21.50	10.07	11.43								3	0.13	0.24
16	21.72	10.03	11.69								3	0.08	0.09
17	19.69	11.12	8.57								3	0.09	0.09
18	18.72	11.65	7.07								3	0.08	0.09
19	18.34	11.21	7.13								3	0.08	0.09
20	19.42	10.74	8.68								3	0.08	0.08
21	20.52	10.15	10.37								3	0.09	0.10
22	20.47	10.69	9.78								3	0.09	0.10
23	20.53	10.09	10.44								3	0.10	0.11
24	20.31	9.40	10.91								3	0.13	0.16
25	22.10	10.07	12.03								3	0.11	0.12
26	22.69	10.84	11.84								3	0.10	0.11
27	21.82	11.69	10.13								3	0.12	0.13
28	21.33	11.37	9.96								3	0.11	0.12
29	22.17	10.08	12.09								3	0.12	0.14
30	20.50	10.48	10.02								3	0.13	0.16
31	21.51	10.07	11.44								3	0.13	0.15
AVG	21.53	10.83	10.70								3	0.10	0.11
MAX	23.29	12.10	12.37								3	0.13	0.24
MIN	18.34	9.40	7.07								3	0.07	0.08
Total	667.46	335.77	331.69										

NP

Flouridation & Chlorination **WSSN 2310** **Oct-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) lbs/day	Post Chlorine (lbs/day)	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.70				30	0.7	0.8	0.7	1.4			1.1	
2			0.76				30	0.8	0.9	0.8	1.3			0.9	
3			0.75				30	0.8	0.9	0.8	1.3			0.9	
4			0.74				30	0.7	0.9	0.8	1.4			0.9	
5			0.74				30	0.7	0.8	0.8	1.3			1.0	
6			0.73				30	0.8	0.8	0.7	1.4			0.9	
7			0.76				30	0.7	0.8	0.6	1.2			0.8	
8			0.75				40	0.9	0.8	0.6	1.5			1.0	
9			0.80				38	0.7	0.8	0.6	1.4			0.7	
10			0.77				38	0.7	0.8	0.7	1.4			0.9	
11			0.70				40	0.7	0.7	0.7	1.4			0.9	
12			0.76				40	0.7	0.8	0.8	1.4			0.8	
13			0.75				40	0.8	0.9	0.8	1.6			1.2	
14			0.72				40	0.8	0.8	0.7	1.3			1.0	
15			0.77				40	0.8	0.9	0.8	1.4			1.1	
16			0.76				40	0.9	0.8	0.8	1.4			0.9	
17			0.73				40	0.9	0.8	0.8	1.4			0.9	
18			0.76				40	0.7	0.8	0.7	1.4			0.9	
19			0.76				40	0.8	0.8	0.8	1.5			1.0	
20			0.74				40	0.8	0.8	0.8	1.5			1.1	
21			0.78				40	0.7	0.8	0.7	1.3			1.0	
22			0.71				10	0.8	0.8	0.7	1.3			0.9	
23			0.72					0.7	0.9	0.8	0.8			0.8	
24			0.74					0.8	0.9	0.7	0.8			0.9	
25			0.68					0.8	1.0	0.8	0.7			0.8	
26			0.74					0.8	0.8	0.8	0.8			0.9	
27			0.62					0.7	0.8	0.7	0.8			0.7	
28			0.69					0.7	0.8	0.7	0.8			0.7	
29			0.75					0.8	0.8	0.7	0.7			0.8	
30			0.74					0.6	0.8	0.7	0.7			0.7	
31			0.74					0.8	0.8	0.7	0.7			0.7	
AVG			0.74				35	0.8	0.8	0.7	1.2			0.9	
MAX			0.80				40	0.9	1.0	0.8	1.6			1.2	
MIN			0.62				10	0.6	0.7	0.6	0.7			0.7	

FLINT WATER PLANT & FACILITIES

Chemical Analyses **WSSN 2310** **Oct-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.40		100		72		28				29.7		6.3		
2		7.37		98		72		26				29.7		5.8		
3		7.42		98		73		25				30.5		5.3		
4		7.41		98		75		23				29.7		5.8		
5		7.44		98		71		27				30.5		5.3		
6		7.45		102		72		30				27.3		8.3		
7		7.40		100		73		27				28.9		6.8		
8		7.37		100		70		30				30.5		5.8		
9		7.43		102		73		29				30.5		6.3		
10		7.41		96		74		22				28.9		5.8		
11		7.39		96		71		25				29.7		5.3		
12		7.34		98		68		30				28.9		6.3		
13		7.41		96		71		25				32.1		3.9		
14		7.30		100		73		27				28.9		6.8		
15		7.34		98		69		29				29.7		5.8		
16		7.47		96		74		22				29.7		5.3		
17		7.39		98		72		26				29.7		5.8		
18		7.41		98		74		24				28.9		6.3		
19		7.36		98		72		26				28.9		6.3		
20		7.36		96		74		22				29.7		5.3		
21		7.37		100		73		27				28.9		6.8		
22		7.33		100		74		26				29.7		6.3		
23		7.37		98		74		24				28.9		6.3		
24		7.41		100		74		26				28.9		6.8		
25		7.37		98		75		23				28.9		5.8		
26		7.40		98		74		24				29.7		5.8		
27		7.37		98		71		27				28.9		6.3		
28		7.28		100		72		28				29.7		6.3		
29		7.41		98		73		25				28.9		6.3		
30		7.41		98		69		29				29.7		5.8		
31		7.41		98		74		24				29.7		5.8		
AVG		7.39		98		72		26				29.5		6.0		
MAX		7.47		102		75		30				32.1		8.3		
MIN		7.28		96		68		22				27.3		3.9		

Bacteriological & Physical Parameters WSSN 2310 Oct-12

DATE	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap														
	B&P		Dort	3MG Well	Sta II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		2/0	2/0	2/0	2/0					20.5				
2	1/0		2/0	2/0	2/0	2/0					19.0				
3	1/0		2/0	2/0	2/0	2/0					18.6				
4	1/0		2/0	2/0	2/0	2/0					18.8				
5	1/0		2/0	2/0	2/0	2/0					18.9				
6	1/0		2/0	2/0	2/0	2/0					18.4				
7	1/0		2/0	2/0	2/0	2/0					18.5				
8	1/0		2/0	2/0	2/0	2/0					18.6				
9	1/0		2/0	2/0	2/0	2/0					19.0				
10	1/0		2/0	2/0	2/0	2/0					19.4				
11	1/0		2/0	2/0	2/0	2/0					18.9				
12	1/0		2/0	2/0	2/0	2/0					18.8				
13	1/0		2/0	2/0	2/0	2/0					18.8				
14	1/0		2/0	2/0	2/0	2/0					19.1				
15	1/0		2/0	2/0	2/0	2/0					19.2				
16	1/0		2/0	2/0	2/0	2/0					17.8				
17	1/0		2/0	2/0	2/0	2/0					17.9				
18	1/0		2/0	2/0	2/0	2/1					17.3				
19	1/0		2/0	2/0	2/0	2/0					17.3				
20	1/0		2/0	2/0	2/0	2/0					16.9				
21	1/0		2/0	2/0	2/0	2/0					17.0				
22	1/0		2/0	2/0	2/0	2/0					17.5				
23	1/0		2/0	2/0	2/0	2/0					17.1				
24	1/0		2/0	2/1	2/0	2/0					17.0				
25	1/0		2/0	2/0	2/0	2/0			<2		17.1				
26	1/0		2/0	2/0	2/0	2/0					17.3				
27	1/0		2/0	2/0	2/0	2/0					16.1				
28	1/1		2/0	2/0	2/0	2/0					17.6				
29	1/0		2/0	2/0	2/0	2/0					16.9				
30	1/0		2/0	2/0	2/0	2/0					17.8				
31	1/0		2/0	2/0	2/0	2/0					18.0				
											18.1				
											20.5				
											16.1				

FLINT WATER PLANT & FACILITIES

Distribution System Monitoring WSSN 2310 Oct-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1									0.4	0.8	0.7	0.9	4
2											0.9	0.9	2
3	0.6	0.9	0.7	0.6	0.5	0.6	1.0	1.1	0.4	0.8	0.8	0.9	12
4	0.7	1.0	0.7	0.6	0.6	0.7	0.9	1.1	0.4	0.7	0.8	0.9	12
5											0.7	0.8	2
6											0.8	0.8	2
7											0.8	0.8	2
8									0.8	1.0	0.7	0.8	4
9											0.8	0.8	2
10									0.4	0.9	0.8	0.8	4
11	0.7	1.0	1.0	0.8	0.7	0.9	0.9	1.0	0.5	0.9	0.7	0.7	12
12									0.4	0.8	0.8	0.8	4
13											0.9	0.9	2
14											0.8	0.8	2
15									0.5	0.8	0.9	0.9	4
16									0.9	1.1	0.8	0.8	4
17	0.7	0.7	0.8	0.9	0.5	0.5	0.8	1.0	0.4	0.4	0.8	0.8	12
18	0.7	1.0	0.8	0.9	0.4	0.5	0.7	1.1	0.4	0.3	0.8	0.8	12
19									0.2	0.2	0.8	0.8	4
20											0.8	0.8	2
21											0.8	0.8	2
22									0.6	0.7	0.8	0.8	4
23											0.9	0.9	2
24	0.6	0.6	0.5	0.5	0.3	0.3	0.7	0.8	0.5	0.0	0.9	0.8	12
25	0.8	0.6	0.5	0.5	0.3	0.5	0.6	0.8	0.4	0.0	0.9	1.0	12
26									0.6	0.0	0.8	0.8	4
27											0.7	0.8	2
28											0.7	0.9	2
29									0.3	0.4	0.7	0.8	4
30											0.8	0.7	2
31	0.6	0.4	0.4	0.3	0.3	0.3	0.6	0.8	0.3	0.5	0.8	0.7	12

Monthly Cl_2 Avg.	**0.696**
Quarterly Cl_2 Avg.	**0.617**
Yearly Cl_2 Avg.	**0.626**
Total Samples	**162**

Distribution System Monitoring WSSN 2310 Oct-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1									0.6	1.0	0.9	1.0	4
2											1.1	1.1	2
3	0.7	1.0	0.9	0.9	0.7	0.9	1.1	1.3	0.6	1.0	1.0	1.1	12
4	0.9	1.2	0.9	0.8	0.8	0.9	1.0	1.3	0.6	0.9	1.0	1.1	12
5											0.9	1.0	2
6											1.0	1.0	2
7											1.0	1.0	2
8									1.0	1.2	0.9	1.0	4
9											1.0	1.0	2
10									0.6	1.1	1.0	1.0	4
11	0.9	1.1	1.2	1.0	0.9	1.1	1.1	1.2	0.6	1.1	0.9	0.9	12
12									0.6	1.0	0.9	1.0	4
13											1.0	1.1	2
14											1.0	1.0	2
15									0.7	1.0	1.0	1.0	4
16									1.0	1.2	1.0	1.0	4
17	0.9	0.9	1.0	1.0	0.7	0.7	1.0	1.2	0.6	0.6	1.0	0.9	12
18	1.0	1.2	1.0	1.0	0.5	0.7	0.9	1.3	0.6	0.5	1.0	1.0	12
19									0.4	0.3	1.0	1.0	4
20											1.0	1.0	2
21											1.0	1.0	2
22									0.8	0.9	1.0	0.9	4
23											1.1	1.1	2
24	0.8	0.8	0.6	0.6	0.4	0.4	0.8	0.9	0.7	0.1	1.1	1.0	12
25	1.0	0.8	0.6	0.7	0.5	0.6	0.8	1.0	0.5	0.1	1.0	1.2	12
26									0.8	0.1	1.0	1.0	4
27											0.9	1.0	2
28											0.9	1.0	2
29									0.5	0.6	0.9	1.0	4
30											1.0	0.9	2
31	0.8	0.5	0.5	0.4	0.4	0.4	0.7	0.9	0.4	0.6	1.0	0.9	12

Monthly Cl_2 Avg.	**0.872**
Quarterly Cl_2 Avg.	**0.783**
Yearly Cl_2 Avg.	**0.786**
Total Samples	**162**

FLINT WATER PLANT & FACILITIES

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Oct-12

Total number of positive routine samples: 4				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform
10/18/2012	Laboratory Tap	Present	Absent	10/19/2012	Laboratory Tap	Absent	Absent
				10/19/2012	Control Station # 2 (Sta 2)	Absent	Absent
				10/19/2012	Pump Station #4 (3 MG Well)	Absent	Absent
10/24/2012	Pump Station #4 (3 MG Well)	Present	Absent	10/25/2012	Pump Station #4 (3 MG Well)	Absent	Absent
				10/25/2012	Control Station # 2 (Sta 2)	Absent	Absent
				10/25/2012	Laboratory Tap	Absent	Absent
10/26/2012	West Side Reservoir & Pump Station (WS)	Present	Absent	10/27/2012	West Side Reservoir & Pump Station	Absent	Absent
				10/27/2012	Mid-way Market	Absent	Absent
				10/27/2012	Frazier's Accounting	Absent	Absent
10/28/2012	Baxter & Potter Rd. Control Station (B&P)	Present	Absent	10/29/2012	Baxter & Potter Rd. Control Station (B&P)	Absent	Absent
				10/29/2012	Up-stream	n/a	n/a
				10/29/2012	Control Station # 2 (Sta 2)	Absent	Absent
Total number of routine distribution samples analyzed:				**162**			
Total number of routine distribution samples required:				**100**			

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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

MONTHLY OPERATION REPORT OF WATER TREATMENT PLANT

ENTERED

For Month of September 2012

Flint Water Plant
NAME OF WATER SYSTEM

2310 WSSN

Genesee COUNTY

Michael Glasgow
CERTIFIED OPERATOR

F-1R S-3
CLASSIFICATION

Michael Glasgow
SIGNATURE OF APPROPRIATE OFFICIAL

DEQ
RESOURCE MANAGEMENT DIVISION

OCT 12 2012

LANSING DISTRICT

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons _____
11. Total Power Cost per Million Gallons _____

Remarks:

* On September 26th we began adding chlorine gas at our 3 MG Well to boost chlorine residuals in the distribution system, and to reduce our chlorine gas storage. On average we are increasing the residual by 0.5mg/L - 0.7mg/L at the 3 MG well, which has an average flow of 6 MGD.

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

Coagulation Parameters **WSSN 2310** **Sep-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	26.97	15.37	11.60								3	0.14	0.14
2	27.43	14.98	12.44								0	n/a	n/a
3	29.90	16.36	13.54								3	0.15	0.17
4	28.72	15.80	12.92								3	0.24	0.37
5	28.56	15.78	12.77								3	0.15	0.16
6	26.84	14.45	12.40								3	0.13	0.13
7	26.96	15.14	11.83								3	0.13	0.17
8	25.44	13.52	11.93								3	0.13	0.14
9	23.47	12.66	10.81								3	0.12	0.13
10	24.70	13.05	11.65								3	0.12	0.13
11	22.94	14.10	8.84								3	0.14	0.16
12	25.26	13.47	11.79								3	0.11	0.13
13	27.64	13.66	13.98								3	0.21	0.25
14	26.80	12.76	14.04								3	0.14	0.21
15	23.07	11.60	11.47								3	0.12	0.13
16	22.09	10.41	11.68								3	0.11	0.14
17	23.08	12.23	10.85								3	0.11	0.11
18	22.34	11.76	10.58								3	0.11	0.13
19	20.56	11.16	9.40								3	0.10	0.11
20	21.99	11.46	10.53								3	0.12	0.13
21	22.67	12.83	9.84								3	0.15	0.20
22	24.86	14.66	10.20								3	0.12	0.13
23	24.91	14.53	10.38								3	0.12	0.14
24	22.79	12.52	10.28								3	0.12	0.15
25	21.10	10.15	10.95								3	0.11	0.13
26	20.52	11.25	9.27								3	0.09	0.10
27	21.13	9.95	11.18								3	0.11	0.11
28	21.01	12.41	8.60								3	0.09	0.10
29	21.84	11.78	10.07								3	0.09	0.11
30	22.46	12.51	9.95								3	0.09	0.09
AVG	24.27	13.08	11.19								3	0.13	0.15
MAX	29.90	16.36	14.04								3	0.24	0.37
MIN	20.52	9.95	8.60								0	0.09	0.09
Total	728.02	392.26	335.76										

