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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

MONTHLY OPERATION REPORT OF WATER TREATMENT PLANT

RECEIVED
FEB 12 2010
MDEQ-Water Bureau
Lansing District Office

For Month of January 2010

Flint Water Plant — NAME OF WATER SYSTEM

2310 — WSSN

Genesee — COUNTY

Brent F. Wright — CERTIFIED OPERATOR

F-3 S-3 — CLASSIFICATION

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

FLINT WATER PLANT & FACILITIES

Coagulation Parameters   WSSN 2310   Jan-10

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	23.16	12.17	11.00								3	0.13	0.15
2	21.85	10.85	11.00								3	0.14	0.15
3	23.20	10.01	13.19								3	0.11	0.12
4	23.04	10.06	12.98								3	0.11	0.14
5	24.30	11.55	12.75								3	0.15	0.18
6	25.46	11.51	13.95								3	0.12	0.12
7	25.06	11.27	13.79								3	0.17	0.19
8	24.49	11.34	13.15								3	0.15	0.17
9	23.90	11.57	12.33								3	0.15	0.16
10	23.90	11.51	12.39								3	0.12	0.13
11	23.89	10.95	12.94								3	0.12	0.13
12	25.21	11.02	14.19								3	0.11	0.12
13	25.23	10.69	14.54								3	0.16	0.19
14	25.49	10.90	14.59								3	0.13	0.14
15	25.44	10.84	14.60								3	0.14	0.16
16	25.58	10.94	13.64								3	0.13	0.14
17	25.00	11.45	13.55								3	0.13	0.16
18	25.39	10.68	14.71								3	0.14	0.15
19	24.88	11.09	13.79								3	0.26	0.30
20	25.26	10.71	14.55								3	0.16	0.18
21	24.70	10.17	14.53								3	0.19	0.24
22	25.33	10.77	14.56								3	0.18	0.20
23	24.40	10.79	13.61								3	0.14	0.16
24	25.21	10.37	14.84								3	0.13	0.15
25	24.72	12.11	12.60								3	0.09	0.09
26	24.77	10.57	14.20								3	0.09	0.10
27	24.43	10.44	13.99								3	0.12	0.15
28	24.83	10.24	14.59								3	0.10	0.10
29	23.97	10.74	13.23								3	0.12	0.12
30	23.66	10.41	13.25								3	0.14	0.17
31	24.07	10.85	13.22								3	0.12	0.12
AVG	24.51	10.92	13.56								3	0.14	0.15
MAX	25.58	12.17	14.84								3	0.26	0.30
MIN	21.85	10.01	11.00								3	0.09	0.09
Total	759.79	338.57	420.23										

FLINT
WATER PLANT & FACILITIES

Flouridation & Chlorination **WSSN 2310** **Jan-10**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
		Raw	Tap	Dist		Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P Free	Sta II Free	Dort Free	3MG Well Free		Tap	Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			1.11					0.8	0.8	0.7	0.8			0.9	
2			1.10					0.8	0.7	0.7	0.7			0.8	
3			1.01					0.9	0.9	0.7	0.9			0.9	
4			1.17					0.9	0.9	0.8	0.8			0.9	
5			1.17					0.9	0.8	0.7	0.8			0.9	
6			1.16					0.9	0.9	0.7	0.8			0.9	
7			1.08					0.9	0.9	0.8	0.8			0.9	
8			1.13					0.9	0.9	0.8	0.8			0.9	
9			1.15					0.9	0.8	0.8	0.8			0.9	
10			1.10					0.9	0.9	0.8	0.8			1.0	
11			0.86					0.9	1.0	0.9	0.9			1.0	
12			1.15					0.9	1.0	0.8	0.9			1.0	
13			1.11					0.9	1.0	0.8	0.9			0.9	
14			1.23					1.0	1.0	0.7	0.8			1.0	
15			1.23					0.8	1.0	0.8	0.9			1.0	
16			1.10					1.0	0.9	0.8	0.8			0.9	
17			1.14					0.9	1.0	0.9	0.9			1.0	
18			1.19					0.9	1.0	1.0	0.9			0.9	
19			1.12					1.0	1.0	0.9	0.9			1.0	
20			1.10					0.9	1.0	0.9	0.9			0.9	
21			1.02					1.0	1.0	0.9	0.9			1.0	
22			1.05					0.9	0.9	0.8	0.8			1.0	
23			1.03					1.0	1.0	0.8	0.8			0.9	
24			1.03					1.0	1.0	0.8	0.8			1.0	
25			0.91					0.9	0.9	0.8	0.9			0.8	
26			1.13					0.9	0.9	0.8	0.9			0.9	
27			1.01					0.9	0.9	0.9	0.9			1.0	
28			1.12					0.9	0.9	0.9	0.9			0.9	
29			1.01					0.9	0.9	0.8	0.8			0.9	
30			1.10					0.9	0.9	0.8	0.8			1.0	
31			0.95					0.8	0.9	0.9	0.9			0.9	
AVG			1.09					0.9	0.9	0.8	0.8			0.9	
MAX			1.23					1.0	1.0	1.0	0.9			1.0	
MIN			0.86					0.8	0.7	0.7	0.7			0.8	

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Jan-10**

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

Monthly Cl_2 Avg.	**0.728**
Quarterly Cl_2 Avg.	**0.634**
Yearly Cl_2 Avg.	**0.677**
Total Samples	**169**

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Jan-10**

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

Monthly Cl_2 Avg.	**0.877**
Quarterly Cl_2 Avg.	**0.779**
Yearly Cl_2 Avg.	**0.807**
Total Samples	**169**

FLINT
WATER PLANT & FACILITIES

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Total number of positive routine samples:				Total Coliform: 1		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform
1/7/2010	# 10 McDonalds	Present	Absent	1/8/2010	#10 McDonalds	Absent	Absent
				1/8/2010	John's Restaurant (Up)	Absent	Absent
				1/8/2010	Arby's (Down)	Absent	Absent

Total number of routine distribution samples analyzed:	**169**
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

RECEIVED
MAR -5 2010
MDEQ-Water Bureau
Lansing District Office

For Month of February 2010

Flint Water Plant
NAME OF WATER SYSTEM

2310 WSSN

Genesee COUNTY

Brent F. Wright
CERTIFIED OPERATOR

F-3 S-3
CLASSIFICATION

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

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MP

Coagulation Parameters **WSSN 2310** **Feb-10**

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	1 A	1 B	4	5	6	7	8	9	10	11	12	13
1	24.07	10.85	13.22								3	0.10	0.11
2	24.43	10.15	14.28								3	0.11	0.13
3	25.23	10.45	14.78								3	0.11	0.13
4	24.38	10.20	14.18								3	0.12	0.16
5	24.38	10.20	14.18								3	0.13	0.14
6	23.75	10.51	13.24								3	0.11	0.11
7	23.02	9.39	12.63								3	0.11	0.12
8	24.09	10.57	13.52								3	0.10	0.12
9	24.06	9.86	14.20								3	0.09	0.10
10	24.54	10.23	14.31								3	0.12	0.13
11	24.83	10.41	14.42								3	0.12	0.14
12	24.05	10.05	14.00								3	0.11	0.11
13	24.59	10.52	14.07								3	0.10	0.11
14	23.94	10.29	13.65								3	0.09	0.09
15	24.87	10.47	14.40								3	0.10	0.11
16	25.16	10.61	14.55								3	0.14	0.16
17	25.14	9.77	15.37								3	0.11	0.13
18	23.93	9.57	14.36								3	0.12	0.13
19	24.13	9.60	14.53								3	0.12	0.13
20	25.27	10.08	15.19								3	0.12	0.12
21	25.27	10.08	15.19								3	0.11	0.11
22	24.91	10.64	14.27								3	0.10	0.10
23	25.13	10.86	14.27								3	0.09	0.10
24	24.87	10.00	14.87								3	0.11	0.13
25	24.17	9.56	14.61								3	0.10	0.11
26	24.17	10.01	14.16								3	0.10	0.11
27	23.93	9.78	14.15								0	N/A	N/A
28	25.43	9.80	15.63								3	0.09	0.10
AVG	24.49	10.16	14.29								3	0.11	0.12
MAX	25.43	10.86	15.63								3	0.14	0.16
MIN	23.02	9.39	12.63								0	0.09	0.09
Total	685.72	284.51	400.21										

FLINT
WATER PLANT & FACILITIES

Flouridation & Chlorination **WSSN 2310** **Feb-10**

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			1.02					0.8	0.8	0.8	0.9			0.9	
2			1.00					1.0	1.0	0.8	0.9			0.9	
3			1.00					1.0	1.0	0.8	0.9			0.9	
4			1.02					0.8	1.0	0.8	0.8			1.0	
5			0.98					0.9	1.0	0.9	0.8			1.0	
6			1.00					1.0	1.1	0.9	0.9			1.0	
7			1.02					0.9	1.0	0.9	0.8			1.0	
8			0.98					0.9	0.8	0.8	0.9			0.9	
9			1.00					0.9	1.0	1.0	1.0			1.0	
10			1.00					0.8	0.9	0.9	0.9			0.9	
11			1.11					0.9	0.9	0.9	0.9			0.9	
12			1.04					1.0	0.9	0.9	0.8			0.9	
13			0.99					0.9	1.0	0.8	0.8			0.9	
14			0.98					0.9	0.9	0.9	0.9			0.9	
15			1.02					0.8	0.9	0.9	0.9			0.8	
16			0.89					0.9	0.8	0.8	0.9			1.0	
17			1.01					0.8	0.8	0.9	0.9			0.8	
18			1.03					0.9	0.9	0.9	0.8			1.0	
19			0.98					1.0	0.9	0.8	0.8			0.9	
20			1.01					0.9	0.8	0.8	0.8			0.9	
21			1.05					0.8	0.9	0.9	0.9			0.9	
22			1.06					0.9	1.0	1.0	0.9			0.8	
23			1.09					0.9	0.9	0.9	0.9			0.9	
24			1.06					0.9	1.0	0.9	0.9			0.9	
25			1.10					0.9	1.0	0.8	0.9			0.9	
26			1.02					0.9	1.0	0.9	0.9			1.0	
27			N/A					N/A	N/A	N/A	N/A			N/A	
28			1.14					0.9	1.1	0.9	1.0			1.0	
AVG			1.02					0.9	0.9	0.9	0.9			0.9	
MAX			1.14					1.0	1.1	1.0	1.0			1.0	
MIN			0.89					0.8	0.8	0.8	0.8			0.8	

WATER PLANT & FACILITIES

Chemical Analyses **WSSN 2310** **Feb-10**

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		7.37		100		71		29				28.9		6.8		
2		7.21		96		66		30				27.3		6.8		
3		7.34		98		70		28				29.7		5.8		
4		7.13		96		66		30				26.5		7.3		
5		7.14		96		66		30				27.3		6.8		
6		7.21		96		66		30				26.5		7.3		
7		7.22		94		66		28				26.5		6.8		
8		7.23		98		70		28				28.1		6.8		
9		7.39		98		70		28				30.5		5.3		
10		7.15		94		70		24				27.3		6.3		
11		7.21		98		72		26				29.7		5.8		
12		7.08		100		68		32				27.3		7.8		
13		7.15		98		66		32				27.3		7.3		
14		7.09		96		72		24				30.5		4.9		
15		7.10		96		72		24				29.7		5.3		
16		7.17		96		68		28				27.3		6.8		
17		7.19		100		74		26				31.3		5.3		
18		7.19		98		70		28				28.9		6.3		
19		7.15		98		70		28				29.7		5.8		
20		7.20		100		72		28				30.5		5.8		
21		7.16		98		78		20				31.3		4.9		
22		7.22		102		76		26				32.1		5.3		
23		7.12		104		76		28				32.1		5.8		
24		7.15		100		70		30				30.5		5.8		
25		7.11		102		77		25				30.5		6.3		
26		7.15		96		68		28				28.9		5.8		
27		N/A		N/A		N/A		N/A				N/A		N/A		
28		7.12		98		69		29				30.5		5.3		
AVG		7.18		98		70		28				29.1		6.2		
MAX		7.39		104		78		32				32.1		7.8		
MIN		7.08		94		66		20				26.5		4.9		