Flouridation & Chlorination **WSSN 2310** **Sep-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl-	Post Chlorine (3MG Well) mg/L	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.65					0.8	1.0	0.6	0.8			0.8	
2			n/a					n/a	n/a	n/a	n/a			n/a	
3			0.69					0.8	0.9	0.7	0.8			0.8	
4			0.69					0.9	1.0	0.8	0.8			0.9	
5			0.69					1.1	1.0	0.8	0.8			1.0	
6			0.66					1.0	1.0	0.7	0.8			1.0	
7			0.68					1.0	1.0	0.8	0.8			1.0	
8			0.71					0.8	0.9	0.8	0.8			0.9	
9			0.69					0.8	0.9	0.8	0.7			0.7	
10			0.67					0.8	0.8	0.8	0.8			0.7	
11			0.71					0.8	0.8	0.6	0.7			0.8	
12			0.74					0.9	0.8	0.8	0.7			0.8	
13			0.71					0.7	0.9	0.6	0.7			0.7	
14			0.76					0.9	0.9	0.7	0.8			1.0	
15			0.74					0.8	0.9	0.8	0.8			1.0	
16			0.74					0.7	0.9	0.7	0.7			0.8	
17			0.72					0.8	0.8	0.7	0.8			0.7	
18			0.73					0.9	0.9	0.7	0.8			0.8	
19			0.74					0.8	0.8	0.6	0.7			0.8	
20			0.69					0.7	0.8	0.7	0.7			0.7	
21			0.72					0.8	0.8	0.7	0.7			0.7	
22			0.64					0.8	0.8	0.7	0.8			0.7	
23			0.68					0.8	1.0	0.6	0.7			0.8	
24			0.70					0.9	0.7	0.8	0.8			0.9	
25			0.71					0.9	0.9	0.8	0.8			0.9	
26			0.69				35	1.0	0.9	0.7	1.2			0.8	
27			0.68				35	0.7	0.9	0.8	1.5			1.1	
28			0.73				35	0.9	0.9	0.8	1.5			1.0	
29			0.73				35	0.9	1.0	0.9	1.5			1.1	
30			0.64				32	0.8	1.0	0.8	1.4			1.0	
AVG			0.70				34	0.8	0.9	0.7	0.9			0.9	
MAX			0.76				35	1.1	1.0	0.9	1.5			1.1	
MIN			0.64				32	0.7	0.7	0.6	0.7			0.7	

Chemical Analyses **WSSN 2310** **Sep-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.30		100		72		28				29.7		6.3		
2		n/a		n/a		n/a		n/a				n/a		n/a		
3		7.27		100		70		30				29.7		6.3		
4		7.43		100		73		27				29.7		6.3		
5		7.44		98		72		26				29.7		5.8		
6		7.39		98		72		26				30.5		5.3		
7		7.40		100		73		27				28.1		7.3		
8		7.41		98		72		26				26.5		7.8		
9		7.32		98		71		27				28.9		6.3		
10		7.44		100		72		28				29.7		6.3		
11		7.42		100		74		26				28.9		6.8		
12		7.49		100		72		28				29.7		6.3		
13		7.36		98		71		27				29.7		5.3		
14		7.51		98		69		29				28.9		6.3		
15		7.44		102		72		30				27.3		8.3		
16		7.23		98		72		26				28.9		6.3		
17		7.32		98		72		26				28.9		6.3		
18		7.40		98		72		26				29.7		5.8		
19		7.34		100		74		26				30.5		5.8		
20		7.44		100		71		29				28.9		6.8		
21		7.36		98		72		26				28.9		6.3		
22		7.26		100		73		27				30.5		5.8		
23		7.28		100		69		31				29.7		6.3		
24		7.35		96		73		23				29.7		5.3		
25		7.37		98		72		26				30.5		5.3		
26		7.43		98		69		29				29.7		5.8		
27		7.62		98		72		26				28.9		6.3		
28		7.35		98		71		27				30.5		5.3		
29		7.37		96		72		24				29.7		5.3		
30		7.34		100		70		30				28.9		6.8		
AVG		7.38		99		72		27				29.3		6.2		
MAX		7.62		102		74		31				30.5		8.3		
MIN		7.23		96		69		23				26.5		5.3		

Bacteriological & Physical Parameters **WSSN 2310** **Sep-12**

DATE	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap														
	B&P		Dort	3MG Well	Sta II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		2/0	2/0	2/0	2/0					23.3				
2	0/0		0/0	0/0	0/0	0/0					n/a				
3	1/0		2/0	2/0	2/0	2/0					22.2				
4	1/0		2/0	2/0	2/0	2/0					22.2				
5	1/0		2/0	2/0	2/0	2/0					22.7				
6	1/0		2/0	2/0	2/0	2/0					22.3				
7	1/0		2/0	2/0	2/0	2/0					22.2				
8	1/0		2/0	2/0	2/0	2/0					21.7				
9	1/0		2/0	2/0	2/0	2/0					22.4				
10	1/0		2/0	2/0	2/0	2/0					22.2				
11	1/0		2/0	2/0	2/0	2/0					22.0				
12	1/0		2/0	2/0	2/0	2/0					22.1				
13	1/0		2/0	2/0	2/0	2/0			< 2		21.8				
14	1/0		2/0	2/0	2/0	2/0					21.8				
15	1/0		2/0	2/0	2/0	2/0					21.0				
16	1/0		2/0	2/0	2/0	2/0					21.4				
17	1/0		2/0	2/0	2/0	2/0					22.1				
18	1/0		2/0	2/0	2/0	2/0					22.0				
19	1/0		2/0	2/0	2/0	2/0					22.5				
20	1/0		2/0	2/0	2/0	2/0					20.9				
21	1/0		2/0	2/0	2/0	2/0					20.7				
22	1/0		2/0	2/0	2/0	2/0					20.7				
23	1/0		2/0	2/0	2/0	2/0					20.2				
24	1/0		2/0	2/0	2/0	2/0					19.6				
25	1/0		2/0	2/0	2/0	2/0					19.6				
26	1/0		2/0	2/0	2/0	2/0					19.8				
27	1/0		2/0	2/0	2/0	2/0					20.0				
28	1/0		2/0	2/0	2/0	2/0					19.4				
29	1/0		2/0	2/0	2/0	2/0					19.2				
30	1/0		2/0	2/0	2/0	2/0					19.4				
											21.3				
											23.3				
											19.2				

Distribution System Monitoring WSSN 2310 Sep-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1											0.9	1.0	2
2													0
3											0.9	0.9	2
4									0.2	0.6	0.9	1.0	4
5	0.5	0.4	0.4	0.2	0.3	0.3	0.4	0.8	0.1	0.5	0.9	1.0	12
6	0.7	0.6	0.4	0.5	0.3	0.1	0.6	0.7	0.2	0.6	0.9	1.0	12
7									0.1	0.1	1.0	1.0	4
8											0.8	0.9	2
9											0.9	0.9	2
10									0.2	0.3	0.8	0.8	4
11	0.5	0.5	0.4	0.2	0.3	0.0	0.3	0.5	0.1	0.3	0.8	0.8	12
12									0.1	0.3	0.8	0.8	4
13	0.7	0.7	0.4	0.4	0.1	0.1	0.4	0.5	0.1	0.1	0.9	0.8	12
14									0.4	0.5	0.8	0.9	4
15											0.8	0.9	2
16											0.8	0.9	2
17									0.2	0.8	0.7	0.8	4
18									0.2	0.5	0.8	0.9	4
19	0.6	0.5	0.3	0.3	0.2	0.2	0.4	0.7	0.1	0.6	0.7	0.8	12
20	0.6	0.6	0.3	0.4	0.2	0.2	0.5	0.7	0.1	0.4	0.8	0.8	12
21									0.2	0.5	0.7	0.8	4
22											0.8	0.8	2
23											0.9	1.0	2
24									0.2	0.5	0.6	0.8	4
25									0.2	0.7	0.9	0.8	4
26	0.5	0.6	0.3	0.4	0.2	0.2	0.4	0.8	0.2	0.4	0.9	0.8	12
27	0.6	1.0	0.5	0.7	0.4	0.4	0.6	0.9	0.5	0.8	0.9	0.9	12
28									0.3	0.7	0.9	0.9	4
29											1.0	0.9	2
30											0.9	1.0	2

Monthly Cl_2 Avg.	**0.571**
Quarterly Cl_2 Avg.	**0.592**
Yearly Cl_2 Avg.	**0.612**
Total Samples	**160**

Distribution System Monitoring WSSN 2310 Sep-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1											1.0	1.2	2
2													0
3											1.1	1.0	2
4									0.4	0.7	1.2	1.1	4
5	0.7	0.6	0.5	0.3	0.4	0.4	0.5	1.0	0.2	0.7	1.2	1.2	12
6	0.9	0.8	0.5	0.6	0.4	0.2	0.8	0.9	0.4	0.8	1.2	1.2	12
7									0.2	0.2	1.2	1.2	4
8											1.0	1.1	2
9											1.0	1.0	2
10									0.4	0.5	1.0	1.0	4
11	0.7	0.7	0.6	0.3	0.4	0.1	0.4	0.7	0.2	0.4	0.9	0.9	12
12									0.2	0.5	1.0	1.0	4
13	0.9	0.8	0.6	0.6	0.2	0.2	0.6	0.7	0.2	0.2	1.1	1.0	12
14									0.6	0.7	1.0	1.1	4
15											1.0	1.1	2
16											1.0	1.0	2
17									0.4	1.0	0.9	0.9	4
18									0.3	0.7	1.0	1.0	4
19	0.8	0.6	0.4	0.4	0.3	0.3	0.5	0.9	0.2	0.8	0.9	0.9	12
20	0.8	0.8	0.5	0.6	0.4	0.3	0.7	0.9	0.2	0.8	1.0	0.9	12
21									0.3	0.7	0.9	0.9	4
22											0.9	1.0	2
23											1.0	1.1	2
24									0.3	0.7	0.8	1.0	4
25									0.3	0.9	1.1	1.0	4
26	0.7	0.8	0.4	0.6	0.3	0.3	0.5	1.0	0.3	0.6	1.1	1.0	12
27	0.8	1.2	0.7	0.9	0.6	0.5	0.8	1.1	0.7	1.0	1.1	1.0	12
28									0.4	0.8	1.1	1.0	4
29											1.1	1.0	2
30											1.0	1.1	2

Monthly Cl_2 Avg.	**0.731**
Quarterly Cl_2 Avg.	**0.755**
Yearly Cl_2 Avg.	**0.771**
Total Samples	**160**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Sep-12

Total number of positive routine samples:				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**160**
Total number of routine distribution samples required:	**100**

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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

MONTHLY OPERATION REPORT OF WATER TREATMENT PLANT

For Month of August 2012

ENTERED

Flint Water Plant	2310	Genesee
NAME OF WATER SYSTEM	WSSN	COUNTY

Michael Glasgow		F-1R S-3
CERTIFIED OPERATOR		CLASSIFICATION

Michael Glasgow
SIGNATURE OF APPROPRIATE OFFICIAL

DEQ
RESOURCE MANAGEMENT DIVISION
SEP 13 2012
LANSING DISTRICT

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons _____
11. Total Power Cost per Million Gallons _____

Remarks:

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

MP

Coagulation Parameters **WSSN 2310** **Aug-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	26.36	13.15	13.21								3	0.13	0.14
2	27.20	15.27	11.93								3	0.12	0.13
3	29.48	16.28	13.20								3	0.15	0.17
4	29.28	17.20	12.08								3	0.15	0.16
5	27.19	14.06	13.13								3	0.16	0.22
6	26.83	13.62	13.21								3	0.13	0.13
7	29.14	15.76	13.38								3	0.14	0.15
8	28.20	15.13	13.08								3	0.15	0.18
9	26.45	13.45	13.01								3	0.10	0.11
10	24.82	8.02	16.80								3	0.10	0.10
11	22.77	12.77	10.00								3	0.10	0.13
12	22.70	11.56	11.14								3	0.10	0.11
13	23.46	12.07	11.39								3	0.10	0.11
14	24.30	12.32	11.97								3	0.14	0.16
15	23.85	11.88	11.97								3	0.14	0.15
16	25.01	12.70	12.31								3	0.13	0.14
17	24.14	12.07	12.07								3	0.13	0.14
18	23.70	12.51	11.19								3	0.09	0.12
19	23.54	13.13	10.42								3	0.10	0.11
20	26.52	14.88	11.64								3	0.12	0.14
21	28.73	17.39	11.34								3	0.22	0.28
22	28.40	16.24	12.15								3	0.20	0.20
23	27.01	15.36	11.66								3	0.18	0.20
24	28.76	15.83	12.93								3	0.13	0.14
25	28.46	16.16	12.30								3	0.13	0.14
26	29.54	17.52	12.02								3	0.13	0.15
27	26.95	14.98	11.96								3	0.18	0.20
28	25.53	13.52	12.01								3	0.13	0.14
29	26.55	13.88	12.67								3	0.15	0.18
30	26.09	13.54	12.55								3	0.13	0.15
31	27.74	15.18	12.56								3	0.11	0.12
AVG	26.41	14.11	12.30								3	0.13	0.15
MAX	29.54	17.52	16.80								3	0.22	0.28
MIN	22.70	8.02	10.00								3	0.09	0.10
Total	818.73	437.44	381.29										

Flouridation & Chlorination **WSSN 2310** **Aug-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.75					0.8	0.8	0.8	0.8			0.9	
2			0.74					0.7	0.8	0.7	0.8			0.7	
3			0.77					0.8	0.8	0.8	0.7			0.9	
4			0.74					0.8	0.9	0.7	0.8			0.8	
5			0.70					0.7	0.8	0.7	0.8			0.8	
6			0.71					0.9	0.9	0.8	0.7			0.9	
7			0.67					0.8	0.9	0.6	0.6			0.8	
8			0.66					0.9	0.9	0.6	0.6			0.9	
9			0.68					0.8	0.9	0.5	0.6			0.8	
10			0.64					1.0	1.0	0.5	0.6			1.0	
11			0.67					0.9	1.0	0.5	0.6			1.0	
12			0.68					0.8	0.9	0.7	0.7			0.7	
13			0.67					0.8	0.9	0.7	0.7			0.8	
14			0.66					0.7	0.9	0.7	0.8			0.8	
15			0.66					0.8	0.9	0.7	0.7			0.8	
16			0.67					0.8	0.9	0.7	0.7			0.8	
17			0.70					0.8	0.9	0.8	0.8			0.9	
18			0.67					1.0	0.9	0.7	0.7			1.0	
19			0.63					0.8	0.8	0.8	0.8			0.9	
20			0.64					0.9	0.9	0.8	0.7			0.8	
21			0.55					0.8	0.9	0.8	0.7			0.9	
22			0.65					0.8	0.9	0.8	0.8			0.9	
23			0.64					0.9	1.0	0.9	0.8			0.9	
24			0.68					0.9	1.0	0.9	0.8			1.0	
25			0.65					0.9	0.9	0.8	0.7			0.9	
26			0.62					0.7	0.9	0.8	0.7			0.8	
27			0.64					0.8	0.8	0.8	0.8			0.8	
28			0.69					0.9	0.8	0.8	0.8			0.7	
29			0.65					0.8	0.8	0.7	0.8			0.8	
30			0.68					0.8	0.9	0.7	0.8			0.7	
31			0.69					0.9	0.9	0.8	0.7			1.0	
AVG			0.67					0.8	0.9	0.7	0.7			0.9	
MAX			0.77					1.0	1.0	0.9	0.8			1.0	
MIN			0.55					0.7	0.8	0.5	0.6			0.7	

Chemical Analyses **WSSN 2310** **Aug-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.46		94		73		21				28.1		5.8		
2		7.43		96		71		25				28.9		5.8		
3		7.46		94		69		25				28.1		5.8		
4		7.46		98		73		25				27.3		7.3		
5		7.47		98		71		27				28.9		6.3		
6		7.44		98		73		25				28.1		6.8		
7		7.42		98		72		26				28.9		6.3		
8		7.48		98		73		25				28.9		6.3		
9		7.43		98		71		27				28.9		6.3		
10		7.45		96		72		24				28.1		6.3		
11		7.51		96		71		25				28.1		6.3		
12		7.28		96		72		24				28.9		5.8		
13		7.60		96		73		23				29.7		5.3		
14		7.28		96		73		23				30.5		4.9		
15		7.50		96		72		24				29.7		5.3		
16		7.38		98		69		29				28.9		6.3		
17		7.44		98		72		26				28.9		6.3		
18		7.38		100		72		28				28.1		7.3		
19		7.26		98		72		26				29.7		5.8		
20		7.61		100		72		28				29.7		6.3		
21		7.34		98		75		23				29.7		5.3		
22		7.49		98		74		24				30.5		5.3		
23		7.43		98		72		26				29.7		5.8		
24		7.45		96		72		24				27.3		6.8		
25		7.35		96		72		24				26.5		7.3		
26		7.45		100		72		28				30.5		5.8		
27		7.45		98		71		27				29.7		5.8		
28		7.31		98		73		25				29.7		5.8		
29		7.52		98		73		25				29.7		5.8		
30		7.47		98		74		24				29.7		5.8		
31		7.39		100		69		31				29.7		6.3		
AVG		7.43		97		72		25				29.0		6.1		
MAX		7.61		100		75		31				30.5		7.3		
MIN		7.26		94		69		21				26.5		4.9		

Bacteriological & Physical Parameters **WSSN 2310** **Aug-12**

DATE	Total Coliform Plant Tap							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	B&P		Dort	3MG Well	Sta II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		2/0	2/0	2/0	2/0					22.2				
2	1/0		2/0	2/0	2/0	2/0					22.3				
3	1/0		2/0	2/0	2/0	2/0					22.1				
4	1/0		2/0	2/0	2/0	2/0					22.4				
5	1/0		2/0	2/0	2/0	2/0					22.5				
6	1/0		2/0	2/0	2/0	2/0					22.5				
7	1/0		2/0	2/0	2/0	2/0					22.6				
8	1/0		2/0	2/0	2/0	2/0					21.5				
9	1/0		2/0	2/0	2/0	2/0			< 2		22.2				
10	1/0		2/0	2/0	2/0	2/0					21.3				
11	1/0		2/0	2/0	2/0	2/0					20.7				
12	1/0		2/0	2/0	2/0	2/0					21.5				
13	1/0		2/0	2/0	2/0	2/0					21.7				
14	1/0		2/0	2/0	2/0	2/0					21.7				
15	1/0		2/0	2/0	2/0	2/0					22.0				
16	1/0		2/0	2/0	2/0	2/0					22.0				
17	1/0		2/0	2/0	2/0	2/0					23.0				
18	1/0		2/0	2/0	2/0	2/0					21.5				
19	1/0		2/0	2/0	2/0	2/0					24.0				
20	1/0		2/0	2/0	2/0	2/0					22.1				
21	1/0		2/0	2/0	2/0	2/0					21.7				
22	1/0		2/0	2/0	2/0	2/0					21.9				
23	1/0		2/0	2/0	2/0	2/0					21.7				
24	1/0		2/0	2/0	2/0	2/0					24.6				
25	1/0		2/0	2/0	2/0	2/0					24.4				
26	1/0		2/0	2/0	2/0	2/0					22.1				
27	1/0		2/0	2/0	2/0	2/0					22.2				
28	1/0		2/0	2/0	2/0	2/0					21.7				
29	1/0		2/0	2/0	2/0	2/0					22.2				
30	1/0		2/0	2/0	2/0	2/0					21.8				
31	1/0		2/0	2/0	2/0	2/0					21.9				
											22.2				
											24.6				
											20.7				

Distribution System Monitoring WSSN 2310 Aug-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1									0.2	0.5	0.8	0.8	4
2	0.6	0.5	0.4	0.5	0.3	0.2	0.4	0.6	0.2	0.5	0.8	0.8	12
3									0.2	0.5	0.7	0.9	4
4											0.9	0.9	2
5											0.8	0.8	2
6									0.2	0.4	0.9	0.9	4
7									0.6	0.6	0.8	0.9	4
8	0.8	0.4	0.4	0.4	0.3	0.3	0.3	0.9	0.1	0.5	0.9	0.8	12
9	0.7	0.5	0.5	0.5	0.3	0.2	0.4	0.7	0.2	0.6	0.8	0.9	12
10									0.0	0.6	0.9	1.0	4
11											1.0	1.0	2
12											0.9	0.9	2
13									0.2	0.7	0.8	0.9	4
14									0.2	0.6	0.9	0.8	4
15	0.5	0.4	0.3	0.3	0.2	0.1	0.3	0.6	0.1	0.6	0.8	0.9	12
16	0.5	0.6	0.4	0.5	0.2	0.1	0.5	0.4	0.3	0.5	0.9	0.9	12
17									0.2	0.5	0.8	0.9	4
18											0.9	0.9	2
19											0.8	0.8	2
20											0.9	0.9	2
21											0.8	1.0	2
22	0.5	0.5	0.3	0.3	0.3	0.1	0.5	0.7	0.1	0.6	0.9	0.9	12
23	0.8	0.7	0.2	0.2	0.2	0.2	0.8	0.8	0.2	0.7	1.0	0.9	12
24									0.2	0.6	1.0	1.0	4
25											0.9	0.8	2
26											0.9	0.9	2
27									0.2	0.8	0.7	0.8	4
28									0.2	0.6	0.8	0.8	4
29		0.3	0.3	0.4	0.2	0.1	0.4	0.6	0.2	0.5	0.8	0.8	11
30	0.6	0.5	0.4	0.4	0.3	0.1	0.4	0.5	0.3	0.5	0.9	0.9	12
31									0.2	0.7	0.9	0.9	4

Monthly Cl_2 Avg.	**0.571**
Quarterly Cl_2 Avg.	**0.612**
Yearly Cl_2 Avg.	**0.616**
Total Samples	**175**

Distribution System Monitoring WSSN 2310 Aug-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1									0.3	0.6	1.0	1.0	4
2	0.8	0.6	0.6	0.7	0.4	0.3	0.6	0.8	0.3	0.7	1.0	1.0	12
3									0.3	0.7	1.0	1.1	4
4											1.0	1.1	2
5											0.9	0.9	2
6									0.3	0.6	1.0	1.0	4
7									0.7	0.7	0.9	1.0	4
8	0.9	0.5	0.5	0.5	0.4	0.4	0.4	1.0	0.2	0.7	1.1	0.9	12
9	0.9	0.7	0.7	0.6	0.5	0.3	0.6	0.8	0.4	0.8	1.1	1.1	12
10									0.2	0.8	1.1	1.1	4
11											1.2	1.2	2
12											1.0	1.0	2
13									0.4	0.9	1.0	1.0	4
14									0.3	0.8	1.0	1.0	4
15	0.7	0.6	0.4	0.4	0.3	0.2	0.4	0.7	0.3	0.8	1.0	1.0	12
16	0.8	0.8	0.5	0.6	0.3	0.1	0.7	0.5	0.4	0.7	1.0	1.1	12
17									0.3	0.7	1.0	1.1	4
18											1.1	1.2	2
19											1.1	0.9	2
20											1.1	1.1	2
21											0.9	1.1	2
22	0.7	0.7	0.4	0.3	0.4	0.2	0.7	0.9	0.3	0.8	1.1	1.1	12
23	1.0	1.0	0.4	0.4	0.3	0.3	1.0	1.0	0.4	1.0	1.2	1.1	12
24									0.4	0.8	1.2	1.2	4
25											1.1	1.0	2
26											1.0	1.0	2
27									0.4	1.0	0.9	0.9	4
28									0.4	0.8	1.0	0.9	4
29		0.5	0.4	0.5	0.3	0.3	0.5	0.8	0.3	0.7	1.0	1.0	11
30	0.7	0.6	0.5	0.6	0.4	0.2	0.6	0.7	0.4	0.7	1.0	1.0	12
31									0.4	0.9	1.1	1.1	4

Monthly Cl_2 Avg.	**0.730**
Quarterly Cl_2 Avg.	**0.778**
Yearly Cl_2 Avg.	**0.773**
Total Samples	**175**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Aug-12

Total number of positive routine samples:				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**175**
Total number of routine distribution samples required:	**100**

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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

MONTHLY OPERATION REPORT
OF
WATER TREATMENT PLANT

For Month of July 2012

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

Michael Glasgow — CERTIFIED OPERATOR
F-1R S-3 — CLASSIFICATION

Michael L Glasgow
SIGNATURE OF APPROPRIATE OFFICIAL

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons _____
11. Total Power Cost per Million Gallons _____

Remarks:

* On July 3rd we experienced high turbidities from the plant tap. This was most likely a small slug from Baxter & Potter Rd. as a result of switching from our 36" to our 60" pipe on July 2nd. Chlorine residuals were good, and extra bacteria samples were collected. All bacteria samples were absent. On July 4th turbidity values were back at usual levels.

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

Coagulation Parameters **WSSN 2310** **Jul-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	40.42	24.38	16.04								1	0.19	0.19
2	40.56	22.74	17.82								3	0.27	0.28
3	39.33	23.28	16.05								3	0.92	1.09
4	37.35	22.27	15.08								3	0.13	0.15
5	31.18	17.78	13.40								3	0.08	0.08
6	29.97	15.29	14.68								3	0.08	0.09
7	33.44	20.04	13.40								3	0.19	0.24
8	36.95	24.07	12.88								3	0.13	0.14
9	30.62	16.83	13.79								3	0.08	0.09
10	34.32	20.49	13.83								3	0.18	0.27
11	35.27	21.13	14.14								3	0.11	0.12
12	34.92	21.34	13.58								3	0.13	0.16
13	37.18	23.63	13.55								3	0.20	0.27
14	37.03	24.11	12.92								3	0.19	0.21
15	37.25	24.24	13.01								3	0.17	0.21
16	36.24	22.25	13.99								3	0.12	0.13
17	36.45	21.34	15.11								3	0.17	0.17
18	37.17	23.68	13.49								3	0.20	0.29
19	34.32	21.21	13.11								3	0.14	0.19
20	29.74	16.93	12.81								3	0.11	0.12
21	29.44	15.78	13.66								3	0.13	0.14
22	29.81	17.80	12.01								3	0.14	0.16
23	33.73	19.35	14.38								3	0.14	0.15
24	35.34	19.79	15.55								3	0.16	0.18
25	33.39	19.76	13.63								3	0.12	0.13
26	33.15	19.04	14.11								3	0.14	0.17
27	32.01	18.53	13.48								3	0.10	0.11
28	29.85	17.05	12.80								3	0.10	0.11
29	27.63	15.61	12.02								3	0.09	0.09
30	27.84	15.10	12.74								3	0.10	0.11
31	29.48	15.83	13.65								3	0.14	0.16
AVG	33.92	20.02	13.89								3	0.17	0.19
MAX	40.56	24.38	17.82								3	0.92	1.09
MIN	27.63	15.10	12.01								1	0.08	0.08
Total	1051.38	620.67	430.71										

Meter Pits off 72" City of Flint Transmission Main

Daily Average

July-12

Date:	Henderson	Oak & Potter	M-15 & Potter	Irish & Potter	Belsay & Potter	S. Genesee	
1	9.77	0.83	0.23	2.32	1.11	10.12	24.38
2	8.01	0.84	0.24	2.34	1.11	10.20	22.74
3	8.00	0.90	0.19	2.42	1.11	10.66	23.28
4	8.11	0.80	0.07	2.32	1.14	9.83	22.27
5	6.85	0.88	0.15	2.56	1.16	6.18	17.78
6	5.65	0.87	0.16	2.57	1.16	4.88	15.29
7	8.29	0.87	0.15	2.51	1.15	7.07	20.04
8	8.38	0.76	0.14	2.19	1.03	11.57	24.07
9	4.87	0.82	0.25	2.45	1.03	7.41	16.83
10	5.86	0.83	0.20	2.39	1.20	10.01	20.49
11	7.86	0.86	0.21	2.48	1.30	8.42	21.13
12	8.93	0.91	0.23	2.61	1.46	7.20	21.34
13	9.27	0.89	0.22	2.51	1.41	9.33	23.63
14	8.95	0.86	0.20	2.43	1.15	10.52	24.11
15	8.53	0.87	0.18	2.47	1.23	10.96	24.24
16	6.90	0.87	0.18	2.50	1.22	10.58	22.25
17	6.40	0.83	0.18	2.31	1.16	10.46	21.34
18	8.53	0.86	0.15	2.42	1.30	10.42	23.68
19	8.06	0.86	0.11	2.53	1.53	8.12	21.21
20	5.83	0.81	0.13	2.61	1.61	5.94	16.93
21	4.95	0.77	0.11	2.49	1.41	6.05	15.78
22	5.29	0.80	0.14	2.41	1.24	7.92	17.8
23	5.26	0.76	0.13	2.30	1.16	9.71	19.35
24	5.59	0.79	0.14	2.32	1.10	9.85	19.79
25	5.58	0.81	0.17	2.37	1.20	9.63	19.76
26	5.56	0.86	0.17	2.51	1.26	9.04	19.04
27	6.92	0.81	0.10	2.47	1.45	6.78	18.53
28	6.57	0.79	0.09	2.46	1.37	5.77	17.05
29	4.76	0.77	0.12	2.58	1.52	5.86	15.61
30	3.81	0.64	0.12	2.50	1.51	6.52	15.10
31	3.80	0.59	0.12	2.24	1.24	7.84	15.83
Totals:	211.14	25.41	4.98	75.59	39.03	264.85	

Flouridation & Chlorination **WSSN 2310** **Jul-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			n/a					0.8	0.8	0.5	0.4			0.7	
2			0.69					0.7	0.9	0.4	0.5			0.9	
3			0.67					0.8	9.0	0.5	0.6			0.8	
4			0.70					0.7	0.8	0.4	0.5			0.7	
5			0.39					0.7	0.9	0.5	0.6			0.7	
6			0.60					0.8	0.8	0.4	0.4			0.7	
7			0.66					0.7	0.9	0.4	0.4			0.8	
8			0.64					0.8	0.9	0.5	0.3			0.8	
9			0.68					0.8	0.9	0.4	0.4			0.8	
10			0.65					0.7	0.8	0.4	0.4			0.7	
11			0.65					0.9	0.8	0.4	0.5			0.8	
12			0.60					0.8	0.9	0.5	0.6			0.7	
13			0.65					0.8	0.9	0.5	0.7			0.8	
14			0.62					0.9	0.9	0.5	0.8			0.9	
15			0.65					0.7	0.9	0.6	0.7			0.7	
16			0.80					0.9	0.9	0.7	0.7			0.8	
17			0.87					0.8	0.9	0.6	0.7			0.8	
18			0.84					1.0	1.0	0.8	0.8			0.9	
19			0.72					0.8	1.0	0.8	0.9			0.9	
20			0.69					0.9	1.0	0.9	0.9			1.1	
21			0.59					1.0	1.0	0.9	0.9			1.0	
22			0.71					0.8	1.1	0.7	0.9			0.8	
23			0.69					0.9	0.9	0.8	0.8			0.9	
24			0.67					0.7	1.0	0.7	0.8			0.8	
25			0.74					1.0	1.0	0.8	0.8			0.8	
26			0.76					1.0	0.9	0.7	0.8			0.9	
27			0.82					0.8	1.0	0.7	0.8			0.9	
28			0.73					0.7	0.8	0.6	0.7			0.8	
29			0.72					0.8	0.8	0.8	0.8			0.8	
30			0.76					0.8	0.9	0.8	0.8			0.9	
31			0.74					0.8	0.9	0.8	0.9			0.9	
AVG			0.69					0.8	1.2	0.6	0.7			0.8	
MAX			0.87					1.0	9.0	0.9	0.9			1.1	
MIN			0.39					0.7	0.8	0.4	0.3			0.7	

Chemical Analyses **WSSN 2310** **Jul-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		n/a		n/a		n/a		n/a				n/a		n/a		
2		7.44		96		73		23				28.9		5.8		
3		7.45		98		73		25				29.7		5.8		
4		7.30		98		74		24				28.9		6.3		
5		7.36		98		70		28				28.1		6.3		
6		7.30		98		74		24				28.9		6.3		
7		7.31		98		73		25				29.7		5.8		
8		7.44		98		71		27				29.7		5.8		
9		7.38		96		70		26				29.7		5.3		
10		7.51		96		74		22				29.7		5.3		
11		7.51		96		71		25				29.7		5.3		
12		7.40		98		71		27				28.9		5.3		
13		7.40		94		71		23				28.1		5.8		
14		7.42		98		74		24				28.1		6.8		
15		7.24		98		73		25				29.7		5.8		
16		7.41		98		74		24				29.7		5.8		
17		7.43		96		72		24				29.7		5.3		
18		7.50		96		73		23				28.9		5.8		
19		7.38		96		71		25				28.9		5.8		
20		7.45		98		71		27				28.9		6.3		
21		7.45		100		72		28				28.9		6.8		
22		7.32		100		74		26				28.9		6.8		
23		7.44		98		72		26				29.7		5.8		
24		7.42		98		73		25				28.9		6.3		
25		7.48		98		72		26				28.9		6.3		
26		7.48		100		73		27				28.9		6.8		
27		7.43		98		72		26				28.9		6.3		
28		7.29		98		74		24				29.7		5.8		
29		7.25		98		72		26				28.9		6.3		
30		7.44		98		72		26				28.9		6.3		
31		7.47		98		68		30				27.3		7.3		
AVG		7.40		98		72		25				29.1		6.1		
MAX		7.51		100		74		30				29.7		7.3		
MIN		7.24		94		68		22				27.3		5.3		