FLINT
WATER PLANT & FACILITIES

Bacteriological & Physical Parameters WSSN 2310 Feb-10

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						10.4				
2	1/0		2/0	2/0	2/0						10.1				
3	1/0		2/0	2/0	2/0						10.2				
4	1/0		2/0	2/0	2/0						9.9				
5	1/0		2/0	2/0	2/0						10.2				
6	1/0		2/0	2/0	2/0						10.3				
7	1/0		2/0	2/0	2/0						9.8				
8	1/0		2/0	2/0	2/0						11.3				
9	1/0		2/0	2/0	2/0						12.1				
10	1/0		2/0	2/0	2/0				< 2		13.2				
11	1/0		2/0	2/0	2/0						9.4				
12	1/0		2/0	2/0	2/0						10.5				
13	1/0		2/0	2/0	2/0						9.6				
14	1/0		2/0	2/0	2/0						9.9				
15	1/0		2/0	2/0	2/0						9.8				
16	1/0		2/0	2/0	2/0						9.5				
17	1/0		2/0	2/0	2/0						9.3				
18	1/0		2/0	2/0	2/0						10.0				
19	1/0		2/0	2/0	2/0						9.4				
20	1/0		2/0	2/0	2/0						9.7				
21	1/0		2/0	2/0	2/0						10.7				
22	1/0		2/0	2/0	2/0						10.3				
23	1/0		2/0	2/0	2/0						10.9				
24	1/0		2/0	2/0	2/0						9.8				
25	1/0		2/0	2/0	2/0						10.5				
26	1/0		2/0	2/0	2/0						9.8				
27	N/A		N/A	N/A	N/A						N/A				
28	1/0		2/0	2/0	2/0						10.7				
											10.3				
											13.2				
											9.3				

FLINT WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Feb-10**

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

Monthly Cl_2 Avg.	**0.752**
Quarterly Cl_2 Avg.	**0.679**
Yearly Cl_2 Avg.	**0.673**
Total Samples	**163**

FLINT WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Feb-10**

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

Monthly Cl_2 Avg.	**0.899**
Quarterly Cl_2 Avg.	**0.826**
Yearly Cl_2 Avg.	**0.806**
Total Samples	**163**

FLINT
WATER PLANT & FACILITIES

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:	**163**
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

RECEIVED
APR 5 2010
MDEQ-Water Bureau
Lansing District Office

For Month of March 2010

Flint Water Plant
NAME OF WATER SYSTEM

2310 Genesee
WSSN COUNTY

Brent F. Wright
CERTIFIED OPERATOR

F-3 S-3
CLASSIFICATION

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** **Mar-10**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units: Raw # of Samples	Raw Avg.	Raw Max		Plant Tap # of Samples	Plant Tap Avg.	Plant Tap Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	25.08	10.54	14.54								3	0.11	0.11
2	24.96	10.56	14.40								3	0.12	0.15
3	27.16	12.39	14.77								3	0.12	0.13
4	25.11	10.34	14.77								3	0.12	0.13
5	25.11	10.34	14.77								3	0.13	0.14
6	24.66	10.95	13.71								3	0.13	0.14
7	25.44	10.67	14.77								3	0.09	0.10
8	25.35	10.58	14.77								3	0.10	0.12
9	25.55	10.39	15.16								3	0.13	0.15
10	24.63	10.18	14.45								3	0.13	0.14
11	24.29	10.41	13.88								3	0.10	0.10
12	25.15	10.56	14.59								3	0.13	0.16
13	22.23	8.60	13.63								3	0.13	0.15
14	23.12	8.62	14.50								3	0.11	0.13
15	23.47	8.57	14.90								3	0.09	0.10
16	23.47	8.00	15.47								3	0.12	0.13
17	25.10	10.22	14.88								3	0.13	0.19
18	24.74	10.18	14.56								3	0.12	0.14
19	24.31	10.27	14.04								3	0.12	0.13
20	23.07	9.50	13.57								3	0.09	0.09
21	22.90	8.96	13.94								3	0.08	0.10
22	22.28	8.61	13.67								3	0.09	0.09
23	26.11	10.94	15.17								3	0.09	0.11
24	24.72	10.57	14.15								3	0.14	0.16
25	24.72	10.54	14.18								3	0.12	0.13
26	24.74	9.62	15.12								3	0.13	0.15
27	23.51	9.39	14.12								3	0.14	0.16
28	23.78	9.78	14.00								3	0.09	0.09
29	23.70	9.39	14.31								3	0.10	0.12
30	25.05	9.74	15.31								3	0.14	0.14
31	24.70	10.14	14.56								3	0.09	0.10
AVG	24.46	9.99	14.47								3	0.11	0.13
MAX	27.16	12.39	15.47								3	0.14	0.19
MIN	22.23	8.00	13.57								3	0.08	0.09
Total	758.21	309.55	448.65										

Flouridation & Chlorination **WSSN 2310** **Mar-10**

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			1.24					1.0	0.9	0.9	0.9			1.0	
2			1.18					1.0	1.0	0.9	0.9			1.0	
3			1.23					1.0	1.0	0.8	0.9			0.9	
4			1.05					1.0	1.0	1.0	0.9			1.0	
5			1.26					0.8	0.9	0.9	0.9			0.9	
6			1.19					0.9	1.0	0.9	0.8			1.0	
7			1.23					0.9	0.9	0.9	0.9			0.9	
8			1.15					1.0	1.0	1.0	1.0			0.9	
9			1.23					0.9	1.0	1.0	0.9			0.9	
10			1.19					0.9	1.0	0.8	0.9			1.0	
11			1.20					1.0	1.0	0.9	1.0			0.9	
12			1.14					0.9	1.0	0.9	0.9			1.0	
13			1.15					0.9	1.0	0.9	0.9			0.9	
14			1.16					0.9	1.0	1.0	1.0			0.9	
15			1.09					0.9	1.0	1.0	1.0			0.8	
16			1.16					0.9	1.0	0.9	1.0			1.0	
17			1.24					1.0	1.0	0.9	1.0			1.0	
18			1.12					0.8	1.0	0.9	1.0			0.9	
19			1.12					1.0	0.9	0.8	0.9			1.0	
20			1.19					1.0	1.0	0.9	1.0			1.0	
21			1.02					0.9	1.0	0.9	0.9			0.9	
22			1.16					1.0	1.0	0.9	0.9			1.0	
23			1.06					0.9	1.0	0.9	0.9			0.9	
24			1.06					1.0	0.9	0.8	0.9			0.9	
25			1.16					0.9	1.0	0.9	0.9			0.9	
26			1.06					0.9	0.9	0.8	0.9			1.0	
27			1.16					0.9	0.9	0.9	0.9			1.0	
28			1.12					0.9	1.0	1.0	1.0			0.9	
29			1.13					0.9	0.9	0.9	0.9			0.9	
30			1.09					1.0	0.9	0.9	0.9			1.0	
31			1.15					0.9	0.9	0.8	0.9			0.9	
AVG			1.15					0.9	1.0	0.9	0.9			0.9	
MAX			1.26					1.0	1.0	1.0	1.0			1.0	
MIN			1.02					0.8	0.9	0.8	0.8			0.8	

FLINT
WATER PLANT & FACILITIES

Chemical Analyses **WSSN 2310** **Mar-10**

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		7.17		90		71		19				28.1		4.9		
2		7.19		96		68		28				29.7		5.3		
3		7.23		98		71		27				29.7		5.8		
4		7.17		96		66		30				28.9		5.8		
5		7.15		96		68		28				29.7		5.3		
6		7.15		96		68		28				30.5		4.9		
7		7.32		98		70		28				29.7		5.8		
8		7.20		98		71		27				28.9		6.3		
9		7.19		98		73		25				28.9		6.3		
10		7.11		94		68		26				28.9		5.3		
11		7.17		100		73		27				29.7		6.3		
12		7.17		96		68		28				28.9		5.8		
13		7.17		96		68		28				30.5		4.9		
14		7.16		100		72		28				28.9		6.8		
15		7.08		100		71		29				29.7		6.3		
16		7.17		96		66		30				28.9		5.8		
17		7.27		98		70		28				29.7		5.8		
18		7.17		96		66		30				28.9		5.8		
19		7.18		94		66		28				29.7		4.9		
20		7.29		92		71		21				26.5		6.3		
21		7.11		98		70		28				29.7		5.8		
22		7.19		92		68		24				28.1		5.3		
23		6.74		96		69		27				28.9		5.8		
24		6.70		94		66		28				28.1		5.8		
25		6.87		98		70		28				29.7		5.8		
26		7.00		96		66		30				28.1		6.3		
27		7.15		96		68		28				28.9		5.8		
28		7.26		98		71		27				28.9		6.3		
29		7.25		98		71		27				29.7		5.8		
30		7.28		94		66		28				28.9		5.3		
31		6.90		98		69		29				29.7		5.8		
AVG		7.13		96		69		27				29.1		5.7		
MAX		7.32		100		73		30				30.5		6.8		
MIN		6.70		90		66		19				26.5		4.9		

FLINT
WATER PLANT & FACILITIES

Bacteriological & Physical Parameters **WSSN 2310** **Mar-10**

DATE	Total Coliform – Plant Tap							Standard Plate Count		Wind Direction	Temp deg.C	Color		Odor	
	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						11.2				
2	1/0		2/0	2/0	2/0						9.8				
3	1/0		2/0	2/0	2/0						9.9				
4	1/0		2/0	2/0	2/0						9.9				
5	1/0		2/0	2/0	2/0						10.0				
6	1/0		2/0	2/0	2/0						9.4				
7	1/0		2/0	2/0	2/0						10.0				
8	1/0		2/0	2/0	2/0						9.5				
9	1/0		2/0	2/0	2/0						8.5				
10	1/0		2/0	2/0	2/0						9.4				
11	1/0		2/0	2/0	2/0						9.5				
12	1/0		2/0	2/0	2/0						9.4				
13	1/0		2/0	2/0	2/0						9.6				
14	1/0		2/0	2/0	2/0						9.3				
15	1/0		2/0	2/0	2/0						9.3				
16	1/0		2/0	2/0	2/0						8.9				
17	1/0		2/0	2/0	2/0				2		8.8				
18	1/0		2/0	2/0	2/0						9.2				
19	1/0		2/0	2/0	2/0						8.4				
20	1/0		2/0	2/0	2/0						12.3				
21	1/0		2/0	2/0	2/0						11.4				
22	1/0		2/0	2/0	2/0						12.4				
23	1/0		2/0	2/0	2/0						11.7				
24	1/0		2/0	2/0	2/0						11.1				
25	1/0		2/0	2/0	2/0						12.3				
26	1/0		2/0	2/0	2/0						9.2				
27	1/0		2/0	2/0	2/0						11.7				
28	1/0		2/0	2/0	2/0						11.2				
29	1/0		2/0	2/0	2/0						10.4				
30	1/0		2/0	2/0	2/0						9.3				
31	1/0		2/0	2/0	2/0						8.9				
											10.1				
											12.4				
											8.4				