Bacteriological & Physical Parameters **WSSN 2310** **Jul-12**

DATE	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap														
	B&P		Dort	3MG Well	Sta II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		0/0	0/0	0/0	0/0					n/a				
2	1/0		2/0	2/0	2/0	2/0					20.1				
3	2/0		2/0	2/0	2/0	2/0					19.9				
4	1/0		2/0	2/0	2/0	2/0					21.4				
5	1/0		2/0	2/0	2/0	2/0					21.2				
6	1/0		2/0	2/0	2/0	2/0					21.6				
7	1/0		2/0	2/0	2/0	2/0					21.5				
8	1/0		2/0	2/0	2/0	2/0					20.5				
9	1/0		2/0	2/0	2/0	2/0					19.9				
10	1/0		2/0	2/0	2/0	2/0					20.2				
11	1/0		2/0	2/0	2/0	2/0					20.9				
12	1/0		2/0	2/0	2/0	2/0					21.7				
13	1/0		2/0	2/0	2/0	2/0					21.8				
14	1/0		2/0	2/0	2/0	2/0					23.3				
15	1/0		2/0	2/0	2/0	2/0					22.4				
16	1/0		2/0	2/0	2/0	2/0					22.5				
17	1/0		2/0	2/0	2/0	2/0					21.9				
18	1/0		2/0	2/0	2/0	2/0			< 2		21.4				
19	1/0		2/0	2/0	2/0	2/0					20.7				
20	1/0		2/0	2/0	2/0	2/0					20.3				
21	1/0		2/0	2/0	2/0	2/0					20.3				
22	1/0		2/0	2/0	2/0	2/0					20.7				
23	1/0		2/0	2/0	2/0	2/0					21.7				
24	1/0		2/0	2/0	2/0	2/0					21.9				
25	1/0		2/0	2/0	2/0	2/0					21.4				
26	1/0		2/0	2/0	2/0	2/0					21.0				
27	1/0		2/0	2/0	2/0	2/0					21.5				
28	1/0		2/0	2/0	2/0	2/0					21.8				
29	1/0		2/0	2/0	2/0	2/0					21.8				
30	1/0		2/0	2/0	2/0	2/0					22.3				
31	1/0		2/0	2/0	2/0	2/0					22.5				
											21.3				
											23.3				
											19.9				

Distribution System Monitoring WSSN 2310 Jul-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1												0.8	1
2									0.3	0.7	0.9	0.9	4
3									0.3	0.4	1.0	0.8	4
4											0.8	0.8	2
5	0.6		0.4	0.5	0.3		0.4	0.6	0.2	0.6	0.9	0.8	10
6									0.1	0.5	0.7	0.8	4
7											0.8	0.9	2
8											1.0	0.8	2
9									0.3	0.6	0.9	0.8	4
10									0.4	0.7	0.7	0.8	4
11	0.5	0.4	0.3	0.4	0.3	0.2	0.4	0.6	0.4	0.5	0.8	0.7	12
12									0.3	0.5	0.9	0.8	4
13									0.3	0.6	0.9	0.8	4
14											0.9	0.8	2
15											0.9	0.9	2
16									0.4	0.6	0.9	0.8	4
17									0.3	0.6	0.9	0.9	4
18	0.5	0.5	0.4	0.4	0.3	0.2	0.4	0.7	0.3	0.8	1.0	1.0	12
19	1.0	0.9	0.5	0.6	0.2	0.2	0.4	0.8	0.3	0.7	1.0	1.0	12
20									0.2	0.6	1.0	1.0	4
21											1.0	1.0	2
22											1.0	1.1	2
23									0.2	0.6	0.9	0.9	4
24									0.6	0.6	1.0	1.0	4
25	0.6	0.5	0.4	0.3	0.3	0.2	0.4	0.7	0.4	0.8	1.0	1.0	12
26	0.7	0.6	0.5	0.4	0.1	0.3	0.4	0.6	0.3	0.6	0.8	1.0	12
27									0.1	0.6	1.0	0.9	4
28											0.8	0.8	2
29											0.8	0.8	2
30									0.2	0.5	0.8	0.9	4
31									0.2	0.5	0.8	0.9	4

Monthly Cl_2 Avg.	**0.628**
Quarterly Cl_2 Avg.	**0.631**
Yearly Cl_2 Avg.	**0.610**
Total Samples	**149**

Distribution System Monitoring WSSN 2310 Jul-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1												1.0	1
2									0.5	0.9	1.1	1.0	4
3									0.4	0.5	1.2	1.0	4
4											0.9	0.9	2
5	0.8		0.6	0.7	0.5		0.6	0.8	0.3	0.8	1.1	1.0	10
6									0.3	0.7	0.9	0.9	4
7											1.0	1.1	2
8											1.2	1.1	2
9									0.5	0.8	1.1	1.0	4
10									0.5	0.8	0.9	1.0	4
11	0.7	0.6	0.5	0.6	0.4	0.4	0.5	0.7	0.5	0.7	1.0	0.9	12
12									0.4	0.7	1.1	1.0	4
13									0.4	0.7	1.0	1.0	4
14											1.0	0.9	2
15											1.1	1.1	2
16									0.6	0.8	1.1	1.0	4
17									0.4	0.7	1.2	1.3	4
18	0.7	0.7	0.5	0.7	0.4	0.4	0.6	0.8	0.5	1.0	1.2	1.4	12
19	1.2	1.1	0.7	0.4	0.4	0.6	1.0	0.5	0.5	0.9	1.1	1.2	12
20									0.4	0.7	1.2	1.2	4
21											1.1	1.1	2
22											1.1	1.2	2
23									0.3	0.8	1.1	1.0	4
24									0.7	0.8	1.2	1.3	4
25	0.8	0.7	0.6	0.4	0.4	0.3	0.5	0.8	0.6	1.0	1.2	1.2	12
26	0.8	0.8	0.6	0.5	0.3	0.4	0.6	0.8	0.5	0.8	1.0	1.2	12
27									0.2	0.8	1.2	1.1	4
28											0.9	0.9	2
29											1.0	1.0	2
30									0.4	0.7	1.0	1.1	4
31									0.3	0.6	1.0	1.1	4

Monthly Cl_2 Avg.	**0.800**
Quarterly Cl_2 Avg.	**0.799**
Yearly Cl_2 Avg.	**0.765**
Total Samples	**149**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Total number of positive routine samples:				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**149**
Total number of routine distribution samples required:	**100**

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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

DEQ
RESOURCE MANAGEMENT DIVISION

JUL 12 2012

LANSING DISTRICT

MONTHLY OPERATION REPORT OF WATER TREATMENT PLANT

ENTERED

For Month of June 2012

Flint Water Plant
NAME OF WATER SYSTEM

2310
WSSN

Genesee
COUNTY

Michael Glasgow
CERTIFIED OPERATOR

F-1R S-3
CLASSIFICATION

Michael Glasgow
SIGNATURE OF APPROPRIATE OFFICIAL

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons _____
11. Total Power Cost per Million Gallons _____

Remarks:

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

MP

Coagulation Parameters **WSSN 2310** **Jun-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	22.86	11.27	11.59								3	0.09	0.10
2	23.23	11.70	11.53								3	0.08	0.09
3	22.65	12.01	10.64								3	0.08	0.10
4	25.72	13.37	12.35								3	0.08	0.09
5	27.07	15.02	12.05								3	0.10	0.11
6	27.49	15.43	12.06								3	0.12	0.12
7	28.16	15.15	13.01								3	0.10	0.11
8	29.28	16.45	12.83								3	0.11	0.12
9	29.16	16.75	12.41								3	0.13	0.16
10	27.71	15.52	12.19								3	0.14	0.16
11	28.73	16.26	12.47								3	0.13	0.16
12	27.85	14.30	13.55								3	0.11	0.14
13	30.19	17.01	13.18								2	0.12	0.12
14	28.33	16.65	11.68								3	0.07	0.08
15	32.16	18.42	13.74								3	0.14	0.15
16	32.64	19.76	12.88								3	0.17	0.19
17	31.42	19.87	11.55								3	0.09	0.09
18	30.17	17.87	12.30								3	0.13	0.15
19	29.95	16.42	13.53								3	0.09	0.10
20	32.45	18.20	14.25								3	0.23	0.26
21	31.87	18.95	12.92								3	0.16	0.19
22	31.86	19.15	12.71								3	0.11	0.12
23	31.92	19.81	12.11								3	0.10	0.13
24	32.22	20.29	11.93								3	0.11	0.15
25	32.16	18.62	13.54								3	0.11	0.12
26	32.30	20.37	11.93								3	0.10	0.10
27	32.28	18.17	14.11								3	0.19	0.21
28	34.76	22.36	12.40								3	0.15	0.22
29	37.85	23.90	13.95								3	0.19	0.22
30	37.05	23.79	13.26								3	0.29	0.29
AVG	30.05	17.43	12.62								3	0.13	0.14
MAX	37.85	23.90	14.25								3	0.29	0.29
MIN	22.65	11.27	10.64								2	0.07	0.08
Total	901.49	522.84	378.65										

Flouridation & Chlorination **WSSN 2310** **Jun-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P	Sta II	Dort	3MG Well		Tap		
								Free	Free	Free	Free			Free	
		Raw	Tap	Dist											
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.75					0.8	0.7	0.6	0.7			0.8	
2			0.74					0.6	0.8	0.7	0.6			0.7	
3			0.71					0.7	0.8	0.7	0.6			0.7	
4			0.72					0.7	0.7	0.5	0.5			0.7	
5			0.73					0.6	0.7	0.5	0.6			0.6	
6			0.72					0.8	0.8	0.5	0.5			0.8	
7			0.70					0.6	0.8	0.5	0.5			0.7	
8			0.70					0.8	0.7	0.5	0.5			0.8	
9			0.71					0.8	0.8	0.5	0.6			0.8	
10			0.67					0.5	0.8	0.5	0.5			0.8	
11			0.64					0.7	0.8	0.5	0.5			0.7	
12			0.67					0.8	0.8	0.5	0.5			0.7	
13			0.71					0.7	0.7	0.4	0.5			0.7	
14			0.66					0.7	0.7	0.4	0.5			0.7	
15			0.70					0.7	0.8	0.4	0.5			0.9	
16			0.71					0.8	0.7	0.5	0.5			0.7	
17			0.67					0.8	0.7	0.5	0.4			0.6	
18			0.69					0.7	0.8	0.5	0.5			0.7	
19			0.69					0.7	0.8	0.4	0.4			0.7	
20			0.67					0.8	0.8	0.4	0.4			0.7	
21			0.69					0.7	0.8	0.4	0.4			0.9	
22			0.67					0.8	0.8	0.4	0.4			0.9	
23			0.69					0.8	0.9	0.4	0.4			0.9	
24			0.60					0.7	0.9	0.4	0.4			0.8	
25			0.67					0.7	0.8	0.4	0.4			0.5	
26			0.60					0.8	0.9	0.5	0.4			0.8	
27			0.68					0.7	0.9	0.4	0.4			0.8	
28			0.67					0.8	0.8	0.4	0.5			0.8	
29			0.68					0.7	0.8	0.4	0.5			0.8	
30			0.68					0.9	0.8	0.4	0.5			0.9	
AVG			0.69					0.7	0.8	0.5	0.5			0.8	
MAX			0.75					0.9	0.9	0.7	0.7			0.9	
MIN			0.60					0.5	0.7	0.4	0.4			0.5	

Chemical Analyses **WSSN 2310** **Jun-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.40		100		72		28				29.7		6.3		
2		7.40		98		71		27				29.7		5.8		
3		7.31		98		75		23				29.7		5.8		
4		7.45		98		74		24				28.9		6.3		
5		7.41		98		70		28				28.9		6.3		
6		7.42		98		72		26				30.5		5.3		
7		7.60		98		70		28				29.7		5.8		
8		7.43		98		72		26				28.9		6.3		
9		7.43		96		71		25				28.9		5.8		
10		7.42		98		71		27				29.7		5.8		
11		7.42		98		69		29				29.7		5.8		
12		7.38		98		72		26				29.7		5.8		
13		7.37		98		71		27				28.9		6.3		
14		7.54		98		72		26				29.7		5.8		
15		7.41		94		70		24				28.1		5.8		
16		7.46		96		71		25				28.9		5.8		
17		7.53		96		64		32				26.5		7.3		
18		7.44		98		74		24				29.7		5.8		
19		7.47		98		71		27				29.7		5.8		
20		7.46		98		72		26				29.7		5.8		
21		7.46		90		68		22				24.0		7.3		
22		7.50		94		71		23				28.1		5.8		
23		7.45		94		71		23				28.1		5.8		
24		7.34		98		68		30				29.7		5.8		
25		7.43		98		72		26				29.7		5.8		
26		7.61		98		74		24				29.7		5.8		
27		7.42		98		70		28				30.5		5.3		
28		7.42		94		71		23				28.9		5.3		
29		7.43		98		70		28				29.7		5.8		
30		7.41		92		71		21				28.1		5.3		
AVG		7.44		97		71		26				29.1		5.9		
MAX		7.61		100		75		32				30.5		7.3		
MIN		7.31		90		64		21				24.0		5.3		

Bacteriological & Physical Parameters **WSSN 2310** **Jun-12**

DATE	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap														
	B&P		Dort	3MG Well	Sta II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		2/0	2/0	2/0	2/0					15.1				
2	1/0		2/0	2/0	2/0	2/0					14.5				
3	1/0		2/0	2/0	2/0	2/0					14.9				
4	1/0		2/0	2/0	2/0	2/0					15.8				
5	1/0		2/0	2/0	2/0	2/0					15.7				
6	1/0		2/0	2/0	2/0	2/0					16.2				
7	1/0		2/0	2/0	2/0	2/0					15.8				
8	1/0		2/0	2/0	2/0	2/0					15.3				
9	1/0		2/0	2/0	2/0	2/0					16.5				
10	1/0		2/0	2/0	2/0	2/0					16.1				
11	1/0		2/0	2/0	2/0	2/0					16.3				
12	1/0		2/0	2/0	2/0	2/0					16.1				
13	1/0		2/0	2/0	2/0	2/0					16.7				
14	1/0		2/0	2/0	2/0	2/0					16.0				
15	1/0		2/0	2/0	2/0	2/0					17.1				
16	1/0		2/0	2/0	2/0	2/0					17.0				
17	1/0		2/0	2/0	2/0	2/0					17.2				
18	1/0		2/0	2/0	2/0	2/0					18.0				
19	1/0		2/0	2/0	2/0	2/0					18.9				
20	1/0		2/0	2/0	2/0	2/0					18.7				
21	1/0		2/0	2/0	2/0	2/0					18.4				
22	1/0		2/0	2/0	2/0	2/0					18.8				
23	1/0		2/0	2/0	2/0	2/0					17.8				
24	1/0		2/0	2/0	2/0	2/0					17.7				
25	1/0		2/0	2/0	2/0	2/0					17.0				
26	1/0		2/0	2/0	2/0	2/0					17.9				
27	1/0		2/0	2/0	2/0	2/0									
28	1/0		2/0	2/0	2/0	2/0					19.5				
29	1/0		2/0	2/0	2/0	2/0					21.6				
30	1/0		2/0	2/0	2/0	2/0					21.2				
											17.2				
											21.6				
											14.5				

Distribution System Monitoring WSSN 2310 Jun-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1									0.5	0.6	0.7	0.7	4
2											0.8	0.8	2
3											0.8	0.7	2
4									0.5	0.6	0.7	0.7	4
5									0.5	0.7	0.7	0.7	4
6	0.5	0.4	0.5	0.5	0.3	0.4	0.5	0.7	0.5	0.6	0.7	0.9	12
7	0.7	0.6	0.5	0.6	0.4	0.4	0.5	0.7	0.6	0.4	0.8	0.8	12
8									0.3	0.6	0.7	0.7	4
9											0.8	0.7	2
10											0.7	0.8	2
11									0.4	0.5	0.8	0.7	4
12											0.8	0.7	2
13	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.6	0.2	0.6	0.7	0.7	12
14	0.6	0.6	0.5	0.6	0.4	0.4	0.5	0.6	0.4	0.5	0.7	0.7	12
15									0.3	0.5	0.7	0.8	4
16											0.8	0.6	2
17											0.6	0.7	2
18									0.4	0.5	0.7	0.8	4
19									0.5	0.7	0.7	0.8	4
20	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.7	0.3	0.6	0.8	0.8	12
21	0.7	0.7	0.6	0.6	0.5	0.5	0.4	0.5	0.5	0.6	0.8	0.7	12
22									0.4	0.7	0.8	0.8	4
23											0.8	0.9	2
24											0.8	0.9	2
25									0.5	0.7	0.8	0.8	4
26	0.6	0.6	0.4	0.7	0.3	0.3	0.5	0.7	0.2	0.6	0.8	1.0	12
27									0.3	0.5	0.9	0.8	4
28									0.4	0.5	0.8	0.8	4
29									0.2	0.5	0.7	0.8	4
30											0.8	0.8	2

Monthly Cl_2 Avg.	**0.599**
Quarterly Cl_2 Avg.	**0.648**
Yearly Cl_2 Avg.	**0.603**
Total Samples	**156**