Distribution System Monitoring **WSSN 2310** **Mar-10**

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

Monthly Cl_2 Avg.	**0.787**
Quarterly Cl_2 Avg.	**0.716**
Yearly Cl_2 Avg.	**0.672**
Total Samples	**226**

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Mar-10**

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

Monthly Cl_2 Avg.	**0.931**
Quarterly Cl_2 Avg.	**0.864**
Yearly Cl_2 Avg.	**0.807**
Total Samples	**226**

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:	**226**
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

RECEIVED
MAY 13
MDEQ-Water Bureau
Lansing District Office

For Month of April 2010

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

Brent F. Wright — CERTIFIED OPERATOR
F-3 S-3 — CLASSIFICATION

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

FLINT WATER PLANT & FACILITIES

Coagulation Parameters **WSSN 2310** **Apr-10**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units: Raw: # of Samples	Raw: Avg.	Raw: Max		Plant Tap: # of Samples	Plant Tap: Avg.	Plant Tap: Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	24.84	10.23	14.61								3	0.12	0.14
2	23.23	9.91	13.32								3	0.11	0.11
3	23.05	9.85	13.20								3	0.08	0.09
4	23.63	10.39	13.24								3	0.09	0.10
5	23.75	10.01	13.74								3	0.09	0.10
6	24.07	9.78	14.29								3	0.09	0.10
7	23.84	10.06	13.78								3	0.08	0.09
8	24.49	10.00	14.49								3	0.09	0.11
9	23.76	9.76	14.00								3	0.10	0.11
10	22.89	9.49	13.40								3	0.11	0.13
11	22.52	9.64	12.88								0	N/A	N/A
12	23.85	9.69	14.16								3	0.11	0.13
13	23.76	10.35	13.41								3	0.12	0.16
14	24.20	10.07	14.13								3	0.12	0.13
15	24.20	10.00	14.20								3	0.14	0.18
16	22.57	9.23	13.34								3	0.13	0.14
17	23.33	9.10	14.23								3	0.13	0.14
18	22.08	9.01	13.07								3	0.12	0.14
19	23.43	9.38	14.05								3	0.11	0.13
20	24.05	9.80	14.25								3	0.13	0.14
21	25.24	10.91	14.33								3	0.20	0.39
22	25.82	10.96	14.86								3	0.16	0.17
23	24.67	10.74	13.93								3	0.17	0.18
24	23.32	10.41	12.91								3	0.16	0.18
25	22.71	10.04	12.67								3	0.13	0.13
26	24.21	10.22	13.99								3	0.13	0.21
27	25.41	11.38	14.03								3	0.13	0.15
28	25.90	11.94	13.96								3	0.17	0.20
29	25.78	11.92	13.86								3	0.17	0.18
30	25.13	11.65	13.48								3	0.18	0.22
AVG	23.99	10.20	13.79								3	0.13	0.15
MAX	25.90	11.94	14.86								3	0.20	0.39
MIN	22.08	9.01	12.67								0	0.08	0.09
Total	719.73	305.92	413.78										

FLINT
WATER PLANT & FACILITIES

Bacteriological & Physical Parameters WSSN 2310 Apr-10

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						9.7				
2	1/0		2/0	2/0	2/0						10.6				
3	1/0		2/0	2/0	2/0						12.3				
4	1/0		2/0	2/0	2/0						10.9				
5	1/0		2/0	2/0	2/0						10.6				
6	1/0		2/0	2/0	2/0						10.8				
7	1/0		2/0	2/0	2/0						10.1				
8	1/0		2/0	2/0	2/0						11.2				
9	1/0		2/0	2/0	2/0						10.1				
10	1/0		2/0	2/0	2/0						9.8				
11	1/0		2/0	2/0	2/0						N/A				
12	1/0		2/0	2/0	2/0						9.3				
13	1/0		2/0	2/0	2/0						9.3				
14	1/0		2/0	2/0	2/0						8.3				
15	1/0		2/0	2/0	2/0						8.8				
16	1/0		2/0	2/0	2/0						9.4				
17	1/0		2/0	2/0	2/0						9.0				
18	1/0		2/0	2/0	2/0						9.2				
19	1/0		2/0	2/0	2/0						8.6				
20	1/0		2/0	2/0	2/0				< 2		9.1				
21	1/0		2/0	2/0	2/0						9.3				
22	1/0		2/0	2/0	2/0						9.1				
23	1/0		2/0	2/0	2/0						9.6				
24	1/0		2/0	2/0	2/0						9.6				
25	1/0		2/0	2/0	2/0						10.3				
26	1/0		2/0	2/0	2/0						10.1				
27	1/0		2/0	2/0	2/0						9.8				
28	1/0		2/0	2/0	2/0						9.9				
29	1/0		2/0	2/0	2/0						10.2				
30	1/0		2/0	2/0	2/0						10.5				
											9.8				
											12.3				
											8.3				

Distribution System Monitoring **WSSN 2310** **Apr-10**

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

Monthly Cl_2 Avg.	**0.752**
Quarterly Cl_2 Avg.	**0.755**
Yearly Cl_2 Avg.	**0.670**
Total Samples	**186**

FLINT WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Apr-10**

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

Monthly Cl_2 Avg.	**0.886**
Quarterly Cl_2 Avg.	**0.887**
Yearly Cl_2 Avg.	**0.805**
Total Samples	**184**

FLINT
WATER PLANT & FACILITIES

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:				**186**			
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

RECEIVED
JUN - 9 2010
MDEQ-Water Bureau
Lansing District Office

For Month of May 2010

Flint Water Plant
NAME OF WATER SYSTEM

2310
WSSN

Genesee
COUNTY

Brent F. Wright
CERTIFIED OPERATOR

F-3 S-3
CLASSIFICATION

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

FLINT
WATER PLANT & FACILITIES

Coagulation Parameters **WSSN 2310** **May-10**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units: Raw # of Samples	Raw Avg.	Raw Max		Plant Tap # of Samples	Plant Tap Avg.	Plant Tap Max
	1	1 A	1 B	4	5	6	7	8	9	10	11	12	13
1	24.70	12.05	12.65								3	0.20	0.22
2	24.88	12.32	12.56								3	0.13	0.15
3	25.21	11.62	13.59								3	0.18	0.21
4	24.96	11.13	13.83								3	0.22	0.29
5	24.05	9.44	14.61								3	0.23	0.30
6	22.64	9.34	13.30								3	0.21	0.24
7	23.48	10.13	13.35								3	0.16	0.19
8	24.11	10.67	13.44								3	0.13	0.19
9	23.06	10.65	12.41								3	0.09	0.11
10	23.46	10.46	13.00								3	0.07	0.08
11	24.45	11.43	13.02								3	0.08	0.08
12	25.09	11.48	13.61								3	0.10	0.11
13	24.78	12.59	12.19								3	0.08	0.09
14	24.74	12.12	12.62								3	0.11	0.13
15	24.64	11.81	12.83								3	0.10	0.11
16	24.10	11.75	12.35								3	0.08	0.09
17	24.38	10.98	13.40								3	0.07	0.08
18	25.12	11.21	13.91								3	0.09	0.11
19	25.25	11.66	13.59								3	0.08	0.08
20	25.71	11.97	13.74								3	0.11	0.12
21	26.54	12.82	13.72								3	0.10	0.12
22	25.98	12.57	13.41								3	0.08	0.10
23	25.87	12.34	13.53								3	0.08	0.09
24	28.44	13.18	15.26								3	0.08	0.10
25	30.91	15.46	15.45								3	0.11	0.12
26	31.50	15.84	15.66								3	0.11	0.13
27	32.17	16.84	15.33								3	0.11	0.12
28	32.54	16.76	15.78								3	0.10	0.10
29	30.97	16.67	14.30								3	0.14	0.16
30	31.60	16.92	14.68								3	0.09	0.11
31	30.45	16.42	14.03								3	0.08	0.08
AVG	26.32	12.60	13.71								3	0.12	0.13
MAX	32.54	16.92	15.78								3	0.23	0.30
MIN	22.64	9.34	12.19								3	0.07	0.08
Total	815.79	390.63	425.12										

Flouridation & Chlorination **WSSN 2310** **May-10**

D A T E	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			1.10					1.0	0.8	0.8	0.8			0.8	
2			1.25					0.9	0.9	0.8	0.8			0.9	
3			1.20					0.9	0.9	0.7	0.8			0.8	
4			1.15					0.9	0.9	0.8	0.8			1.0	
5			1.20					0.9	0.9	0.8	0.9			0.9	
6			1.08					0.9	0.9	0.8	0.8			0.9	
7			1.19					0.9	0.9	0.8	0.8			0.9	
8			1.13					0.8	0.8	0.9	0.8			0.9	
9			1.16					0.7	0.9	0.9	0.8			0.8	
10			1.15					0.7	0.9	0.8	0.8			0.8	
11			1.11					0.8	0.7	0.7	0.8			0.7	
12			1.12					0.7	0.7	0.8	0.7			0.7	
13			1.16					0.7	0.6	0.7	0.7			0.6	
14			1.04					0.7	0.6	0.6	0.7			0.7	
15			1.11					0.8	0.7	0.6	0.6			0.7	
16			1.21					0.7	0.8	0.7	0.7			0.7	
17			1.08					0.9	0.7	0.7	0.7			0.7	
18			1.05					0.8	0.8	0.7	0.7			0.8	
19			1.08					0.8	0.8	0.6	0.7			0.7	
20			1.07					0.8	0.8	0.7	0.7			0.8	
21			1.02					0.9	0.7	0.7	0.7			0.7	
22			1.07					0.8	0.9	0.8	0.8			0.8	
23			1.15					0.8	0.9	0.7	0.7			0.7	
24			1.17					0.8	0.9	0.8	0.8			0.8	
25			1.13					0.8	0.8	0.8	0.7			0.7	
26			1.10					0.8	0.8	0.7	0.8			0.8	
27			1.13					0.8	0.9	0.7	0.8			0.8	
28			1.04					1.0	0.8	0.7	0.7			0.8	
29			1.07					0.9	0.9	0.8	0.8			0.9	
30			1.05					0.9	0.9	0.8	0.8			0.8	
31			1.01					0.8	0.8	0.8	0.8			0.8	
AVG			1.12					0.8	0.8	0.7	0.8			0.8	
MAX			1.25					1.0	0.9	0.9	0.9			1.0	
MIN			1.01					0.7	0.6	0.6	0.6			0.6	