Distribution System Monitoring WSSN 2310 Jun-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1									0.6	0.8	0.9	0.8	4
2											0.9	0.9	2
3											1.0	0.9	2
4									0.7	0.7	0.9	0.9	4
5									0.6	0.8	0.9	0.9	4
6	0.6	0.5	0.6	0.6	0.5	0.5	0.6	0.8	0.7	0.8	0.9	1.0	12
7	0.8	0.8	0.7	0.7	0.6	0.5	0.6	0.9	0.8	0.6	0.9	0.9	12
8									0.5	0.8	0.9	0.9	4
9											0.9	0.9	2
10											0.9	1.0	2
11									0.6	0.7	1.0	0.9	4
12											0.9	0.9	2
13	0.7	0.7	0.7	0.7	0.5	0.6	0.5	0.8	0.4	0.8	0.9	0.9	12
14	0.7	0.8	0.6	0.8	0.6	0.5	0.7	0.8	0.6	0.7	0.9	0.9	12
15									0.5	0.6	0.9	1.0	4
16											1.1	0.9	2
17											0.9	1.0	2
18									0.5	0.7	0.9	1.0	4
19									0.6	0.8	0.8	1.0	4
20	0.7	0.6	0.5	0.6	0.5	0.6	0.4	0.8	0.4	0.8	1.0	1.0	12
21	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.7	1.0	0.9	12
22									0.5	0.9	0.9	1.0	4
23											0.9	1.0	2
24											0.9	1.0	2
25									0.7	0.9	1.0	1.0	4
26	0.8	0.7	0.5	0.8	0.4	0.5	0.6	0.9	0.3	0.8	1.0	1.1	12
27									0.4	0.7	1.1	0.9	4
28									0.5	0.8	0.9	1.0	4
29									0.3	0.7	1.0	0.9	4
30											0.9	0.9	2

Monthly Cl_2 Avg.	**0.760**
Quarterly Cl_2 Avg.	**0.812**
Yearly Cl_2 Avg.	**0.756**
Total Samples	**156**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Jun-12

Total number of positive routine samples:				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**156**
Total number of routine distribution samples required:	**100**

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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

MONTHLY OPERATION REPORT OF WATER TREATMENT PLANT

For Month of May 2012

ENTERED

Flint Water Plant — NAME OF WATER SYSTEM

2310 — WSSN

Genesee — COUNTY

DEQ RESOURCE MANAGEMENT DIVISION

Michael Glasgow — CERTIFIED OPERATOR

JUN 13 2012

F-1R S-3 — CLASSIFICATION

Michael Glasgow — SIGNATURE OF APPROPRIATE OFFICIAL

LANSING DISTRICT

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons _____
11. Total Power Cost per Million Gallons _____

Remarks:

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

MP

Coagulation Parameters **WSSN 2310** **May-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	22.28	7.11	15.18								3	0.09	0.10
2	9.50	4.23	5.27								3	0.09	0.09
3	16.26	6.26	10.00								3	0.09	0.10
4	31.66	9.21	22.45								3	0.39	0.43
5	32.41	10.64	21.77								3	0.28	0.30
6	31.83	10.47	21.36								3	0.12	0.15
7	22.67	11.49	11.18								3	0.12	0.15
8	24.01	10.82	13.19								3	0.10	0.13
9	23.74	11.20	12.54								3	0.09	0.10
10	24.75	12.31	12.44								3	0.08	0.09
11	23.90	11.93	11.97								3	0.08	0.10
12	21.91	10.27	11.64								3	0.06	0.07
13	20.62	9.60	11.02								3	0.06	0.06
14	22.08	9.55	12.53								3	0.06	0.06
15	21.73	9.41	12.32								3	0.06	0.06
16	22.06	9.85	12.22								3	0.07	0.07
17	22.31	10.72	11.59								3	0.06	0.08
18	24.53	13.39	11.14								3	0.06	0.06
19	24.46	12.65	11.80								3	0.07	0.08
20	24.68	12.16	12.52								3	0.08	0.09
21	24.68	12.16	12.52								3	0.09	0.09
22	23.46	11.28	12.17								3	0.10	0.10
23	24.40	12.54	11.86								3	0.10	0.11
24	27.08	14.68	12.40								3	0.11	0.12
25	28.98	15.94	13.06								3	0.14	0.16
26	27.31	16.07	11.24								3	0.12	0.15
27	25.70	14.27	11.43								3	0.09	0.09
28	26.02	13.94	12.08								3	0.08	0.09
29	27.60	14.40	13.20								3	0.10	0.12
30	26.26	12.91	13.35								3	0.10	0.11
31	24.51	12.34	12.17								3	0.08	0.08
AVG	24.30	11.41	12.89								3	0.10	0.11
MAX	32.41	16.07	22.45								3	0.39	0.43
MIN	9.50	4.23	5.27								3	0.06	0.06
Total	753.37	353.80	399.59										

Flouridation & Chlorination **WSSN 2310** **May-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.64					0.8	0.8	n/a	0.9			0.8	
2			0.66					0.9	n/a	n/a	1.0			0.9	
3			0.63					0.8	n/a	n/a	1.0			0.8	
4			0.67					0.8	0.9	n/a	1.0			1.0	
5			0.67					0.9	1.1	0.9	1.1			1.1	
6			0.60					0.8	0.9	0.9	1.0			0.9	
7			0.63					0.9	1.0	1.0	1.0			0.9	
8			0.62					0.8	1.0	0.9	1.0			1.0	
9			0.68					0.8	0.9	0.9	1.0			0.8	
10			0.63					0.8	0.9	0.9	0.9			0.8	
11			0.67					0.8	0.9	0.9	1.0			0.9	
12								0.8	0.9	0.9	1.0			0.9	
13			0.67					0.7	0.8	0.9	0.9			0.8	
14			0.68					0.7	0.7	0.8	0.8			0.8	
15			0.65					0.6	0.8	0.7	0.8			0.7	
16			0.66					0.7	0.7	0.8	0.8			0.8	
17			0.64					0.6	0.7	0.7	0.8			0.7	
18			0.69					0.7	0.7	0.7	0.8			0.8	
19			0.74					0.7	0.7	0.7	0.7			0.8	
20			0.71					0.8	0.7	0.7	0.7			0.7	
21			0.71					0.8	0.7	0.7	0.7			0.6	
22			0.70					0.8	0.8	0.8	0.8			0.7	
23			0.71					0.7	0.8	0.7	0.7			0.7	
24			0.76					0.8	0.8	0.7	0.8			0.8	
25			0.71					0.7	0.8	0.7	0.7			0.8	
26			0.69					0.9	0.8	0.7	0.7			0.7	
27			0.69					0.6	0.8	0.7	0.7			0.7	
28			0.73					0.6	0.7	0.7	0.6			0.7	
29			0.72					0.7	0.7	0.7	0.7			0.7	
30			0.68					0.7	0.8	0.6	0.6			0.7	
31			0.70					0.6	0.7	0.6	0.6			0.7	
AVG			0.68					0.8	0.8	0.8	0.8			0.8	
MAX			0.76					0.9	1.1	1.0	1.1			1.1	
MIN			0.60					0.6	0.7	0.6	0.6			0.6	

Chemical Analyses **WSSN 2310** **May-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.38		100		73		27				30.5		5.8		
2		7.35		98		74		24				31.3		4.9		
3		7.39		100		71		29				32.9		4.4		
4		7.38		102		75		27				31.3		5.8		
5		7.35		104		73		31				31.3		6.3		
6		7.28		98		70		28				30.5		5.3		
7		7.27		102		70		32				30.5		6.3		
8		7.24		98		73		25				30.5		5.3		
9		7.35		98		72		26				31.3		4.9		
10		7.36		100		74		26				30.5		5.8		
11		7.37		104		73		31				30.5		6.8		
12		7.43		104		73		31				30.5		6.8		
13		7.40		102		75		27				32.9		4.9		
14		7.37		104		68		36				31.3		6.3		
15		7.33		100		75		25				30.5		5.8		
16		7.39		100		75		25				31.3		5.3		
17		7.43		100		71		29				30.5		5.8		
18		7.33		100		74		26				30.5		5.8		
19		7.40		106		72		34				28.9		8.3		
20		7.34		100		75		25				30.5		5.9		
21		7.45		100		71		29				30.5		5.9		
22		7.39		98		72		26				31.3		4.9		
23		7.54		98		75		23				32.1		4.4		
24		7.40		102		73		29				28.9		7.3		
25		7.39		98		71		27				29.7		5.8		
26		7.26		98		71		27				29.7		5.8		
27		7.26		98		73		25				29.7		5.8		
28		7.34		98		72		26				28.9		6.3		
29		7.36		98		75		23				28.9		6.3		
30		7.59		98		73		25				29.7		5.8		
31		7.50		98		71		27				30.5		5.3		
AVG		7.37		100		73		27				30.6		5.8		
MAX		7.59		106		75		36				32.9		8.3		
MIN		7.24		98		68		23				28.9		4.4		

Bacteriological & Physical Parameters **WSSN 2310** **May-12**

DATE	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap														
	B&P		Dort	3MG Well	Sta II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		0/0	2/0	2/0	2/0					9.6				
2	1/0		0/0	2/0	0/0	2/0					11.9				
3	1/0		0/0	2/0	0/0	2/0					11.8				
4	1/0		2/0	2/0	2/0	2/0					12.0				
5	1/0		2/0	2/0	2/0	2/0					11.4				
6	1/0		2/0	2/0	2/0	2/0					11.2				
7	1/0		2/0	2/0	2/0	2/0					11.4				
8	1/0		2/0	2/0	2/0	2/0					12.6				
9	1/0		2/0	2/0	2/0	2/0					11.1				
10	1/0		2/0	2/0	2/0	2/0					11.0				
11	1/0		2/0	2/0	2/0	2/0					12.1				
12	1/0		2/0	2/0	2/0	2/0					11.7				
13	1/0		2/0	2/0	2/0	2/0					11.7				
14	1/0		2/0	2/0	2/0	2/0					12.4				
15	1/0		2/0	2/0	2/0	2/0					11.5				
16	1/0		2/0	2/0	2/0	2/0					11.3				
17	1/0		2/0	2/0	2/0	2/0			< 2		11.4				
18	1/0		2/0	2/0	2/0	2/0					12.7				
19	1/0		2/0	2/0	2/0	2/0					12.4				
20	1/0		2/0	2/0	2/0	2/0					13.1				
21	1/0		2/0	2/0	2/0	2/0					13.4				
22	1/0		2/0	2/0	2/0	2/0					13.5				
23	1/0		2/0	2/0	2/0	2/0					13.6				
24	1/0		2/0	2/0	2/0	2/0					14.3				
25	1/0		2/0	2/0	2/0	2/0					15.3				
26	1/0		2/0	2/0	2/0	2/0					14.8				
27	1/0		2/0	2/0	2/0	2/0					15.3				
28	1/0		2/0	2/0	2/0	2/0					15.3				
29	1/0		2/0	2/0	2/0	2/0					14.9				
30	1/0		2/0	2/0	2/0	2/0					14.8				
31	1/0		2/0	2/0	2/0	2/0					14.8				
											12.7				
											15.3				
											9.6				

Distribution System Monitoring WSSN 2310 May-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1											0.8	0.8	2
2									0.6	0.6	n/a	n/a	2
3											n/a	n/a	0
4									0.2	0.8	0.8	1.0	4
5											1.0	1.1	2
6											0.8	1.0	2
7											1.0	1.0	2
8											0.9	1.0	2
9	0.7	0.7	0.8	0.7	0.6	0.7	0.8	0.9	0.9	0.8	0.8	0.9	12
10									0.8	0.8	0.9	0.9	4
11									0.6	0.8	0.9	0.9	4
12											0.9	0.8	2
13											0.7	0.8	2
14									0.6	0.6	0.7	0.7	4
15											0.7	0.8	2
16	0.6		0.5		0.5	0.4	0.5	0.8	0.4	0.6	0.7	0.7	10
17	0.6	0.4	0.5	0.5	0.4	0.4	0.4	0.7	0.6	0.5	0.7	0.7	12
18									0.6	0.6	0.7	0.7	4
19											0.7	0.7	2
20											0.6	0.7	2
21									0.6	0.5	0.7	0.7	4
22											0.7	0.8	2
23	0.4	0.5	0.5	0.6	0.4	0.5	0.5	0.7	0.5	0.7	0.7	0.8	12
24	0.6	0.5	0.4	0.6	0.4	0.4	0.4	0.7	0.5	0.6	0.8	0.7	12
25									0.4	0.6	0.7	0.8	4
26											0.8	0.8	2
27											0.8	0.8	2
28											0.7	0.7	2
29									0.5	0.6	0.7	0.7	4
30	0.6	0.5	0.4	0.4	0.4	0.4	0.5	0.6	0.5	0.7	0.8	0.8	12
31	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.6	0.4	0.6	0.7	0.7	12

Monthly Cl_2 Avg.	**0.652**
Quarterly Cl_2 Avg.	**0.676**
Yearly Cl_2 Avg.	**0.604**
Total Samples	**144**

Distribution System Monitoring WSSN 2310 May-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1											0.9	1.0	2
2									0.8	0.8	n/a	n/a	2
3											n/a	n/a	0
4									0.4	1.0	1.0	1.1	4
5											1.1	1.2	2
6											1.1	1.1	2
7											1.1	1.2	2
8											1.1	1.2	2
9	0.9	0.9	1.0	0.9	0.8	0.9	1.0	1.1	1.0	0.9	1.1	1.1	12
10									0.9	1.0	1.1	1.1	4
11									0.7	0.9	1.1	1.1	4
12											1.1	1.1	2
13											0.9	0.9	2
14									0.8	0.8	0.9	0.9	4
15											0.9	1.0	2
16	0.8		0.7		0.6	0.6	0.6	0.9	0.6	0.8	0.9	0.9	10
17	0.8	0.6	0.7	0.7	0.6	0.5	0.6	0.9	0.8	0.7	0.9	0.9	12
18									0.8	0.8	0.9	0.9	4
19											0.9	0.9	2
20											0.8	0.9	2
21									0.8	0.7	0.9	0.9	4
22											0.9	0.9	2
23	0.6	0.7	0.7	0.8	0.6	0.7	0.6	0.8	0.7	0.8	0.9	0.9	12
24	0.7	0.6	0.6	0.8	0.5	0.6	0.5	0.9	0.7	0.8	0.9	0.8	12
25									0.6	0.8	0.9	0.9	4
26											0.9	1.0	2
27											0.9	0.9	2
28											0.9	0.9	2
29									0.6	0.8	0.9	0.9	4
30	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.8	0.9	0.9	12
31	0.8	0.6	0.6	0.7	0.6	0.5	0.5	0.8	0.6	0.8	0.9	0.9	12

Monthly Cl_2 Avg.	**0.824**
Quarterly Cl_2 Avg.	**0.837**
Yearly Cl_2 Avg.	**0.754**
Total Samples	**144**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Total number of positive routine samples:				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**144**
Total number of routine distribution samples required:	**100**

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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

MONTHLY OPERATION REPORT OF WATER TREATMENT PLANT

DEQ
RESOURCE MANAGEMENT DIVISION
MAY 14 2012
LANSING DISTRICT

For Month of April 2012

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

ENTERED

Michael Glasgow — CERTIFIED OPERATOR
F-1R S-3 — CLASSIFICATION

Michael Glasgow
SIGNATURE OF APPROPRIATE OFFICIAL

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons _____
11. Total Power Cost per Million Gallons _____

Remarks:

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

Coagulation Parameters **WSSN 2310** **Apr-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	20.49	9.14	11.35								3	0.07	0.07
2	20.67	9.13	11.54								3	0.07	0.07
3	21.14	8.76	12.38								3	0.07	0.08
4	19.70	8.35	11.35								3	0.07	0.08
5	19.70	9.88	9.82								3	0.07	0.08
6	20.81	8.74	12.07								3	0.08	0.09
7	21.07	9.67	11.40								3	0.07	0.08
8	20.97	8.76	12.21								3	0.07	0.07
9	20.97	8.76	12.21								3	0.08	0.09
10	21.89	9.02	12.87								3	0.09	0.10
11	21.12	8.75	12.37								3	0.09	0.10
12	21.00	8.79	12.21								3	0.08	0.09
13	21.17	8.23	12.94								3	0.10	0.11
14	20.80	8.55	12.25								3	0.08	0.09
15	20.55	8.40	12.15								3	0.07	0.07
16	22.14	12.85	9.29								3	0.06	0.07
17	21.76	10.20	11.56								3	0.09	0.11
18	21.51	9.71	11.80								3	0.10	0.10
19	22.47	10.31	12.16								3	0.08	0.09
20	22.27	10.71	11.56								3	0.09	0.10
21	21.75	10.29	11.46								3	0.08	0.09
22	22.54	10.63	11.91								3	0.08	0.09
23	23.96	10.36	13.60								3	0.09	0.09
24	21.05	10.00	11.05								3	0.16	0.19
25	20.84	10.25	10.59								3	0.11	0.12
26	24.41	9.70	14.71								3	0.14	0.15
27	11.78	5.51	6.27								3	0.12	0.13
28	12.35	5.39	6.96								3	0.09	0.10
29	21.90	8.49	13.41								3	0.11	0.14
30	25.27	7.47	17.80								3	0.12	0.13
AVG	20.93	9.16	11.77								3	0.09	0.10
MAX	25.27	12.85	17.80								3	0.16	0.19
MIN	11.78	5.39	6.27								3	0.06	0.07
Total	628.00	274.80	353.23										