FLINT WATER PLANT & FACILITIES

Chemical Analyses **WSSN 2310** **May-10**

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		7.02		94		66		28				29.7		4.9		
2		7.01		96		72		24				30.5		4.9		
3		7.11		98		71		27				30.5		5.3		
4		7.10		94		66		28				28.9		5.3		
5		7.06		96		70		26				29.7		5.3		
6		7.16		94		66		28				28.1		5.8		
7		7.07		94		66		28				28.9		5.3		
8		7.18		94		66		28				29.7		4.9		
9		7.08		96		69		27				29.7		5.3		
10		7.31		96		71		25				29.7		5.3		
11		7.37		96		70		26				28.1		6.3		
12		7.28		94		66		28				28.9		5.3		
13		7.28		96		71		25				28.1		6.3		
14		7.29		94		66		28				28.9		5.3		
15		7.27		94		68		26				28.9		5.3		
16		7.03		96		70		26				29.7		5.3		
17		7.38		98		73		25				28.1		6.8		
18		7.35		94		68		26				28.9		5.3		
19		7.32		96		71		25				29.7		5.3		
20		7.32		94		66		28				29.7		4.9		
21		7.28		94		66		28				28.9		5.3		
22		7.17		96		74		22				28.9		5.8		
23		7.07		96		72		24				29.7		5.3		
24		7.30		94		74		20				28.9		5.3		
25		7.30		94		71		23				28.9		5.3		
26		7.27		94		68		26				28.9		5.3		
27		7.37		94		71		23				29.7		4.9		
28		7.26		94		68		26				29.7		4.9		
29		7.14		94		66		28				28.9		5.3		
30		7.20		94		70		24				28.9		5.3		
31		7.40		94		71		23				28.9		5.3		
AVG		7.22		95		69		26				29.2		5.4		
MAX		7.40		98		74		28				30.5		6.8		
MIN		7.01		94		66		20				28.1		4.9		

Bacteriological & Physical Parameters   WSSN 2310   May-10

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						11.0		0		0
2	1/0		2/0	2/0	2/0						11.9		0		0
3	1/0		2/0	2/0	2/0						12.3		0		0
4	1/0		2/0	2/0	2/0						12.1		0		0
5	1/0		2/0	2/0	2/0						11.6		0		0
6	1/0		2/0	2/0	2/0						11.8		0		0
7	1/0		2/0	2/0	2/0						11.9		0		0
8	1/0		2/0	2/0	2/0						11.9		0		0
9	1/0		2/0	2/0	2/0						11.3		0		0
10	1/0		2/0	2/0	2/0						11.3		0		0
11	1/0		2/0	2/0	2/0						11.8		0		0
12	1/0		2/0	2/0	2/0						12.0		0		0
13	1/0		2/0	2/0	2/0						11.5		0		0
14	1/0		2/0	2/0	2/0						12.1		0		0
15	1/0		2/0	2/0	2/0						11.9		0		0
16	1/0		2/0	2/0	2/0						11.7		0		0
17	1/0		2/0	2/0	2/0						12.4		0		0
18	1/0		2/0	2/0	2/0						12.2		0		0
19	1/0		2/0	2/0	2/0						12.2		0		0
20	1/0		2/0	2/0	2/0						12.5		0		0
21	1/0		2/0	2/0	2/0						12.9		0		0
22	1/0		2/0	2/0	2/0						13.5		0		0
23	1/0		2/0	2/0	2/0						13.8		0		0
24	1/0		2/0	2/0	2/0						14.7		0		0
25	1/0		2/0	2/0	2/0						15.0		0		0
26	1/0		2/0	2/0	2/0						14.5		0		0
27	1/0		2/0	2/0	2/0				< 2		15.1		0		0
28	1/0		2/0	2/0	2/0						15.1		0		0
29	1/0		2/0	2/0	2/0						14.6		0		0
30	1/0		2/0	2/0	2/0						15.3		0		0
31	1/0		2/0	2/0	2/0						15.7		0		0
											12.8				
											15.7				
											11.0				

Distribution System Monitoring **WSSN 2310** **May-10**

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

Monthly Cl_2 Avg.	**0.655**
Quarterly Cl_2 Avg.	**0.736**
Yearly Cl_2 Avg.	**0.658**
Total Samples	**168**

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **May-10**

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

Monthly Cl_2 Avg.	**0.795**
Quarterly Cl_2 Avg.	**0.878**
Yearly Cl_2 Avg.	**0.795**
Total Samples	**168**

FLINT
WATER PLANT & FACILITIES

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:				**168**			
Total number of routine distribution samples required:				**100**			

D-5a 1/80
Authority; Act 399, P.A. 1976

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310 HP

MONTHLY OPERATION REPORT OF WATER TREATMENT PLANT

RECEIVED
JUL 14 2010
MDEQ-Water Bureau
Lansing District Office

For Month of June 2010

Flint Water Plant
NAME OF WATER SYSTEM

2310 — WSSN
Genesee — COUNTY

Brent F. Wright
CERTIFIED OPERATOR

F-2 S-3
CLASSIFICATION

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.

FLINT
WATER PLANT & FACILITIES

Coagulation Parameters **WSSN 2310** **Jun-10**

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	1 A	1 B	4	5	6	7	8	9	10	11	12	13
1	29.24	14.56	14.68								3	0.09	0.10
2	27.42	13.23	14.19								3	0.12	0.17
3	27.11	13.13	13.98								3	0.08	0.09
4	26.44	12.76	13.68								3	0.08	0.08
5	25.29	12.36	12.93								3	0.09	0.12
6	25.03	12.62	12.41								3	0.13	0.14
7	26.33	12.44	13.89								3	0.14	0.15
8	27.67	12.87	14.80								3	0.12	0.14
9	27.64	12.78	14.86								3	0.16	0.18
10	27.56	12.79	14.77								3	0.13	0.13
11	28.34	13.93	14.41								3	0.15	0.16
12	27.81	13.97	13.84								3	0.15	0.16
13	26.95	14.47	12.48								3	0.14	0.16
14	27.11	13.59	13.52								3	0.12	0.13
15	27.46	13.41	14.05								3	0.15	0.16
16	27.37	13.29	14.08								3	0.12	0.13
17	28.74	13.95	14.79								3	0.16	0.17
18	30.19	15.91	14.28								3	0.17	0.19
19	31.04	15.81	15.23								3	0.18	0.19
20	29.89	15.67	14.22								3	0.16	0.18
21	29.58	15.29	14.29								3	0.12	0.12
22	28.91	15.35	13.56								3	0.14	0.18
23	28.57	14.14	14.43								3	0.15	0.15
24	28.78	13.68	15.10								3	0.12	0.13
25	29.08	14.06	15.02								3	0.16	0.17
26	29.19	14.57	14.62								3	0.15	0.16
27	28.45	14.30	14.15								3	0.14	0.15
28	28.14	14.12	14.02								3	0.11	0.12
29	28.98	14.48	14.50								3	0.15	0.17
30	28.85	14.70	14.15								3	0.13	0.13
AVG	28.11	13.94	14.16								3	0.13	0.15
MAX	31.04	15.91	15.23								3	0.18	0.19
MIN	25.03	12.36	12.41								3	0.08	0.08
Total	843.16	418.23	424.92										

FLINT
WATER PLANT & FACILITIES

Flouridation & Chlorination **WSSN 2310** **Jun-10**

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			0.96					0.9	0.8	0.8	0.8			0.7	
2			1.10					0.9	0.9	0.7	0.8			0.7	
3			1.03					0.9	0.8	0.7	0.8			0.8	
4			1.18					0.9	0.8	0.7	0.7			0.8	
5			1.20					0.9	0.8	0.7	0.7			0.7	
6			1.13					0.8	0.8	0.8	0.8			0.8	
7			1.11					0.9	0.8	0.6	0.6			0.7	
8			1.11					0.9	0.9	0.8	0.8			0.8	
9			1.13					0.9	0.8	0.7	0.8			0.8	
10			1.20					0.8	0.7	0.7	0.8			0.7	
11			1.19					0.9	0.7	0.7	0.7			0.7	
12			1.25					0.9	0.8	0.7	0.7			0.8	
13			1.16					0.8	0.9	0.7	0.7			0.7	
14			1.20					0.9	0.9	0.7	0.8			0.7	
15			1.20					0.9	0.9	0.8	0.8			0.8	
16			1.20					0.9	0.9	0.7	0.8			0.8	
17			1.22					0.9	0.9	0.8	0.8			0.9	
18			1.22					0.8	0.8	0.8	0.8			0.8	
19			1.21					0.8	0.9	0.7	0.8			0.8	
20			1.20					0.8	0.8	0.7	0.8			0.7	
21			1.09					0.8	0.8	0.7	0.8			0.7	
22			1.22					0.9	0.9	0.7	0.7			0.7	
23			1.10					0.9	0.8	0.8	0.8			0.8	
24			1.07					0.9	0.9	0.8	0.8			0.8	
25			1.21					0.8	0.9	0.7	0.8			0.8	
26			1.22					0.9	0.8	0.7	0.8			0.8	
27			1.13					0.9	0.9	0.8	0.9			0.8	
28			1.18					0.9	0.9	0.8	0.8			0.7	
29			1.20					0.9	0.8	0.7	0.8			0.8	
30			1.03					0.8	0.8	0.7	0.7			0.7	
AVG			1.16					0.9	0.8	0.7	0.8			0.8	
MAX			1.25					0.9	0.9	0.8	0.9			0.9	
MIN			0.96					0.8	0.7	0.6	0.6			0.7	

Chemical Analyses **WSSN 2310** **Jun-10**

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		7.33		94		66		28				28.1		5.8		
2		7.40		94		70		24				28.1		5.8		
3		7.38		94		66		28				28.9		5.3		
4		7.35		94		68		26				28.1		5.8		
5		7.06		94		66		28				28.9		5.3		
6		6.88		94		71		23				28.1		5.8		
7		7.35		94		71		23				27.3		6.3		
8		7.42		94		71		23				28.9		5.3		
9		7.44		94		68		26				28.9		5.3		
10		7.32		94		72		22				28.9		5.3		
11		7.37		94		66		28				29.7		4.9		
12		7.31		94		66		28				28.9		5.3		
13		7.42		96		73		23				29.7		5.3		
14		7.32		94		69		25				28.1		5.8		
15		7.35		96		68		28				28.9		5.8		
16		7.35		94		71		23				29.7		4.9		
17		7.32		94		66		28				28.9		5.3		
18		7.33		94		66		28				28.9		5.3		
19		7.36		94		68		26				28.9		5.3		
20		7.30		94		69		25				27.3		6.3		
21		7.33		94		69		25				28.1		5.8		
22		7.37		94		70		24				28.1		5.8		
23		7.35		94		68		26				28.9		5.3		
24		7.47		94		70		24				28.9		5.3		
25		7.38		94		66		28				28.9		5.3		
26		7.41		94		66		28				28.1		5.8		
27		7.34		94		70		24				28.1		5.8		
28		7.35		94		71		23				28.1		5.8		
29		7.39		96		68		28				28.9		5.8		
30		7.35		94		69		25				28.9		5.3		
AVG		7.34		94		69		26				28.6		5.5		
MAX		7.47		96		73		28				29.7		6.3		
MIN		6.88		94		66		22				27.3		4.9		