Flouridation & Chlorination **WSSN 2310** **Apr-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.67					0.8	0.8	0.7	0.8			0.7	
2			0.66					0.8	0.7	0.7	0.7			0.8	
3			0.64					0.8	0.8	0.6	0.7			0.8	
4			0.68					0.8	0.7	0.6	0.7			0.7	
5			0.71					0.7	0.7	0.5	0.6			0.7	
6			0.68					0.7	0.7	0.6	0.7			0.8	
7			0.67					0.8	0.7	0.7	0.6			0.7	
8			0.65					0.6	0.7	0.5	0.6			0.7	
9			0.68					0.7	0.7	0.5	0.7			0.7	
10			0.68					0.8	0.7	0.5	0.6			0.8	
11			0.69					0.7	0.7	0.5	0.6			0.7	
12			0.66					0.7	0.6	0.5	0.6			0.6	
13			0.67					0.7	0.7	0.5	0.7			0.8	
14			0.70					0.7	0.8	0.5	0.7			0.8	
15			0.66					0.7	0.7	0.5	0.6			0.8	
16			0.69					0.7	0.7	0.5	0.7			0.8	
17			0.69					0.5	0.7	0.6	0.6			0.8	
18			0.66					0.8	0.6	0.5	0.6			0.6	
19			0.74					0.8	0.8	0.5	0.7			0.8	
20			0.71					0.8	0.7	0.5	0.7			0.8	
21			0.66					0.7	0.8	0.4	0.5			0.8	
22			0.59					0.8	0.7	0.5	0.5			0.8	
23			0.68					0.7	0.8	0.5	0.6			0.9	
24			0.66					0.9	0.8	0.5	0.5			0.7	
25			0.69					0.9	0.8	0.5	0.7			0.8	
26			0.66					0.9	0.9	n/a	1.0			1.0	
27			0.64					0.8	0.8	n/a	1.0			0.8	
28			0.67					0.8	n/a	n/a	0.9			1.0	
29			0.67					0.8	0.7	n/a	0.8			0.7	
30			0.66					0.8	0.9	n/a	1.0			0.8	
AVG			0.67					0.8	0.7	0.5	0.7			0.8	
MAX			0.74					0.9	0.9	0.7	1.0			1.0	
MIN			0.59					0.5	0.6	0.4	0.5			0.6	

Chemical Analyses **WSSN 2310** **Apr-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.39		98		72		26				29.7		5.8		
2		7.33		98		70		28				30.5		5.3		
3		7.33		98		70		28				31.3		4.9		
4		7.33		100		70		30				30.5		5.8		
5		7.42		98		68		30				30.5		5.3		
6		7.33		98		72		26				29.7		5.8		
7		7.35		98		70		28				30.5		5.3		
8		7.26		100		72		28				28.9		6.8		
9		7.32		98		68		30				30.5		5.3		
10		7.35		98		72		26				30.5		5.3		
11		7.32		100		73		27				30.5		5.8		
12		7.33		98		70		28				30.5		5.3		
13		7.34		100		73		27				29.7		6.3		
14		7.38		98		74		24				30.5		5.3		
15		7.34		98		73		25				30.5		5.3		
16		7.39		98		75		23				29.7		5.8		
17		7.34		100		73		27				30.5		5.8		
18		7.45		98		72		26				29.7		5.8		
19		7.37		98		72		26				30.5		5.3		
20		7.36		100		71		29				29.7		6.3		
21		7.39		98		70		28				29.7		5.8		
22		7.28		98		73		25				30.5		5.3		
23		7.48		98		72		26				28.9		6.3		
24		7.41		98		74		24				30.5		5.3		
25		7.48		98		73		25				30.5		5.3		
26		7.35		100		71		29				29.7		6.3		
27		7.42		100		71		29				30.5		5.8		
28		7.28		102		71		31				29.7		6.8		
29		7.33		100		70		30				30.5		5.8		
30		7.43		100		65		35				30.5		5.8		
AVG		7.36		99		71		27				30.2		5.7		
MAX		7.48		102		75		35				31.3		6.8		
MIN		7.26		98		65		23				28.9		4.9		

Bacteriological & Physical Parameters **WSSN 2310** **Apr-12**

DATE	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap														
	B&P		Dort	3MG Well	Sta. II	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		2/0	2/0	2/0	2/0					9.3				
2	1/0		2/0	2/0	2/0	2/0					10.3				
3	1/0		2/0	2/0	2/0	2/0					10.8				
4	1/0		2/0	2/0	2/0	2/0					12.2				
5	1/0		2/0	2/0	2/0	2/0			< 2		9.7				
6	1/0		2/0	2/0	2/0	2/0					10.4				
7	1/0		2/0	2/0	2/0	2/0					9.9				
8	1/0		2/0	2/0	2/0	2/0					9.9				
9	1/0		2/0	2/0	2/0	2/0					10.7				
10	1/0		2/0	2/0	2/0	2/0					9.9				
11	1/0		2/0	2/0	2/0	2/0					9.3				
12	1/0		2/0	2/0	2/0	2/0					10.1				
13	1/0		2/0	2/0	2/0	2/0					10.3				
14	1/0		2/0	2/0	2/0	2/0					10.5				
15	1/0		2/0	2/0	2/0	2/0					10.6				
16	1/0		2/0	2/0	2/0	2/0					10.3				
17	1/0		2/0	2/0	2/0	2/0					10.4				
18	1/0		2/0	2/0	2/0	2/0					10.6				
19	1/0		2/0	2/0	2/0	2/0					11.1				
20	1/0		2/0	2/0	2/0	2/0					11.2				
21	1/0		2/0	2/0	2/0	2/0					9.9				
22	1/0		2/0	2/0	2/0	2/0					8.9				
23	1/0		2/0	2/0	2/0	2/0					9.5				
24	1/0		2/0	2/0	2/0	2/0					9.3				
25	1/0		1/0	2/0	2/0	2/0					9.3				
26	1/0		0/0	2/0	2/0	2/0					10.5				
27	1/0		0/0	2/0	2/0	2/0					10.3				
28	1/0		0/0	2/0	0/0	2/0					10.5				
29	1/0		0/0	2/0	2/0	2/0					9.3				
30	1/0		0/0	2/0	2/0	2/0					9.3				
											10.1				
											12.2				
											8.9				

Distribution System Monitoring WSSN 2310 Apr-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1											0.8	0.8	2
2									0.4	0.6	0.7	0.7	4
3									0.6	0.8	0.8	0.8	4
4	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.3	0.6	0.6	0.7	12
5	0.7	0.3	0.6	0.6	0.6	0.6	0.7	0.7	0.5	0.7	0.7	0.7	12
6									0.4	0.7	0.7	0.7	4
7											0.7	0.7	2
8											0.7	0.6	2
9									0.4	0.5	0.6	0.7	4
10	0.6	0.6	0.5	0.7	0.6	0.5	0.5	0.6	0.5	0.6	0.7	0.7	12
11	0.7	0.6	0.6	0.6	0.5		0.5	0.8	0.5	0.6	0.7	0.6	11
12									0.5	0.7	0.6	0.6	4
13									0.4	0.6	0.6	0.7	4
14											0.8	0.7	2
15											0.7	0.7	2
16									0.5	0.6	0.7	0.7	4
17	0.7	0.5	0.7	0.7	0.6	0.5	0.6	0.7	0.6	0.9	0.7	0.7	12
18	0.7	0.4	0.6	0.6	0.5		0.6	0.7	0.4	0.6	0.6	0.6	11
19									0.6	0.8	0.7	0.8	4
20									0.3	0.6	0.7	0.6	4
21											0.8	0.8	2
22											0.7	0.7	2
23									0.5	0.7	0.7	0.8	4
24											0.8	0.8	2
25									0.3	0.7	0.7	0.8	4
26											0.9	0.9	2
27									0.4	0.7	0.8	0.8	4
28											n/a	n/a	0
29											0.7	0.7	2
30									0.7	0.9	0.9	0.8	4

Monthly Cl_2 Avg.	**0.644**
Quarterly Cl_2 Avg.	**0.728**
Yearly Cl_2 Avg.	**0.661**
Total Samples	**142**

Distribution System Monitoring WSSN 2310 Apr-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1											1.0	1.0	2
2									0.6	0.8	0.9	0.9	4
3									0.7	0.9	0.9	0.9	4
4	0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.5	0.8	0.8	0.9	12
5	0.9	0.4	0.8	0.7	0.7	0.7	0.8	0.9	0.7	0.9	0.9	0.9	12
6									0.5	0.9	0.8	0.8	4
7											0.9	0.9	2
8											0.8	0.8	2
9									0.5	0.7	0.8	0.8	4
10	0.8	0.8	0.7	0.9	0.8	0.6	0.7	0.8	0.7	0.8	0.8	0.8	12
11	0.9	0.8	0.8	0.8	0.6		0.7	0.9	0.7	0.8	0.9	0.8	11
12									0.6	0.8	0.8	0.8	4
13									0.6	0.8	0.8	0.9	4
14											0.9	0.8	2
15											0.8	0.8	2
16									0.7	0.8	0.9	0.9	4
17	0.9	0.7	0.9	0.9	0.8	0.7	0.8	0.9	0.7	1.0	0.8	0.8	12
18	0.9	0.5	0.8	0.8	0.6		0.7	0.9	0.6	0.8	0.8	0.8	11
19									0.7	1.0	0.9	1.0	4
20									0.5	0.8	0.9	0.7	4
21											0.9	0.9	2
22											0.8	0.8	2
23									0.6	0.8	0.9	0.9	4
24											1.0	0.9	2
25									0.4	0.9	0.9	1.0	4
26											1.1	1.1	2
27									0.6	0.9	1.0	1.0	4
28											n/a	n/a	0
29											0.8	0.8	2
30									0.9	1.1	1.1	1.0	4

Monthly Cl_2 Avg.	**0.811**
Quarterly Cl_2 Avg.	**0.879**
Yearly Cl_2 Avg.	**0.799**
Total Samples	**142**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Total number of positive routine samples:				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**142**
Total number of routine distribution samples required:	**100**

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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

MONTHLY OPERATION REPORT
OF
WATER TREATMENT PLANT

ENTERED

For Month of March 2012

Flint Water Plant
NAME OF WATER SYSTEM

2310 WSSN
Genesee COUNTY

Michael Glasgow
CERTIFIED OPERATOR

F-1R S-3
CLASSIFICATION

Michael Glasgow
SIGNATURE OF APPROPRIATE OFFICIAL

DEQ
RESOURCE MANAGEMENT DIVISION
APR 09 2012
LANSING DISTRICT

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons _____
11. Total Power Cost per Million Gallons _____

Remarks:

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

MP

Coagulation Parameters **WSSN 2310** **Mar-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	22.18	9.90	12.28								3	0.08	0.08
2	22.22	9.69	12.53								3	0.08	0.09
3	21.72	10.66	11.06								3	0.07	0.08
4	21.29	10.86	10.43								3	0.08	0.09
5	20.30	10.43	9.87								3	0.07	0.08
6	20.84	10.34	10.50								3	0.08	0.08
7	22.28	10.74	11.54								3	0.06	0.07
8	21.90	10.04	11.86								3	0.07	0.08
9	21.84	9.22	12.62								3	0.08	0.09
10	21.68	9.59	12.09								3	0.07	0.09
11	20.40	8.69	11.71								3	0.07	0.08
12	21.45	9.52	11.83								3	0.07	0.07
13	21.57	8.79	12.78								3	0.08	0.09
14	20.46	8.76	11.70								3	0.08	0.08
15	19.67	9.92	9.75								3	0.07	0.07
16	22.34	9.96	12.38								3	0.07	0.08
17	22.15	11.51	10.64								3	0.07	0.07
18	23.02	11.49	11.53								3	0.08	0.09
19	22.80	11.86	10.94								3	0.07	0.08
20	24.31	10.83	13.48								3	0.10	0.14
21	22.45	10.10	12.35								3	0.10	0.11
22	21.92	8.99	12.93								3	0.08	0.11
23	21.23	9.08	12.15								3	0.08	0.10
24	21.11	9.43	11.68								3	0.09	0.09
25	20.08	8.99	11.09								1	0.07	0.07
26	20.67	8.83	11.84								3	0.07	0.08
27	21.07	8.78	12.29								3	0.07	0.07
28	20.84	8.65	12.19								3	0.09	0.09
29	19.48	8.41	11.07								3	0.08	0.08
30	21.29	9.00	12.29								3	0.07	0.08
31	20.02	9.11	10.91								3	0.06	0.06
AVG	21.44	9.75	11.69								3	0.08	0.08
MAX	24.31	11.86	13.48								3	0.10	0.14
MIN	19.48	8.41	9.75								1	0.06	0.06
Total	664.58	302.17	362.31										

Flouridation & Chlorination **WSSN 2310** **Mar-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.61					0.8	0.9	0.8	0.8			0.9	
2			0.61					0.9	1.0	0.7	0.9			0.9	
3			0.63					0.9	0.8	0.8	0.8			0.8	
4			0.60					0.8	0.8	0.7	0.8			0.8	
5			0.62					0.9	0.7	0.7	0.8			0.8	
6			0.62					0.8	0.9	0.7	0.9			0.9	
7			0.60					0.8	0.9	0.8	0.7			0.8	
8			0.61					0.9	1.0	0.8	0.8			0.9	
9			0.65					0.9	0.9	0.6	0.8			0.8	
10			0.59					0.8	0.9	0.8	0.7			0.7	
11			0.64					0.8	0.9	0.8	0.8			0.9	
12			0.64					0.8	0.7	0.7	0.8			0.7	
13			0.63					0.9	0.8	0.7	0.8			0.9	
14			0.60					0.8	0.9	0.7	0.7			0.8	
15			0.63					0.8	0.8	0.7	0.9			0.8	
16			0.64					0.9	0.7	0.7	0.8			0.9	
17			0.64					0.8	0.8	0.7	0.8			0.8	
18			0.55					0.8	0.9	0.8	0.8			0.8	
19			0.59					0.8	0.9	0.8	0.8			0.8	
20			0.62					0.9	0.8	0.8	0.8			0.9	
21			0.65					0.8	0.9	0.8	0.8			0.8	
22			0.64					0.8	0.9	0.8	0.9			0.8	
23			0.70					0.8	0.9	0.8	0.9			0.9	
24			0.70					0.9	0.9	0.7	0.8			0.9	
25			n/a					0.8	0.7	0.8	0.7			0.7	
26			0.66					0.8	0.9	0.8	0.8			0.9	
27			0.71					0.7	1.0	0.7	0.8			0.9	
28			0.70					0.8	0.7	0.7	0.8			0.7	
29			0.64					0.8	0.8	0.8	0.8			0.8	
30			0.71					0.8	0.8	0.7	0.8			0.8	
31			0.65					0.9	0.7	0.7	0.7			0.7	
AVG			0.64					0.8	0.8	0.7	0.8			0.8	
MAX			0.71					0.9	1.0	0.8	0.9			0.9	
MIN			0.55					0.7	0.7	0.6	0.7			0.7	

Chemical Analyses **WSSN 2310** **Mar-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.20		100		69		31				28.9		6.8		
2		7.34		96		69		27				28.1		6.3		
3		7.27		98		74		24				29.7		5.8		
4		7.26		98		71		27				29.7		5.8		
5		7.36		100		69		31				29.7		6.3		
6		7.30		96		68		28				28.1		6.3		
7		7.24		96		68		28				29.7		5.3		
8		7.29		98		66		32				28.1		6.8		
9		7.36		96		72		24				28.1		6.3		
10		7.29		98		70		28				29.7		5.8		
11		7.30		96		72		24				28.9		5.3		
12		7.34		96		72		24				28.1		6.3		
13		7.30		98		71		27				28.1		6.8		
14		7.32		98		71		27				29.7		5.8		
15		7.33		100		71		29				28.9		6.8		
16		7.30		98		72		26				29.7		5.8		
17		7.36		98		72		26				28.9		6.3		
18		7.28		98		72		26				29.7		5.8		
19		7.36		100		70		30				29.7		6.3		
20		7.34		98		71		27				28.9		6.3		
21		7.48		98		71		27				29.7		5.8		
22		7.44		100		71		29				28.1		7.3		
23		7.36		94		69		25				29.7		4.9		
24		7.39		96		74		22				28.9		5.8		
25		7.34		n/a		n/a		n/a				n/a		n/a		
26		7.39		96		71		25				28.1		6.3		
27		7.44		98		70		28				28.9		6.3		
28		7.37		96		70		26				28.9		5.8		
29		7.43		96		71		25				29.7		5.3		
30		7.32		96		71		25				29.7		5.3		
31		7.31		106		66		40				28.9		8.3		
AVG		7.34		98		70		27				29.0		6.1		
MAX		7.48		106		74		40				29.7		8.3		
MIN		7.20		94		66		22				28.1		4.9		