FLINT
WATER PLANT & FACILITIES

Bacteriological & Physical Parameters WSSN 2310 Jun-10

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						16.7				
2	1/0		2/0	2/0	2/0						17.2				
3	1/0		2/0	2/0	2/0						17.8				
4	1/0		2/0	2/0	2/0						16.9				
5	1/0		2/0	2/0	2/0						16.9				
6	1/0		2/0	2/0	2/0						16.9				
7	1/0		2/0	2/0	2/0						16.7				
8	1/0		2/0	2/0	2/0						16.5				
9	1/0		2/0	2/0	2/0				< 2		16.4				
10	1/0		2/0	2/0	2/0						17.3				
11	1/0		2/0	2/0	2/0						17.6				
12	1/0		2/0	2/0	2/0						17.7				
13	1/0		2/0	2/0	2/0						18.1				
14	1/0		2/0	2/0	2/0						18.2				
15	1/0		2/0	2/0	2/0						18.6				
16	1/0		2/0	2/0	2/0						18.0				
17	1/0		2/0	2/0	2/0						17.9				
18	1/0		2/0	2/0	2/0						18.2				
19	1/0		2/0	2/0	2/0						18.5				
20	1/0		2/0	2/0	2/0						18.6				
21	1/0		2/0	2/0	2/0						18.6				
22	1/0		2/0	2/0	2/0						18.4				
23	1/0		2/0	2/0	2/0						18.5				
24	1/0		2/0	2/0	2/0						18.7				
25	1/0		2/0	2/0	2/0						18.2				
26	1/0		2/0	2/0	2/0						17.5				
27	1/0		2/0	2/0	2/0						18.3				
28	1/0		2/0	2/0	2/0						18.9				
29	1/0		2/0	2/0	2/0						18.1				
30	1/0		2/0	2/0	2/0						18.3				
											17.8				
											18.9				
											16.4				

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Jun-10**

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

Monthly Cl_2 Avg.	**0.641**
Quarterly Cl_2 Avg.	**0.709**
Yearly Cl_2 Avg.	**0.657**
Total Samples	**190**

Distribution System Monitoring **WSSN 2310** **Jun-10**

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

Monthly Cl_2 Avg.	**0.777**
Quarterly Cl_2 Avg.	**0.847**
Yearly Cl_2 Avg.	**0.794**
Total Samples	**190**

ROUTINE POSITIVE DISTRIBUTION SAMPLES

Total number of positive routine samples:				Total Coliform: 1		Fecal Coliform: 0	
Date	Monitoring Station	Total Coliform	Fecal Coliform	Date	Retest of Station, Upstream & Downstream	Total Coliform	Fecal Coliform
6/15/2010	Cedar Street Reservoir	Present	Absent	6/16/2010	Cedar Street Reservoir	Absent	Absent
				6/16/2010	Creative Printing (Upstream)	Absent	Absent
				6/16/2010	Fenton Rd. Market (downstream)	Absent	Absent

Total number of routine distribution samples analyzed:	**190**
Total number of routine distribution samples required:	**100**

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

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

2310 MP

MONTHLY OPERATION REPORT
OF
WATER TREATMENT PLANT

For Month of July 2010

Flint Water Plant
NAME OF WATER SYSTEM

2310 WSSN
Genesee COUNTY

Brent F. Wright
CERTIFIED OPERATOR

F-2 S-3
CLASSIFICATION

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:

Waste & Hazardous
Materials Division

AUG 12 2010

Lansing District

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

FLINT WATER PLANT & FACILITIES

Coagulation Parameters **WSSN 2310** **Jul-10**

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	1 A	1 B	4	5	6	7	8	9	10	11	12	13
1	28.96	15.28	13.68								3	0.16	0.17
2	30.01	16.42	13.59								3	0.18	0.20
3	31.60	17.66	13.94								3	0.20	0.21
4	32.56	17.95	14.61								3	0.20	0.20
5	33.63	18.49	15.14								3	0.19	0.22
6	35.76	19.74	16.02								0		
7	39.31	21.96	17.35								3	0.24	0.26
8	38.33	21.74	16.59								3	0.52	0.57
9	33.02	18.08	14.94								3	0.46	0.58
10	34.53	19.58	14.95								3	0.20	0.23
11	34.69	20.17	14.52								3	0.12	0.15
12	33.78	18.05	15.73								3	0.17	0.21
13	31.12	15.97	15.15								3	0.15	0.20
14	32.29	16.38	15.91								3	0.17	0.29
15	31.18	16.36	14.82								3	0.14	0.16
16	27.75	13.91	13.84								3	0.18	0.18
17	27.70	14.20	13.50								3	0.15	0.15
18	27.74	14.15	13.59								3	0.13	0.14
19	27.95	13.75	14.20								3	0.13	0.15
20	28.70	13.39	15.31								3	0.20	0.29
21	28.89	13.06	15.83								3	0.16	0.17
22	29.29	13.81	15.48								3	0.13	0.13
23	27.11	13.03	14.08								3	0.13	0.13
24	26.87	12.78	14.09								3		
25	27.48	13.34	14.14								3	0.12	0.12
26	28.89	13.65	15.24								0		
27	30.72	14.81	15.91								3	0.21	0.32
28	30.72	15.96	14.76								3	0.15	0.16
29	30.80	14.83	15.97								3	0.32	0.47
30	32.41	17.28	15.13								3	0.22	0.22
31	29.59	15.80	13.79								3	0.18	0.20
AVG	31.08	16.18	14.90								3	0.20	0.23
MAX	39.31	21.96	17.35								3	0.52	0.58
MIN	26.87	12.78	13.50								0	0.12	0.12
Total	963.34	501.58	461.80										

FLINT
WATER PLANT & FACILITIES

Flouridation & Chlorination **WSSN 2310** **Jul-10**

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			1.03					0.9	0.7	0.7	0.7			0.7	
2			1.04					0.9	0.8	0.7	0.7			0.7	
3			1.12					1.0	0.9	0.8	0.7			0.8	
4			1.13					0.9	0.9	0.7	0.8			0.8	
5			1.17					0.9	0.9	0.7	0.8			0.8	
6															
7			0.76					0.9	0.8	0.7	0.7			0.8	
8			1.02					0.9	0.9	0.8	0.8			0.8	
9			1.05					0.8	0.8	0.7	0.7			0.8	
10			1.04					0.8	0.8	0.7	0.7			0.8	
11			1.14					0.9	0.9	0.8	0.8			0.7	
12			1.29					0.9	0.9	0.7	0.8			0.8	
13			1.15					0.9	0.9	0.7	0.9			0.7	
14			1.45					0.8	0.8	0.7	0.8			0.7	
15			1.00					0.8	0.9	0.7	0.8			0.8	
16			1.24					0.9	0.9	0.7	0.7			0.8	
17			1.23					0.8	0.8	0.7	0.7			0.8	
18			1.26					0.9	0.8	0.6	0.7			0.7	
19			1.27					0.9	0.8	0.7	0.7			0.8	
20			1.22					0.9	0.8	0.7	0.8			0.7	
21			1.22					0.9	0.9	0.7	0.8			0.8	
22			1.31					0.9	0.8	0.8	0.8			0.7	
23			1.27					0.8	0.8	0.7	0.8			0.8	
24								0.8	0.8	0.8	0.8			0.8	
25			1.19					0.8	0.9	0.7	0.7			0.7	
26								0.8	0.8	0.9	0.8			0.7	
27			1.26					0.9	0.9	0.7	0.8			0.7	
28			1.18					0.9	0.9	0.7	0.8			0.7	
29			0.87					0.8	0.8	0.6	0.7			0.7	
30			1.04					0.8	0.7	0.6	0.7			0.7	
31			1.07					0.8	0.8	0.6	0.6			0.7	
AVG			1.14					0.9	0.8	0.7	0.8			0.8	
MAX			1.45					1.0	0.9	0.9	0.9			0.8	
MIN			0.76					0.8	0.7	0.6	0.6			0.7	

Chemical Analyses **WSSN 2310** **Jul-10**

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		7.33		94		66		28				28.9		5.3		
2		7.34		94		66		28				29.7		4.9		
3		7.34		96		66		30				28.9		5.8		
4		7.26		94		71		23				30.5		4.9		
5		7.27		96		70		26				28.1		6.3		
6																
7		7.37		96		66		30				28.1		6.3		
8		7.36		96		72		24				28.9		5.8		
9		7.31		94		68		26				28.9		5.3		
10		7.31		94		66		28				28.9		5.3		
11		7.27		98		70		28				31.3		4.9		
12		7.28		96		70		26				28.9		5.8		
13		7.35		96		71		25				29.7		5.3		
14		7.39		96		70		26				28.9		5.8		
15		7.33		94		66		28				28.9		5.3		
16		7.35		94		66		28				28.9		5.3		
17		7.30		94		66		28				28.9		5.3		
18		7.27		96		70		26				29.7		5.3		
19		7.32		96		71		25				29.7		5.3		
20		7.21		94		71		23				29.7		4.9		
21		7.42		94		66		28				28.9		5.3		
22		7.29		96		71		25				29.7		5.3		
23		7.26		96		69		27				28.1		6.3		
24																
25		7.30		96		71		25				28.9		5.8		
26																
27		7.36		96		70		26				29.7		5.3		
28		7.40		96		70		26				29.7		5.3		
29		7.49		94		68		26				28.1		5.8		
30		7.45		94		68		26				28.9		5.3		
31		7.41		94		66		28				28.9		5.3		
AVG		7.33		95		69		27				29.2		5.5		
MAX		7.49		98		72		30				31.3		6.3		
MIN		7.21		94		66		23				28.1		4.9		

FLINT
WATER PLANT & FACILITIES

Bacteriological & Physical Parameters WSSN 2310 Jul-10

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	1/0		2/0	2/0	2/0						18.5				
3	1/0		2/0	2/0	2/0						18.9				
4	1/0		2/0	2/0	2/0						19.4				
5	1/0		2/0	2/0	2/0						19.8				
6	0/0		0/0	0/0	0/0										
7	1/0		2/0	2/0	2/0						19.8				
8	1/0		2/0	2/0	2/0						20.0				
9	1/0		2/0	2/0	2/0						20.1				
10	1/0		2/0	2/0	2/0						20.0				
11	1/0		2/0	2/0	2/0						20.1				
12	1/0		2/0	2/0	2/0						20.1				
13	1/0		2/0	2/0	2/0						20.2				
14	1/0		2/0	2/0	2/0						20.2				
15	1/0		2/0	2/0	2/0						20.3				
16	1/0		2/0	2/0	2/0						20.3				
17	1/0		2/0	2/0	2/0						20.3				
18	1/0		2/0	2/0	2/0						20.4				
19	1/0		2/0	2/0	2/0						20.5				
20	1/0		2/0	2/0	2/0						20.1				
21	1/0		2/0	2/0	2/0						19.6				
22	1/0		2/0	2/0	2/0						19.4				
23	1/0		2/0	2/0	2/0						20.2				
24	1/0		2/0	2/0	2/0										
25	1/0		2/0	2/0	2/0						20.6				
26	1/0		1/0	1/0	1/0										
27	1/0		2/0	2/0	2/0						20.1				
28	1/0		2/0	2/0	2/0						20.2				
29	1/0		2/0	2/0	2/0						20.4				
30	1/0		2/0	2/0	2/0						20.9				
31	1/0		2/0	2/0	2/0						20.8				
											20.0				
											20.9				
											18.5				

Distribution System Monitoring **WSSN 2310** **Jul-10**

D A T E	Free Chlorine Residual at Bacteriological Montioring Stations mg/l															
	1	2	3	4	5	6	7	8	9	10	11	CS	WR	STA II AM	STA II PM	Number of Samples
1	0.4	0.5				0.4	0.5	0.5	0.8	0.2	0.7	0.4	0.6	0.7	0.7	12
2												0.5	0.5	0.7	0.8	4
3														0.9	0.9	2
4														0.8	1.0	2
5														0.9	0.9	2
6																0
7												0.5	0.7	0.8	0.8	4
8	0.4	0.4	0.4			0.4	0.4	0.4	0.8	0.2	0.5	0.4	0.8	0.8	0.9	13
9												0.5	0.6	0.8	0.8	4
10														0.8	0.8	2
11														0.9	0.9	2
12												0.4	0.8	0.9	0.9	4
13												0.4	0.6	0.9	0.8	4
14		0.4				0.4	0.4	0.4	0.7	0.2	0.5	0.5	0.4	0.7	0.9	11
15	0.3	0.4				0.4	0.4	0.4	0.7	0.2	0.4	0.5	0.5	0.9	0.8	12
16												0.5	0.5	0.8	0.9	4
17														0.7	0.8	2
18														0.8	0.8	2
19												0.4	0.6	0.8	0.8	4
20	0.3	0.4	0.5			0.4	0.3	0.3	0.8	0.1	0.5	0.4	0.7	0.8	0.8	13
21	0.3	0.4				0.4	0.4	0.4	0.9	0.1	0.5	0.6	0.6	1.0	0.8	12
22												0.5	0.6	0.8	0.8	4
23														0.8	0.8	2
24														0.8	0.8	2
25														0.8	0.8	2
26														0.7		1
27														0.9	0.8	2
28												0.4	0.5	0.9	0.8	4
29	0.3	0.3	0.4			0.3	0.3	0.4	0.7	0.2	0.4	0.4	0.6	0.8	0.7	13
30												0.4	0.6	0.7	0.7	4
31														0.7	0.8	2

Monthly Cl_2 Avg.	**0.599**
Quarterly Cl_2 Avg.	**0.662**
Yearly Cl_2 Avg.	**0.656**
Total Samples	**151**

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Jul-10**

DATE	Total Chlorine Residual at Bacteriological Montioring Stations mg/l															
	1	2	3	4	5	6	7	8	9	10	11	CS	WR	STA II AM	STA II PM	Number of Samples
1	0.5	0.6				0.6	0.7	0.7	1.0	0.3	0.9	0.6	0.7	0.9	0.9	12
2												0.6	0.7	0.9	0.9	4
0.9														1.0	1.0	2
4														0.9	1.1	2
5														1.0	1.0	2
6																0
7												0.7	0.9	1.0	1.0	4
8	0.5	0.5	0.6			0.5	0.6	0.5	1.0	0.3	0.7	0.5	1.0	0.9	1.0	13
9												0.6	0.7	1.0	1.0	4
10														1.0	1.0	2
11														1.0	1.0	2
12												0.5	1.0	1.0	1.0	4
13												0.5	0.8	0.8	0.9	4
14		0.5				0.5	0.6	0.5	0.9	0.3	0.7	0.7	0.6	0.9	1.0	11
15	0.4	0.5				0.5	0.5	0.5	0.9	0.3	0.6	0.6	0.6	1.0	1.0	12
16												0.7	0.7	1.0	1.0	4
17														0.9	0.9	2
18														1.0	1.0	2
19												0.5	0.7	0.9	0.9	4
20	0.4	0.5	0.6			0.5	0.4	0.4	1.0	0.2	0.7	0.5	0.8	1.0	0.9	13
21	0.4	0.5				0.5	0.5	0.5	1.0	0.2	0.6	0.8	0.8	1.1	1.0	12
22												0.6	0.7	0.9	0.9	4
23														1.0	1.0	2
24														1.0	1.0	2
25														0.9	0.9	2
26														1.0		1
27														1.0	0.9	2
28												0.5	0.9	1.0	0.9	4
29	0.5	0.4	0.5			0.4	0.4	0.6	0.8	0.3	0.6	0.5	0.8	0.9	0.8	13
30												0.5	0.8	0.8	0.8	4
31														0.9	0.9	2

Monthly Cl_2 Avg.	**0.738**
Quarterly Cl_2 Avg.	**0.799**
Yearly Cl_2 Avg.	**0.796**
Total Samples	**151**

FLINT
WATER PLANT & FACILITIES

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:	**151**
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 August2010

Flint Water Plant
NAME OF WATER SYSTEM

2310 — WSSN
Genesee — COUNTY

Brent F. Wright
CERTIFIED OPERATOR

F-2 S-3
CLASSIFICATION

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.

NP

Coagulation Parameters **WSSN 2310** **Aug-10**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units: Raw # of Samples	Raw Avg.	Raw Max		Plant Tap # of Samples	Plant Tap Avg.	Plant Tap Max
	1	1 A	1 B	4	5	6	7	8	9	10	11	12	13
1	27.15	13.96	13.19								3	0.12	0.13
2	30.55	15.64	14.91								3	0.12	0.13
3	32.07	16.17	15.90								3	0.19	0.22
4	32.60	16.82	15.78								3	0.23	0.24
5	30.66	15.71	14.95								3	0.17	0.19
6	31.80	16.45	15.35								3	0.18	0.20
7	30.11	15.58	14.53								3	0.20	0.22
8	29.48	15.30	14.18								3	0.16	0.17
9	30.27	15.60	14.67								3	0.13	0.14
10	29.72	14.25	15.47								3	0.09	0.10
11	28.78	13.13	15.65								3	0.10	0.11
12	28.78	12.97	15.81								3	0.09	0.09
13	28.75	13.68	15.07								3	0.09	0.11
14	29.75	14.15	15.60								3	0.17	0.20
15	28.69	14.39	14.30								3	0.13	0.14
16	29.86	14.19	15.67								3	0.12	0.18
17	30.24	14.81	15.43								3	0.11	0.11
18	31.26	15.68	15.58								3	0.10	0.12
19	25.42	9.56	15.86								3	0.10	0.11
20	25.42	9.50	15.92								3	0.10	0.11
21	29.73	15.16	14.57								3	0.10	0.11
22	29.60	15.65	13.95								3	0.11	0.12
23	29.81	14.92	14.89								3	0.08	0.09
24	30.30	14.18	16.12								3	0.11	0.14
25	29.20	13.94	15.26								3	0.11	0.14
26	29.60	14.26	15.34								3	0.13	0.14
27	30.41	15.73	14.68								3	0.11	0.15
28	31.80	16.49	15.31								3	0.13	0.18
29	32.18	17.56	14.62								3	0.12	0.13
30	27.82	11.91	15.91								3	0.16	0.17
31	33.94	17.53	16.41								3	0.12	0.16
AVG	29.86	14.67	15.19								3	0.13	0.15
MAX	33.94	17.56	16.41								3	0.23	0.24
MIN	25.42	9.50	13.19								3	0.08	0.09
Total	925.73	454.87	470.87										

FLINT WATER PLANT & FACILITIES

Flouridation & Chlorination **WSSN 2310** **Aug-10**

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			1.03					0.9	0.7	0.6	0.7			0.7	
2			1.11					0.8	0.8	0.6	0.6			0.7	
3			1.14					0.9	0.8	0.6	0.6			0.7	
4			1.06					0.9	0.8	0.6	0.6			0.7	
5			1.14					0.9	0.7	0.6	0.6			0.7	
6			1.12					0.8	0.8	0.6	0.6			0.7	
7			1.10					0.9	0.8	0.6	0.7			0.7	
8			1.12					0.8	0.7	0.7	0.7			0.7	
9			1.11					0.8	0.9	0.6	0.8			0.8	
10			1.20					0.9	0.8	0.7	0.8			0.8	
11			1.13					0.9	0.9	0.6	0.7			0.8	
12			1.21					0.9	1.0	0.7	0.7			0.8	
13			1.10					0.9	0.9	0.7	0.7			0.9	
14			1.09					1.0	0.9	0.7	0.7			0.8	
15			1.17					1.1	0.9	0.6	0.8			0.8	
16			1.20					1.0	1.0	0.7	0.8			0.9	
17			1.06					1.1	1.0	0.8	0.8			0.9	
18			1.06					1.1	1.0	0.8	0.8			1.0	
19			1.12					1.1	1.0	0.8	0.9			0.9	
20			1.06					0.9	0.9	0.8	0.8			0.9	
21			1.25					1.0	0.9	0.8	0.8			0.9	
22			1.23					0.9	0.9	0.8	0.8			0.8	
23			1.21					0.9	1.0	0.7	0.8			0.8	
24			1.11					1.0	1.0	0.7	0.8			0.9	
25			1.25					1.0	0.9	0.7	0.8			0.8	
26			1.26					0.9	0.9	0.7	0.8			0.9	
27			1.22					0.9	0.8	0.7	0.8			0.8	
28			1.20					1.0	0.8	0.7	0.8			0.8	
29			1.35					1.0	0.9	0.8	0.7			0.8	
30			1.04					0.9	0.8	0.7	0.8			0.8	
31			1.18					0.9	0.9	0.8	0.8			0.8	
AVG			1.15					0.9	0.9	0.7	0.7			0.8	
MAX			1.35					1.1	1.0	0.8	0.9			1.0	
MIN			1.03					0.8	0.7	0.6	0.6			0.7	

FLINT
WATER PLANT & FACILITIES

Chemical Analyses **WSSN 2310** **Aug-10**

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		7.09		96		70		26				28.9		5.8		
2		7.21		96		69		27				29.7		5.3		
3		7.32		96		71		25				29.7		5.3		
4		7.39		96		66		30				28.9		5.8		
5		7.05		96		70		26				28.9		5.8		
6		7.26		96		68		28				28.1		6.3		
7		7.29		96		68		28				28.1		6.3		
8		7.07		94		71		23				28.9		5.3		
9		7.05		94		71		23				29.7		4.9		
10		6.75		94		72		22				29.7		4.9		
11		7.22		94		66		28				28.9		5.3		
12		7.37		94		72		22				29.7		4.9		
13		6.93		94		68		26				28.1		5.8		
14		7.09		94		68		26				28.1		5.8		
15		7.13		94		69		25				26.5		6.8		
16		7.05		96		68		28				27.3		6.8		
17		7.41		94		67		27				27.3		6.3		
18		7.32		96		68		28				27.3		6.8		
19		7.32		96		71		25				29.7		5.3		
20		7.36		94		66		28				28.1		5.8		
21		7.31		94		68		26				28.1		5.8		
22		7.29		96		72		24				30.5		5.3		
23		7.22		98		70		28				29.7		5.8		
24		7.35		96		68		28				28.1		6.3		
25		7.24		96		70		26				28.9		5.8		
26		7.28		94		68		26				28.1		5.8		
27		7.41		96		66		30				28.9		5.8		
28		7.34		94		68		26				28.1		5.8		
29		7.27		96		69		27				29.7		5.3		
30		7.30		96		71		25				28.9		5.8		
31		7.31		98		73		25				28.9		6.3		
AVG		7.23		95		69		26				28.7		5.8		
MAX		7.41		98		73		30				30.5		6.8		
MIN		6.75		94		66		22				26.5		4.9		