Bacteriological & Physical Parameters **WSSN 2310** **Mar-12**

DATE	Total Coliform Plant Tap B&P		Dort	3MG Well	Pump	Lab Tap		Standard Plate Count Raw	Tap	Wind Direction	Temp deg.C	Color Raw	Tap	Odor Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		2/0	2/0	2/0	2/0					11.5				
2	1/0		2/0	2/0	2/0	2/0					11.2				
3	1/0		2/0	2/0	2/0	2/0					9.7				
4	1/0		2/0	2/0	2/0	2/0					9.2				
5	1/0		2/0	2/0	2/0	2/0					9.9				
6	1/0		2/0	2/0	2/0	2/0					10.1				
7	1/0		2/0	2/0	2/0	2/0					9.0				
8	1/0		2/0	2/0	2/0	2/0			<2		10.3				
9	1/0		2/0	2/0	2/0	2/0					9.5				
10	1/0		2/0	2/0	2/0	2/0					7.7				
11	1/0		2/0	2/0	2/0	2/0					8.0				
12	1/0		2/0	2/0	2/0	2/0					8.4				
13	1/0		2/0	2/0	2/0	2/0					8.9				
14	1/0		2/0	2/0	2/0	2/0					7.7				
15	1/0		2/0	2/0	2/0	2/0					9.1				
16	1/0		2/0	2/0	2/0	2/0					9.5				
17	1/0		2/0	2/0	2/0	2/0					8.4				
18	1/0		2/0	2/0	2/0	2/0					8.8				
19	1/0		2/0	2/0	2/0	2/0					9.0				
20	1/0		2/0	2/0	2/0	2/0					10.6				
21	1/0		2/0	2/0	2/0	2/0					9.3				
22	1/0		2/0	2/0	2/0	2/0					9.7				
23	1/0		2/0	2/0	2/0	2/0					11.6				
24	1/0		2/0	2/0	2/0	2/0					11.4				
25	1/0		1/0	1/0	1/0	1/0					n/a				
26	1/0		2/0	2/0	2/0	2/0					10.9				
27	1/0		2/0	2/0	2/0	2/0					9.8				
28	1/0		2/0	2/0	2/0	2/0					10.3				
29	1/0		2/0	2/0	2/0	2/0					9.4				
30	1/0		2/0	2/0	2/0	2/0					9.8				
31	1/0		2/0	2/0	2/0	2/0					9.9				
											9.6				
											11.6				
											7.7				

Distribution System Monitoring WSSN 2310 Mar-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1	0.7	0.7	0.7	0.5	0.5	0.6	0.5	0.8	0.5	0.6	0.8	0.9	12
2									0.5	0.7	1.0	0.9	4
3											0.8	0.8	2
4											0.8	0.8	2
5									0.6	0.7	0.7	0.7	4
6	0.8	0.8	0.8	0.5	0.5	0.7	0.7	0.9	0.5	0.6	0.8	0.9	12
7									0.5	0.6	0.9	0.8	4
8	0.7	0.7	0.7	0.5	0.5	0.6	0.7		0.5	0.7	1.0	1.0	11
9									0.5	0.7	0.8	0.9	4
10											0.8	0.9	2
11											0.8	0.9	2
12									0.6	0.7	0.7	0.7	4
13	0.7	0.7	0.7	0.5	0.4	0.6			0.5	0.6	0.7	0.9	10
14	0.7	0.6	0.7	0.6	0.5	0.5	0.7	0.6	0.6	0.7	0.8	1.0	12
15							0.5	0.7	0.5	0.8	0.8	0.8	6
16									0.5	0.7	0.7	0.7	4
17											0.7	0.8	2
18											0.8	0.9	2
19									0.8	0.9	0.8	0.9	4
20	0.7	0.7	0.7	0.4	0.5	0.6	0.6	0.7	0.6	0.8	0.8	0.8	12
21									0.7	0.8	0.8	0.9	4
22	0.6	0.6	0.6	0.5	0.5	0.4	0.6	0.6	0.5	0.7	0.8	0.9	12
23									0.5	0.7	0.7	1.0	4
24											0.9	0.9	2
25											0.7		1
26									0.3	0.6	0.8	0.9	4
27									0.6	0.7	0.9	1.0	4
28									0.5	0.7	0.8	0.6	4
29									0.6	0.7	0.8	0.8	4
30									0.5	0.6	0.9	0.7	4
31											0.7	0.7	2

Monthly Cl_2 Avg.	**0.697**
Quarterly Cl_2 Avg.	**0.655**
Yearly Cl_2 Avg.	**0.610**
Total Samples	**160**

Distribution System Monitoring WSSN 2310 Mar-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1	0.8	0.9	0.9	0.6	0.6	0.7	0.7	1.0	0.6	0.7	1.0	1.0	12
2									0.6	0.9	1.1	1.0	4
3											1.0	1.0	2
4											1.0	1.0	2
5									0.7	0.8	0.9	0.9	4
6	0.9	0.9	0.9	0.7	0.6	0.9	0.9	1.0	0.6	0.7	0.9	1.0	12
7									0.6	0.8	1.0	0.9	4
8	0.9	0.9	0.9	0.7	0.6	0.8	0.9		0.6	0.9	0.9	1.0	11
9									0.6	0.8	0.9	1.0	4
10											1.0	1.0	2
11											0.9	1.0	2
12											0.9	0.8	2
13	0.9	0.9	0.9	0.7	0.6	0.8			0.6	0.7	0.9	1.0	10
14	0.9	0.8	0.9	0.8	0.6	0.7	0.8	0.7	0.8	0.9	1.0	1.1	12
15							0.7	0.9	0.7	1.0	0.9	1.0	6
16									0.7	0.9	0.9	1.0	4
17											0.8	0.9	2
18											1.0	1.0	2
19									0.9	1.0	1.0	1.0	4
20	0.9	0.8	0.8	0.6	0.6	0.8	0.8	0.9	0.7	0.9	1.0	1.0	12
21									0.8	1.0	0.9	1.0	4
22	0.8	0.8	0.8	0.6	0.7	0.6	0.8	0.8	0.7	0.9	1.0	1.0	12
23									0.7	0.9	0.9	1.1	4
24											1.1	1.0	2
25											0.9		1
26									0.5	0.8	0.9	1.1	4
27									0.7	0.9	1.1	1.1	4
28									0.7	0.9	1.0	0.8	4
29									0.7	0.9	1.0	1.0	4
30									0.6	0.7	1.0	0.8	4
31											0.9	0.9	2

Monthly Cl_2 Avg.	**0.852**
Quarterly Cl_2 Avg.	**0.810**
Yearly Cl_2 Avg.	**0.756**
Total Samples	**158**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Total number of positive routine samples:				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**160**
Total number of routine distribution samples required:	**100**

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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

ENTERED

MONTHLY OPERATION REPORT OF WATER TREATMENT PLANT

For Month of February 2012

Flint Water Plant — NAME OF WATER SYSTEM

2310 — WSSN

Genesee — COUNTY

Michael Glasgow — CERTIFIED OPERATOR

F-1R S-3 — CLASSIFICATION

Michael Glasgow — SIGNATURE OF APPROPRIATE OFFICIAL

DEQ
RESOURCE MANAGEMENT DIVISION
MAR 07 2012
LANSING DISTRICT

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons _____
11. Total Power Cost per Million Gallons _____

Remarks:

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

MP

Coagulation Parameters **WSSN 2310** **Feb-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	21.10	8.85	12.25								3	0.10	0.12
2	20.58	9.38	11.20								3	0.08	0.10
3	22.33	10.76	11.57								3	0.07	0.07
4	24.03	11.65	12.38								3	0.06	0.07
5	26.17	11.78	14.39								3	0.07	0.08
6	24.57	12.40	12.17								3	0.08	0.10
7	24.38	12.07	12.31								3	0.08	0.09
8	22.79	9.66	13.13								3	0.08	0.09
9	22.16	8.81	13.35								3	0.08	0.08
10	22.49	9.41	13.08								3	0.08	0.09
11	22.35	9.03	13.32								3	0.07	0.09
12	21.10	9.23	11.87								3	0.06	0.07
13	22.01	9.91	12.10								3	0.07	0.07
14	22.78	9.06	13.72								3	0.09	0.13
15	21.73	9.19	12.54								3	0.07	0.09
16	21.98	8.42	13.56								3	0.08	0.08
17	22.68	10.45	12.23								3	0.09	0.12
18	23.07	10.66	12.41								3	0.07	0.08
19	22.91	10.83	12.08								3	0.07	0.08
20	23.17	10.22	12.95								3	0.08	0.08
21	23.94	11.09	12.85								3	0.07	0.09
22	24.21	11.89	12.32								3	0.09	0.10
23	23.72	11.70	12.02								3	0.08	0.09
24	22.55	9.98	12.57								3	0.08	0.09
25	21.39	9.61	11.78								3	0.08	0.08
26	20.20	10.98	9.22								3	0.07	0.08
27	20.08	9.45	10.63								3	0.07	0.09
28	20.34	9.33	11.01								3	0.07	0.07
29	20.78	10.00	10.78								3	0.06	0.07
AVG	22.47	10.20	12.27								3	0.08	0.09
MAX	26.17	12.40	14.39								3	0.10	0.13
MIN	20.08	8.42	9.22								3	0.06	0.07
Total	651.57	295.80	355.78										

Flouridation & Chlorination **WSSN 2310** **Feb-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.60					0.9	0.7	0.8	0.8			0.8	
2			0.64					0.9	0.7	0.7	0.8			0.9	
3			0.67					0.8	0.9	0.7	0.9			0.9	
4			0.66					0.8	0.9	0.8	0.8			0.9	
5			0.64					0.8	0.8	0.8	0.8			0.9	
6			0.62					0.8	0.8	0.8	0.8			0.8	
7			0.64					0.8	0.9	0.7	0.9			0.9	
8			0.62					0.9	1.0	0.8	0.8			0.7	
9			0.68					0.8	0.9	0.7	0.9			0.9	
10			0.61					0.9	0.9	0.8	0.9			0.8	
11			0.62					0.8	0.8	0.7	0.7			0.8	
12			0.61					0.9	0.9	0.7	0.8			0.8	
13			0.64					0.8	0.8	0.7	0.8			0.8	
14			0.58					0.8	0.8	0.8	0.8			0.9	
15			0.57					0.8	0.8	0.8	0.8			0.8	
16			0.61					0.9	0.8	0.8	0.9			0.9	
17			0.62					0.8	0.8	0.8	0.8			0.8	
18			0.61					0.8	0.7	0.8	0.8			0.7	
19			0.62					0.8	0.7	0.7	0.9			0.8	
20			0.62					0.8	0.8	0.7	0.8			0.7	
21			0.66					0.7	0.8	0.7	0.8			0.7	
22			0.66					0.9	0.8	0.7	0.8			0.9	
23			0.65					0.9	0.8	0.8	0.8			0.8	
24			0.67					0.9	0.8	0.7	0.8			0.8	
25			0.67					0.8	0.9	0.7	0.8			0.8	
26			0.63					0.9	0.8	0.8	0.8			0.7	
27			0.65					0.8	0.9	0.7	0.8			0.7	
28			0.65					0.9	0.8	0.8	0.8			0.9	
29			0.55					0.9	0.8	0.7	0.7			0.8	
AVG			0.63					0.8	0.8	0.7	0.8			0.8	
MAX			0.68					0.9	1.0	0.8	0.9			0.9	
MIN			0.55					0.7	0.7	0.7	0.7			0.7	

Chemical Analyses **WSSN 2310** **Feb-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium as Ca 2+ mg/l		Magnesium as Mg 2+ mg/l		Chloride as Cl - mg/l	
	Raw	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		7.26		96		67		29				27.3		6.8		
2		7.29		98		71		27				28.1		6.8		
3		7.34		96		69		27				28.1		6.3		
4		7.32		96		66		30				27.3		7.3		
5		7.27		96		74		22				28.9		5.8		
6		7.34		96		67		29				29.7		5.3		
7		7.28		96		71		25				28.1		6.3		
8		7.39		98		71		27				29.7		5.8		
9		7.36		96		67		29				28.1		6.3		
10		7.39		98		70		28				29.7		5.8		
11		7.28		98		70		28				28.9		6.3		
12		7.28		98		70		28				29.7		5.8		
13		7.34		98		67		31				25.7		8.3		
14		7.33		98		72		26				29.7		5.8		
15		7.43		100		72		28				29.7		6.3		
16		7.20		92		69		23				28.1		5.3		
17		7.34		98		69		29				29.7		5.8		
18		7.18		98		66		32				28.9		6.3		
19		7.18		100		72		28				29.7		6.3		
20		7.28		98		68		30				29.7		5.8		
21		7.18		100		70		30				29.7		6.3		
22		7.32		90		65		25				28.1		4.9		
23		7.22		98		70		28				27.3		7.3		
24		7.26		98		70		28				27.3		7.3		
25		7.32		96		71		25				28.1		6.3		
26		7.40		98		72		26				29.7		5.8		
27		7.47		98		68		30				28.9		6.3		
28		7.30		98		70		28				28.1		6.8		
29		7.28		98		64		34				29.7		5.8		
AVG		7.30		97		69		28				28.7		6.3		
MAX		7.47		100		74		34				29.7		8.3		
MIN		7.18		90		64		22				25.7		4.9		

Bacteriological & Physical Parameters **WSSN 2310** **Feb-12**

DATE	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap														
	B&P		Dort	3MG Well	Pump	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		2/0	2/0	2/0	2/0					11.9				
2	1/0		2/0	2/0	2/0	2/0					11.9				
3	1/0		2/0	2/0	2/0	2/0					12.2				
4	1/0		2/0	2/0	2/0	2/0					11.7				
5	1/0		2/0	2/0	2/0	2/0					12.1				
6	1/0		2/0	2/0	2/0	2/0					11.6				
7	1/0		2/0	2/0	2/0	2/0					10.3				
8	1/0		2/0	2/0	2/0	2/0					8.4				
9	1/0		2/0	2/0	2/0	2/0					10.0				
10	1/0		2/0	2/0	2/0	2/0					9.4				
11	1/0		2/0	2/0	2/0	2/0					8.3				
12	1/0		2/0	2/0	2/0	2/0					8.5				
13	1/0		2/0	2/0	2/0	2/0					10.5				
14	1/0		2/0	2/0	2/0	2/0					9.7				
15	1/0		2/0	2/0	2/0	2/0					9.7				
16	1/0		2/0	2/0	2/0	2/0		< 2			11.3				
17	1/0		2/0	2/0	2/0	2/0					10.1				
18	1/0		2/0	2/0	2/0	2/0					8.8				
19	1/0		2/0	2/0	2/0	2/0					8.5				
20	1/0		2/0	2/0	2/0	2/0					8.6				
21	1/0		2/0	2/0	2/0	2/0					8.8				
22	1/0		2/0	2/0	2/0	2/0					11.2				
23	1/0		2/0	2/0	2/0	2/0					9.8				
24	1/0		2/0	2/0	2/0	2/0					8.8				
25	1/0		2/0	2/0	2/0	2/0					9.9				
26	1/0		2/0	2/0	2/0	2/0					9.7				
27	1/0		2/0	2/0	2/0	2/0					9.5				
28	1/0		2/0	2/0	2/0	2/0					10.2				
29	1/0		2/0	2/0	2/0	2/0					8.8				
											10.0				
											12.2				
											8.3				

Distribution System Monitoring WSSN 2310 Feb-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1	0.7	0.3	0.5	0.6	0.4	0.7	0.5	0.5	0.5	0.8	0.7	0.7	12
2	0.7	0.6	0.7		0.4	0.5	0.7	0.7	0.6	0.8	0.7	0.7	11
3									0.4	0.8	0.8	0.9	4
4											0.9	0.9	2
5											0.8	0.8	2
6											0.9	0.7	2
7									0.5	0.8	0.9	0.9	4
8											1.0	0.9	2
9									0.5	0.9	0.9	0.8	4
10											0.9	0.9	2
11											0.8	0.8	2
12											0.9	0.8	2
13									0.6	0.7	0.7	0.8	4
14									0.6	0.8	0.8	0.8	4
15											0.8	0.8	2
16	0.8	0.8	0.5	0.6	0.7	0.7	0.7	0.8	0.5	0.7	0.8	0.9	12
17									0.6	0.7	0.8	0.8	4
18											0.7	0.7	2
19											0.7	0.7	2
20											0.8	0.8	2
21											0.8	0.8	2
22	0.8	0.7	0.6	0.6	0.4	0.7	0.6	0.8	0.5	0.7	0.8	0.8	12
23	0.7	0.7	0.7	0.5	0.6	0.7	0.6	0.8	0.5	0.7	0.8	0.8	12
24									0.5	0.7	0.7	0.9	4
25											0.8	0.9	2
26											0.8	0.8	2
27									0.6	0.7	0.8	0.9	4
28	0.7	0.7	0.5	0.6	0.4	0.7	0.8	0.8	0.5	0.7	0.8	0.8	12
29									0.5	0.7	0.8	0.8	4

Monthly Cl_2 Avg.	**0.710**
Quarterly Cl_2 Avg.	**0.613**
Yearly Cl_2 Avg.	**0.624**
Total Samples	**135**