FLINT WATER PLANT & FACILITIES

Bacteriological & Physical Parameters WSSN 2310 Aug-10

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						20.5				
2	1/0		2/0	2/0	2/0						21.1				
3	1/0		2/0	2/0	2/0						21.5				
4	1/0		2/0	2/0	2/0				< 2		22.0				
5	1/0		2/0	2/0	2/0						21.6				
6	1/0		2/0	2/0	2/0						20.4				
7	1/0		2/0	2/0	2/0						19.2				
8	1/0		2/0	2/0	2/0						20.3				
9	1/0		2/0	2/0	2/0						21.6				
10	1/0		2/0	2/0	2/0						22.3				
11	1/0		2/0	2/0	2/0						21.9				
12	1/0		2/0	2/0	2/0						22.2				
13	1/0		2/0	2/0	2/0						21.2				
14	1/0		2/0	2/0	2/0						21.8				
15	1/0		2/0	2/0	2/0						22.4				
16	1/0		2/0	2/0	2/0						22.1				
17	1/0		2/0	2/0	2/0						21.2				
18	1/0		2/0	2/0	2/0						20.6				
19	1/0		2/0	2/0	2/0						20.1				
20	1/0		2/0	2/0	2/0						20.0				
21	1/0		2/0	2/0	2/0						19.9				
22	1/0		2/0	2/0	2/0						20.6				
23	1/0		2/0	2/0	2/0						21.1				
24	1/0		2/0	2/0	2/0						20.4				
25	1/0		2/0	2/0	2/0						21.0				
26	1/0		2/0	2/0	2/0						20.9				
27	1/0		2/0	2/0	2/0						21.3				
28	1/0		2/0	2/0	2/0						21.4				
29	1/0		2/0	2/0	2/0						22.0				
30	1/0		2/0	2/0	2/0						22.0				
31	1/0		2/0	2/0	2/0						22.3				
											21.2				
											22.4				
											19.2				

Distribution System Monitoring — WSSN 2310 — Aug-10

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

Monthly Cl_2 Avg.	**0.577**
Quarterly Cl_2 Avg.	**0.618**
Yearly Cl_2 Avg.	**0.651**
Total Samples	**177**

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Aug-10**

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

Monthly Cl_2 Avg.	**0.711**
Quarterly Cl_2 Avg.	**0.755**
Yearly Cl_2 Avg.	**0.792**
Total Samples	**177**

FLINT
WATER PLANT & FACILITIES

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:	**177**
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 September 2010

Flint Water Plant
NAME OF WATER SYSTEM

2310 WSSN — Genesee COUNTY

Brent F. Wright
CERTIFIED OPERATOR

F-2 S-3
CLASSIFICATION

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.

Waste & Hazardous
Materials Division

OCT 12 2010

Lansing District

MP

FLINT WATER PLANT & FACILITIES

Coagulation Parameters **WSSN 2310** **Sep-10**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe 3+ mg/l	Turbidity, NTU units: Raw # of Samples	Raw Avg.	Raw Max		Plant Tap # of Samples	Plant Tap Avg.	Plant Tap Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	31.45	15.79	15.66								3	0.12	0.13
2	26.70	12.29	14.41								3	0.11	0.12
3	25.66	11.66	14.00								3	0.13	0.13
4	24.04	11.07	12.97								3	0.13	0.13
5	24.39	11.37	13.02								3	0.10	0.12
6	25.31	11.20	14.11								3	0.09	0.10
7	25.71	11.72	13.99								3	0.12	0.15
8	25.96	11.49	14.47								3	0.09	0.11
9	26.66	11.91	14.75								3	0.10	0.12
10	25.09	11.28	13.81								3	0.10	0.12
11	24.37	10.71	13.66								3	0.09	0.09
12	24.62	11.30	13.32								3	0.09	0.11
13	25.07	11.45	13.62								3	0.07	0.07
14	25.81	11.18	14.63								3	0.09	0.10
15	25.82	12.11	13.71								3	0.09	0.10
16	25.27	10.96	14.31								3	0.08	0.09
17	24.53	10.89	13.64								3	0.08	0.09
18	25.50	11.81	13.69								3	0.10	0.11
19	25.82	11.81	14.01								3	0.08	0.09
20	25.91	11.99	13.92								3	0.07	0.08
21	27.47	12.79	14.68								3	0.19	0.24
22	26.70	12.88	13.82								3	0.17	0.22
23	27.69	12.78	14.91								3	0.21	0.24
24	27.90	13.63	14.27								3	0.22	0.25
25	27.04	13.06	13.98								3	0.20	0.23
26	26.12	12.82	13.30								3	0.16	0.18
27	27.44	13.63	13.81								3	0.14	0.15
28	27.30	13.82	13.48								3	0.29	0.62
29	27.37	13.44	13.93								3	0.22	0.27
30	27.04	13.42	13.62								3	0.15	0.16
AVG	26.19	12.21	13.98								3	0.13	0.16
MAX	31.45	15.79	15.66								3	0.29	0.62
MIN	24.04	10.71	12.97								3	0.07	0.07
Total	785.72	366.26	419.49										

Flouridation & Chlorination **WSSN 2310** **Sep-10**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l Raw	Fluoride Analyses mg/l Tap	Fluoride Analyses mg/l Dist	Chlorine App. Mg/l	Chlorine App. Mg/l: Chlorine (prior to filtration) mg/L OCl-	Chlorine App. Mg/l: Post Chlorine mg/L	Chlorine Residual mg/l: B&P Free	Chlorine Residual mg/l: Sta II Free	Chlorine Residual mg/l: Dort Free	Chlorine Residual mg/l: 3MG Well Free		Tap	Tap Free	Tap
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			1.20					0.9	0.9	0.6	0.8			0.8	
2			1.11					0.9	0.8	0.7	0.8			0.9	
3			1.14					0.9	0.8	0.7	0.8			0.8	
4			1.15					0.9	0.7	0.7	0.7			0.7	
5			1.11					1.0	0.9	0.8	0.8			0.8	
6			1.18					0.9	0.8	0.7	0.9			0.7	
7			1.18					1.0	0.8	0.7	0.8			0.8	
8			1.16					0.9	0.8	0.7	0.8			0.8	
9			1.16					1.0	0.8	0.7	0.8			0.8	
10			1.33					0.9	0.9	0.7	0.7			0.8	
11			1.15					0.9	0.8	0.7	0.8			0.8	
12			1.25					1.0	0.9	0.7	0.8			0.8	
13			1.31					1.0	0.8	0.7	0.8			0.8	
14			1.19					1.0	0.7	0.7	0.8			0.8	
15			1.15					1.0	0.8	0.7	0.8			0.8	
16			1.16					0.9	0.9	0.7	0.8			0.8	
17			1.08					0.9	0.8	0.7	0.8			0.8	
18			1.21					1.0	0.9	0.7	0.8			0.8	
19			1.05					1.0	0.9	0.7	0.8			0.8	
20			0.98					1.0	0.9	0.8	0.8			0.8	
21			1.01					1.0	0.8	0.7	0.8			0.8	
22			1.04					1.0	0.9	0.7	0.9			0.8	
23			1.02					0.9	0.8	0.7	0.8			0.8	
24			1.04					0.9	0.7	0.7	0.8			0.8	
25			1.04					0.9	0.8	0.7	0.8			0.8	
26			1.22					0.9	0.8	0.7	0.9			0.8	
27			1.22					0.9	0.8	0.8	0.9			0.7	
28			1.24					1.0	0.9	0.7	0.8			0.8	
29			1.27					1.0	0.8	0.7	0.8			0.8	
30			1.30					0.9	0.8	0.8	0.8			0.9	
AVG			1.16					0.9	0.8	0.7	0.8			0.8	
MAX			1.33					1.0	0.9	0.8	0.9			0.9	
MIN			0.98					0.9	0.7	0.6	0.7			0.7	

FLINT
WATER PLANT & FACILITIES

Chemical Analyses **WSSN 2310** **Sep-10**

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		94		68		26				28.1		5.8		
2		7.19		96		71		25				29.7		5.3		
3		7.26		94		68		26				28.9		5.3		
4		7.26		96		66		30				28.9		5.8		
5		7.23		96		72		24				29.7		5.3		
6		7.34		100		72		28				29.7		6.3		
7		7.45		94		68		26				28.1		5.8		
8		7.37		96		71		25				28.9		5.8		
9		6.53		96		68		28				28.9		5.8		
10		7.06		94		66		28				28.1		5.8		
11		7.12		96		70		26				28.9		5.8		
12		7.44		96		71		25				28.9		5.8		
13		7.20		96		71		25				28.9		5.8		
14		7.15		96		70		26				28.9		5.8		
15		7.05		96		66		30				28.1		6.3		
16		7.27		96		69		27				28.9		5.8		
17		7.13		96		70		26				29.7		5.3		
18		7.27		96		71		25				29.7		5.3		
19		7.31		96		72		24				28.9		5.8		
20		7.30		96		72		24				29.7		5.3		
21		7.17		96		66		30				28.1		6.3		
22		6.82		96		72		24				28.9		5.8		
23		7.19		96		68		28				28.9		5.8		
24		7.09		96		68		28				28.1		6.3		
25		7.26		96		66		30				28.9		5.8		
26		7.27		96		71		25				28.9		5.8		
27		7.46		96		71		25				29.7		5.3		
28		7.19		96		71		25				29.7		5.3		
29		7.19		98		66		32				29.7		5.8		
30		7.19		94		68		26				28.9		5.3		
AVG		7.20		96		69		27				29.0		5.7		
MAX		7.46		100		72		32				29.7		6.3		
MIN		6.53		94		66		24				28.1		5.3		

FLINT
WATER PLANT & FACILITIES

Bacteriological & Physical Parameters **WSSN 2310** **Sep-10**

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						22.4				
2	1/0		2/0	2/0	2/0						22.4				
3	1/0		2/0	2/0	2/0						22.7				
4	1/0		2/0	2/0	2/0						21.8				
5	1/0		2/0	2/0	2/0						21.1				
6	1/0		2/0	2/0	2/0						21.3				
7	1/0		2/0	2/0	2/0						20.2				
8	1/0		2/0	2/0	2/0						20.5				
9	1/0		2/0	2/0	2/0						20.9				
10	1/0		2/0	2/0	2/0						20.5				
11	1/0		2/0	2/0	2/0						20.4				
12	1/0		2/0	2/0	2/0						20.7				
13	1/0		2/0	2/0	2/0						20.6				
14	1/0		2/0	2/0	2/0						20.4				
15	1/0		2/0	2/0	2/0						20.2				
16	1/0		2/0	2/0	2/0						20.4				
17	1/0		2/0	2/0	2/0						20.1				
18	1/0		2/0	2/0	2/0						20.2				
19	1/0		2/0	2/0	2/0						20.2				
20	1/0		2/0	2/0	2/0						19.9				
21	1/0		2/0	2/0	2/0						20.1				
22	1/0		2/0	2/0	2/0				<2		20.1				
23	1/0		2/0	2/0	2/0						19.9				
24	1/0		2/0	2/0	2/0						19.9				
25	1/0		2/0	2/0	2/0						19.9				
26	1/0		2/0	2/0	2/0						20.1				
27	1/0		2/0	2/0	2/0						20.1				
28	1/0		2/0	2/0	2/0						20.0				
29	1/0		2/0	2/0	2/0						19.9				
30	1/0		2/0	2/0	2/0						19.6				
											20.6				
											22.7				
											19.6				

FLINT WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Sep-10**

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

Monthly Cl_2 Avg.	**0.554**
Quarterly Cl_2 Avg.	**0.593**
Yearly Cl_2 Avg.	**0.655**
Total Samples	**198**

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Sep-10**

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

Monthly Cl_2 Avg.	**0.694**
Quarterly Cl_2 Avg.	**0.730**
Yearly Cl_2 Avg.	**0.796**
Total Samples	**198**

FLINT
WATER PLANT & FACILITIES

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:	**198**
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 October 2010

Flint Water Plant
NAME OF WATER SYSTEM

2310 — WSSN
Genesee — COUNTY

Brent F. Wright
CERTIFIED OPERATOR

F-2 S-3
CLASSIFICATION

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.