Distribution System Monitoring WSSN 2310 Feb-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1	0.9	0.4	0.7	0.8	0.5	0.8	0.7	0.6	0.6	1.0	0.9	0.9	12
2	0.9	0.8	0.8		0.6	0.7	0.8	0.9	0.7	1.0	0.9	0.9	11
3									0.5	1.0	0.9	1.0	4
4											1.1	1.1	2
5											0.9	0.9	2
6											1.0	0.9	2
7									0.6	1.0	1.0	1.0	4
8											1.1	1.0	2
9									0.6	1.1	1.0	0.9	4
10											1.0	1.0	2
11											0.9	0.9	2
12											1.0	1.0	2
13									0.8	0.9	0.9	1.0	4
14									0.7	1.0	1.0	1.0	4
15											0.9	0.9	2
16	0.9	1.0	0.7	0.8	0.8	0.9	0.9	1.0	0.7	0.9	0.9	1.0	12
17									0.8	0.9	0.9	1.0	4
18											0.9	0.9	2
19											0.9	0.9	2
20											1.0	0.9	2
21											1.0	1.0	2
22	1.0	0.9	0.8	0.8	0.6	0.9	0.8	1.0	0.6	0.8	1.0	1.0	12
23	0.9	0.9	0.8	0.7	0.7	0.9	0.8	0.9	0.6	0.8	0.9	1.0	12
24									0.7	0.8	0.8	1.0	4
25											0.9	1.0	2
26											0.9	0.9	2
27									0.7	0.8	0.9	1.0	4
28	0.9	0.8	0.7	0.7	0.5	0.8	0.9	1.0	0.6	0.8	1.0	0.9	12
29									0.6	0.9	0.9	0.9	4

Monthly Cl_2 Avg.	**0.861**
Quarterly Cl_2 Avg.	**0.762**
Yearly Cl_2 Avg.	**0.768**
Total Samples	**135**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Total number of positive routine samples:				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**135**
Total number of routine distribution samples required:	**100**

D-5a 7/86
Authority; Act 399, P.A. 1976

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310

MONTHLY OPERATION REPORT
OF
WATER TREATMENT PLANT

For Month of January 2012

ENTERED

Flint Water Plant
NAME OF WATER SYSTEM

2310 Genesee
WSSN COUNTY

Michael Glasgow
CERTIFIED OPERATOR

F-1R S-3
CLASSIFICATION

Michael Glasgow
SIGNATURE OF APPROPRIATE OFFICIAL

DEQ
RESOURCE MANAGEMENT DIVISION
FEB 13 2012
LANSING DISTRICT

TREATMENT RATE AND FILTER DATA

1. Treatment Rate, Maximum____ Million Gallons Per Day
2. Treatment Rate, Approved Rated Plant Capacity____Million Gallons per Day
3. Average Filter Run___ Hours, Average Head Loss _____Feet
4. Average Filtration Rate _____ Gallons per Square Ft. per Minute
5. Maximum Filtration Rate _____ Gallons per Square Ft. per Minute
6. Average Wash Water Use _____ percent of Treated Water

CHEMICAL DATA

7. Chlorine on hand _____ lbs.: Estimated supply _____ days
8. Lime (CaO) on hand _____ lbs.: Estimated supply _____ days
9. Alum (Al3+) on hand _____ lbs.: Estimated supply _____ days
10. Cost of All Chemicals per Million Gallons _____
11. Total Power Cost per Million Gallons _____

Remarks:

Submit to: Mike Prysby, P.E.
MDEQ-Water Division-Lansing District
P.O. Box 30242
Lansing, MI 48909

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

MP

Coagulation Parameters **WSSN 2310** **Jan-12**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units						
							Raw				Plant Tap		
							# of Samples	Avg.	Max		# of Samples	Avg.	Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	20.82	10.74	10.08								3	0.07	0.07
2	21.84	11.17	10.67								3	0.07	0.08
3	21.87	10.03	11.84								3	0.10	0.14
4	20.83	10.21	10.62								3	0.09	0.10
5	21.60	9.86	11.74								3	0.08	0.10
6	21.20	9.77	11.43								3	0.08	0.08
7	20.86	10.58	10.28								3	0.07	0.07
8	21.48	10.45	11.03								3	0.07	0.08
9	21.32	10.65	10.67								3	0.07	0.08
10	22.71	11.56	11.15								3	0.07	0.08
11	22.58	12.35	10.23								3	0.08	0.08
12	22.31	10.74	11.57								3	0.07	0.09
13	21.72	10.17	11.55								3	0.07	0.07
14	21.57	10.13	11.44								3	0.08	0.09
15	21.92	11.01	10.91								3	0.08	0.10
16	22.32	10.99	11.33								3	0.08	0.10
17	23.56	10.73	12.83								3	0.10	0.10
18	22.02	10.20	11.82								3	0.12	0.16
19	21.06	8.64	12.42								3	0.10	0.10
20	20.92	8.30	12.62								3	0.08	0.08
21	20.65	8.75	11.90								3	0.07	0.07
22	21.07	9.01	12.06								3	0.06	0.07
23	22.20	9.95	12.25								3	0.08	0.09
24	20.56	12.86	7.70								3	0.08	0.08
25	19.48	12.26	7.22								3	0.07	0.08
26	21.90	12.93	8.97								3	0.07	0.07
27	24.28	11.29	12.99								3	0.07	0.08
28	27.31	10.89	16.42								3	0.11	0.12
29	27.03	10.63	16.40								3	0.15	0.18
30	23.54	9.59	13.95								3	0.12	0.13
31	22.85	9.27	13.58								3	0.09	0.13
AVG	22.11	10.51	11.60								3	0.08	0.09
MAX	27.31	12.93	16.42								3	0.15	0.18
MIN	19.48	8.30	7.22								3	0.06	0.07
Total	685.38	325.71	359.64										

Flouridation & Chlorination **WSSN 2310** **Jan-12**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
						Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P	Sta II	Dort	3MG Well		Tap		
		Raw	Tap	Dist				Free	Free	Free	Free			Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.56					0.8	0.8	0.7	0.7			0.6	
2			0.56					0.9	0.8	0.7	0.7			0.6	
3			0.59					0.9	0.9	0.8	0.7			0.9	
4			0.64					0.9	0.8	0.7	0.7			0.8	
5			0.63					0.7	0.8	0.7	0.7			0.7	
6			0.65					0.9	0.8	0.7	0.8			0.8	
7			0.65					0.8	0.8	0.7	0.7			0.7	
8			0.67					0.9	0.8	0.8	0.7			0.8	
9			0.69					0.8	0.8	0.7	0.8			0.8	
10			0.68					0.6	0.9	0.7	0.8			0.7	
11			0.70					0.8	0.7	0.7	0.7			0.8	
12			0.65					0.8	0.8	0.7	0.8			0.7	
13			0.68					0.8	0.8	0.7	0.8			0.7	
14			0.62					0.8	0.8	0.7	0.7			0.8	
15			0.61					0.7	0.8	0.7	0.8			0.7	
16			0.65					0.7	0.8	0.7	0.7			0.7	
17			0.66					0.9	0.8	0.7	0.8			0.8	
18			0.65					0.9	0.8	0.7	0.8			0.8	
19			0.67					0.9	0.9	0.7	0.8			0.9	
20			0.69					0.8	0.8	0.7	0.8			0.8	
21			0.62					0.7	0.8	0.7	0.7			0.7	
22			0.60					0.8	0.7	0.7	0.7			0.8	
23			0.64					0.7	0.8	0.7	0.8			0.7	
24			0.65					0.9	0.9	0.7	0.8			0.9	
25			0.62					0.9	0.8	0.7	0.8			0.9	
26			0.63					0.8	0.9	0.7	0.9			0.8	
27			0.62					0.9	0.9	0.8	0.9			0.8	
28			0.67					0.7	0.8	0.7	0.8			0.7	
29			0.66					0.7	0.8	0.7	0.7			0.8	
30			0.64					0.8	0.9	0.7	0.8			0.7	
31			0.64					0.8	0.9	0.6	0.8			0.7	
AVG			0.64					0.8	0.8	0.7	0.8			0.8	
MAX			0.70					0.9	0.9	0.8	0.9			0.9	
MIN			0.56					0.6	0.7	0.6	0.7			0.6	

Chemical Analyses **WSSN 2310** **Jan-12**

DATE	pH		Total Hard as $CaCO_3$ mg/l		Total Alk as $CaCO_3$ mg/l		NonCarbonate Hardness as $CaCO_3$ mg/l				Calcium Ca ++ mg/l		Magnesium as Mg ++ mg/l		Chloride as Cl - mg/l	
	Raw	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		98		69		29				29.7		5.8		
2		7.36		98		71		27				29.7		5.8		
3		7.36		98		69		29				28.1		6.8		
4		7.31		102		68		34				28.9		7.3		
5		7.46		98		72		26				29.7		5.8		
6		7.31		94		69		25				27.3		6.3		
7		7.43		98		73		25				29.7		5.8		
8		7.34		94		71		23				27.3		6.3		
9		7.31		96		69		27				28.1		6.3		
10		7.26		96		71		25				28.1		6.3		
11		7.25		96		66		30				27.3		6.8		
12		7.36		96		72		24				29.7		5.3		
13		7.20		98		70		28				29.7		5.8		
14		7.24		98		67		31				29.7		5.8		
15		7.24		96		71		25				29.7		5.3		
16		7.26		98		69		29				29.7		5.8		
17		7.38		100		66		34				31.3		5.3		
18		7.35		96		70		26				27.3		6.8		
19		7.25		98		70		28				28.1		6.8		
20		7.22		96		70		26				27.3		6.8		
21		7.24		96		70		26				28.9		5.3		
22		7.21		96		69		27				29.7		5.3		
23		7.32		96		69		27				28.9		5.8		
24		7.23		98		68		30				28.9		6.3		
25		7.28		94		68		26				26.5		6.8		
26		7.24		96		71		25				27.3		6.8		
27		7.26		96		69		27				27.3		6.8		
28		7.21		96		71		25				28.1		6.3		
29		7.16		98		73		25				28.9		6.3		
30		7.31		98		67		31				29.7		5.8		
31		7.36		98		72		26				29.7		5.8		
AVG		7.29		97		70		27				28.7		6.1		
MAX		7.46		102		73		34				31.3		7.3		
MIN		7.16		94		66		23				26.5		5.3		

Bacteriological & Physical Parameters **WSSN 2310** **Jan-12**

DATE	Total Coliform							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	Plant Tap														
	B&P		Dort	3MG Well	Pump	Lab Tap		Raw	Tap			Raw	Tap	Raw	Tap
	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
1	1/0		2/0	2/0	2/0	2/0					13.5				
2	1/0		2/0	2/0	2/0	2/0					12.2				
3	1/0		2/0	2/0	2/0	2/0					12.1				
4	1/0		2/0	2/0	2/0	2/0					15.2				
5	1/0		2/0	2/0	2/0	2/0					10.3				
6	1/0		2/0	2/0	2/0	2/0					14.2				
7	1/0		2/0	2/0	2/0	2/0					12.4				
8	1/0		2/0	2/0	2/0	2/0					12.7				
9	1/0		2/0	2/0	2/0	2/0					13.5				
10	1/0		2/0	2/0	2/0	2/0					12.9				
11	1/0		2/0	2/0	2/0	2/0					13.9				
12	1/0		2/0	2/0	2/0	2/0					11.3				
13	1/0		2/0	2/0	2/0	2/0					11.8				
14	1/0		2/0	2/0	2/0	2/0					11.7				
15	1/0		2/0	2/0	2/0	2/0					11.4				
16	1/0		2/0	2/0	2/0	2/0					9.9				
17	1/0		2/0	2/0	2/0	2/0			< 2		11.3				
18	1/0		2/0	2/0	2/0	2/0					13.5				
19	1/0		2/0	2/0	2/0	2/0					13.0				
20	1/0		2/0	2/0	2/0	2/0					11.8				
21	1/0		2/0	2/0	2/0	2/0					10.7				
22	1/0		2/0	2/0	2/0	2/0					10.6				
23	1/0		2/0	2/0	2/0	2/0					10.9				
24	1/0		2/0	2/0	2/0	2/0					13.1				
25	1/0		2/0	2/0	2/0	2/0					12.4				
26	1/0		2/0	2/0	2/0	2/0					12.8				
27	1/0		2/0	2/0	2/0	2/0					14.1				
28	1/0		2/0	2/0	2/0	2/0					11.0				
29	1/0		2/0	2/0	2/0	2/0					10.7				
30	1/0		2/0	2/0	2/0	2/0					10.3				
31	1/0		2/0	2/0	2/0	2/0					10.4				
											12.1				
											15.2				
											9.9				

Distribution System Monitoring WSSN 2310 Jan-12

DATE	Free Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1											0.8	0.8	2
2											0.8	0.8	2
3	0.2	0.5	0.6	0.5	0.5	0.4	0.5	0.6	0.4	0.7	0.9	0.9	12
4	0.3	0.6	0.6	0.5	0.4	0.5	0.4	0.6	0.6	0.3	0.9	0.7	12
5									0.4	0.7	0.8	0.8	4
6									0.4	0.8	0.8	0.7	4
7											0.8	0.8	2
8											0.8	0.8	2
9									0.5	0.7	0.7	0.9	4
10									0.4	0.7	0.9	0.8	4
11	0.1	0.5	0.5	0.4	0.4	0.6	0.5	0.9	0.5	0.6	0.6	0.7	12
12									0.4	0.7	0.8	0.8	4
13											0.8	0.8	2
14											0.8	0.8	2
15											0.8	0.8	2
16											0.8	0.8	2
17	0.3	0.4	0.4	0.4	0.4	0.4	0.4		0.4	0.6	0.8	0.8	11
18	0.3	0.4	0.6	0.7	0.4	0.4	0.4	0.6	0.4	0.7	0.7	0.8	12
19									0.5	0.7	0.9	0.8	4
20									0.4	0.7	0.9	0.7	4
21											0.8	0.8	2
22											0.7	0.7	2
23									0.7	0.7	0.8	0.8	4
24	0.4	0.5	0.5	0.6	0.4	0.5	0.6	0.6	0.5	0.4	0.8	0.9	12
25	0.6	0.5	0.7	0.6	0.3	0.4	0.4	0.6	0.4	0.3	0.8	0.8	12
26									0.4	0.3	0.9	0.9	4
27									0.4	0.4	0.9	0.8	4
28											0.8	0.8	2
29											0.7	0.9	2
30									0.6	0.9	0.9	0.9	4
31									0.6	0.8	0.8	0.9	4

Monthly Cl_2 Avg.	**0.625**
Quarterly Cl_2 Avg.	**0.569**
Yearly Cl_2 Avg.	**0.639**
Total Samples	**155**

Distribution System Monitoring WSSN 2310 Jan-12

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l												
	1	2	3	4	5	6	7	8	CS	WR	STA II AM	STA II PM	Number of Samples
1											1.0	0.9	2
2											1.0	0.9	2
3	0.3	0.6	0.7	0.6	0.6	0.6	0.7	0.8	0.5	0.8	1.0	1.0	12
4	0.4	0.7	0.8	0.7	0.5	0.7	0.6	0.8	0.7	0.4	1.0	0.9	12
5									0.5	0.9	0.9	0.9	4
6									0.5	0.9	0.9	0.8	4
7											0.9	0.9	2
8											1.0	1.0	2
9									0.6	0.8	0.9	1.0	4
10									0.5	0.9	1.0	1.0	4
11	0.2	0.6	0.7	0.5	0.5	0.7	0.6	1.0	0.7	0.8	0.8	0.9	12
12									0.5	0.9	1.0	1.0	4
13											1.0	0.9	2
14											0.9	0.9	2
15											1.0	1.0	2
16											0.9	0.9	2
17	0.4	0.5	0.6	0.5	0.5	0.6	0.5		0.6	0.7	0.9	0.9	11
18	0.4	0.6	0.7	0.9	0.6	0.6	0.6	0.8	0.6	0.9	0.9	1.0	12
19									0.6	0.8	1.0	0.9	4
20									0.6	0.9	1.0	0.9	4
21											0.9	0.9	2
22											0.9	0.8	2
23									0.8	0.9	1.0	1.0	4
24	0.6	0.7	0.7	0.8	0.6	0.7	0.7	0.8	0.6	0.6	0.9	1.0	12
25	0.8	0.7	0.9	0.8	0.4	0.5	0.6	0.7	0.6	0.5	1.0	1.0	12
26									0.5	0.5	1.1	1.0	4
27									0.5	0.6	1.0	0.9	4
28											1.0	1.0	2
29											0.9	1.0	2
30									0.8	1.0	1.0	1.0	4
31									0.8	1.0	1.0	1.0	4

Monthly Cl_2 Avg.	**0.774**
Quarterly Cl_2 Avg.	**0.720**
Yearly Cl_2 Avg.	**0.782**
Total Samples	**155**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Total number of positive routine samples:				Total Coliform: 0		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform

Total number of routine distribution samples analyzed:	**155**
Total number of routine distribution samples required:	**100**