FLINT WATER PLANT & FACILITIES

Coagulation Parameters **WSSN 2310** **Oct-10**

DATE	Total Million Gallons Purchased	Million Gallons to County	Million Gallons to Flint			Ferric Chloride as Fe^{3+} mg/l	Turbidity, NTU units: Raw # of Samples	Raw Avg.	Raw Max		Plant Tap # of Samples	Plant Tap Avg.	Plant Tap Max
	1	1A	1B	4	5	6	7	8	9	10	11	12	13
1	26.20	13.16	13.04								3	0.15	0.21
2	25.55	12.63	12.92								3	0.16	0.17
3	26.22	13.55	12.67								3	0.13	0.15
4	25.74	12.92	12.82								3	0.15	0.20
5	26.20	11.22	14.98								3	0.18	0.19
6	26.82	12.88	13.94								3	0.16	0.18
7	25.55	11.66	13.89								3	0.20	0.24
8	24.19	10.50	13.69								3	0.18	0.21
9	23.01	10.59	12.42								3	0.21	0.26
10	23.69	11.15	12.54								3	0.14	0.15
11	24.35	11.69	12.66								3	0.11	0.12
12	24.57	10.84	13.73								3	0.13	0.14
13	23.76	9.94	13.82								3	0.23	0.24
14	22.99	9.61	13.38								3	0.18	0.21
15	23.97	10.72	13.25								3	0.20	0.22
16	24.12	11.82	12.30								3	0.21	0.23
17	24.91	11.52	13.38								3	0.19	0.21
18	24.76	11.08	13.68								3	0.12	0.13
19	23.86	10.44	13.42								3	0.21	0.28
20	24.74	10.80	13.94								3	0.15	0.17
21	24.22	10.76	13.46								3	0.17	0.20
22	24.21	10.52	13.69								3	0.22	0.24
23	23.50	10.82	12.68								3	0.17	0.20
24	22.60	10.63	11.97								3	0.14	0.15
25	23.78	10.39	13.39								3	0.15	0.17
26	24.82	10.80	14.02								3	0.15	0.17
27	24.96	11.17	13.79								3	0.17	0.17
28	24.24	10.88	13.36								3	0.15	0.17
29	24.45	10.80	13.65								3	0.18	0.21
30	23.87	10.75	13.12								3	0.14	0.15
31	22.65	10.82	11.83								3	0.17	0.22
AVG	24.47	11.20	13.27								3	0.17	0.19
MAX	26.82	13.55	14.98								3	0.23	0.28
MIN	22.60	9.61	11.83								3	0.11	0.12
Total	758.49	347.06	411.40										

FLINT WATER PLANT & FACILITIES

Flouridation & Chlorination **WSSN 2310** **Oct-10**

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			1.22					0.9	0.8	0.7	0.8			0.7	
2			1.21					1.0	0.8	0.8	0.8			0.8	
3			1.28					1.0	0.8	0.7	0.9			0.9	
4			1.22					0.9	0.8	0.8	0.8			0.8	
5			1.14					1.0	0.8	0.8	0.8			0.8	
6			1.12					1.0	0.8	0.8	0.8			0.8	
7			1.12					1.0	0.9	0.8	1.0			0.9	
8			1.11					1.0	0.9	0.9	0.9			0.9	
9			1.08					0.9	0.9	0.8	0.9			0.8	
10			1.05					0.9	0.9	0.8	1.0			0.8	
11			1.02					1.0	0.9	0.7	0.9			0.9	
12			0.99					1.0	1.0	0.8	0.9			0.8	
13			1.00					1.0	0.9	0.8	0.9			0.9	
14			1.01					0.9	0.8	0.8	0.9			0.8	
15			0.99					1.0	0.8	0.8	0.9			0.9	
16			1.05					1.0	0.9	0.8	0.9			0.9	
17			1.04					0.9	0.9	0.8	0.9			0.9	
18			1.00					1.0	0.9	0.8	1.0			0.8	
19			1.01					1.0	0.8	0.8	0.9			0.9	
20			1.03					1.0	0.8	0.8	0.9			0.8	
21			1.00					1.0	0.8	0.8	0.9			0.9	
22			1.02					0.9	0.8	0.8	0.9			0.9	
23			1.06					0.9	0.8	0.8	0.9			0.8	
24			0.95					0.9	0.8	0.7	0.9			0.8	
25			1.07					0.9	0.8	0.8	0.9			0.7	
26			1.10					0.9	0.9	0.8	0.9			0.7	
27			1.04					0.9	0.8	0.8	0.8			0.9	
28			1.07					1.0	0.9	0.8	0.8			0.8	
29			1.04					1.0	0.9	0.8	0.8			0.9	
30			1.14					0.9	0.8	0.8	0.9			0.9	
31			1.12					0.9	0.8	0.8	0.8			0.8	
AVG			1.07					1.0	0.8	0.8	0.9			0.8	
MAX			1.28					1.0	1.0	0.9	1.0			0.9	
MIN			0.95					0.9	0.8	0.7	0.8			0.7	

FLINT
WATER PLANT & FACILITIES

Chemical Analyses **WSSN 2310** **Oct-10**

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		7.18		96		66		30				28.9		5.8		
2		7.22		94		66		28				28.9		5.3		
3		7.29		96		70		26				29.7		5.3		
4		7.26		96		70		26				29.7		5.3		
5		7.29		96		66		30				28.1		6.3		
6		7.29		96		69		27				28.9		5.8		
7		7.20		94		66		28				28.9		5.3		
8		7.35		94		66		28				28.9		5.3		
9		7.25		94		66		28				28.9		5.3		
10		7.19		96		71		25				28.9		5.8		
11		7.27		96		68		28				30.5		4.9		
12		7.37		96		70		26				28.9		5.8		
13		7.33		96		68		28				28.9		5.8		
14		7.27		96		70		26				28.9		5.8		
15		7.27		94		66		28				28.1		5.8		
16		7.26		94		68		26				29.7		4.9		
17		7.31		96		73		23				28.9		5.8		
18		7.28		96		70		26				29.7		5.3		
19		7.43		96		66		30				28.9		5.8		
20		7.29		96		70		26				28.9		5.8		
21		7.25		96		68		28				28.9		5.8		
22		7.38		96		66		30				28.1		6.3		
23		7.26		98		68		30				29.7		5.8		
24		7.23		96		72		24				29.7		5.3		
25		7.40		96		69		27				29.7		5.3		
26		7.31		96		72		24				29.7		5.3		
27		7.28		96		68		28				28.9		5.8		
28		7.28		96		70		26				29.7		5.3		
29		7.23		96		68		28				28.9		5.8		
30		7.23		96		70		26				28.9		5.8		
31		7.30		96		66		30				29.7		5.3		
AVG		7.28		96		68		27				29.1		5.6		
MAX		7.43		98		73		30				30.5		6.3		
MIN		7.18		94		66		23				28.1		4.9		

Bacteriological & Physical Parameters **WSSN 2310** **Oct-10**

DATE	Total Coliform – Plant Tap: B&P		Dort	3MG Well	Pump	Lab Tap		Standard Plate Count: Raw	Standard Plate Count: Tap	Wind Direction	Temp deg.C	Color: Raw	Color: Tap	Odor: Raw	Odor: 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						19.6		0		0
2	1/0		2/0	2/0	2/0						19.5		0		0
3	1/0		2/0	2/0	2/0						18.9		0		0
4	1/0		2/0	2/0	2/0						18.7		0		0
5	1/0		2/0	2/0	2/0						18.5		0		0
6	1/0		2/0	2/0	2/0						18.3		0		0
7	1/0		2/0	2/0	2/0						18.2		0		0
8	1/0		2/0	2/0	2/0						18.2		0		0
9	1/0		2/0	2/0	2/0						18.2		0		0
10	1/0		2/0	2/0	2/0						18.2		0		0
11	1/0		2/0	2/0	2/0						18.5		0		0
12	1/0		2/0	2/0	2/0						18.3		0		0
13	1/0		2/0	2/0	2/0						18.0		0		0
14	1/0		2/0	2/0	2/0				< 2		18.1		0		0
15	1/0		2/0	2/0	2/0						17.7		0		0
16	1/0		2/0	2/0	2/0						17.9		0		0
17	1/0		2/0	2/0	2/0						17.8		0		0
18	1/0		2/0	2/0	2/0						17.7		0		0
19	1/0		2/0	2/0	2/0						17.7		0		0
20	1/0		2/0	2/0	2/0						17.3		0		0
21	1/0		2/0	2/0	2/0						17.4		0		0
22	1/0		2/0	2/0	2/0						17.1		0		0
23	1/0		2/0	2/0	2/0						16.9		0		0
24	1/0		2/0	2/0	2/0						16.9		0		0
25	1/0		2/0	2/0	2/0						17.2		0		0
26	1/0		2/0	2/0	2/0						17.0		0		0
27	1/0		2/0	2/0	2/0						17.2		0		0
28	1/0		2/0	2/0	2/0						16.7		0		0
29	1/0		2/0	2/0	2/0						16.3		0		0
30	1/0		2/0	2/0	2/0						16.2		0		0
31	1/0		2/0	2/0	2/0						16.0		0		0
											17.7				
											19.6				
											16.0				

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Oct-10**

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

Monthly Cl_2 Avg.	**0.605**
Quarterly Cl_2 Avg.	**0.584**
Yearly Cl_2 Avg.	**0.657**
Total Samples	**182**

FLINT
WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Oct-10**

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

Monthly Cl_2 Avg.	**0.751**
Quarterly Cl_2 Avg.	**0.724**
Yearly Cl_2 Avg.	**0.799**
Total Samples	**182**

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:				**182**			
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

Waste & Hazardous Materials Division

DEC 06 2010

Lansing District

For Month of November 2010

Flint Water Plant
NAME OF WATER SYSTEM

2310 WSSN

Genesee COUNTY

Brent F. Wright
CERTIFIED OPERATOR

F-2 S-3
CLASSIFICATION

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.

NP

FLINT
WATER PLANT & FACILITIES

Coagulation Parameters **WSSN 2310** **Nov-10**

D A T E	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	1 A	1 B	4	5	6	7	8	9	10	11	12	13
1	21.90	10.58	11.32								3	0.11	0.13
2	23.59	9.41	14.18								3	0.13	0.15
3	22.55	9.49	13.06								3	0.10	0.10
4	23.35	9.27	14.08								3	0.14	0.17
5	23.38	9.32	14.06								3	0.13	0.15
6	21.77	9.07	12.70								3	0.15	0.17
7	21.61	9.18	12.43								3	0.12	0.13
8	23.11	9.21	13.90								3	0.12	0.14
9	21.87	8.66	13.21								3	0.15	0.17
10	22.20	8.83	13.37								3	0.14	0.15
11	22.03	8.76	13.27								3	0.14	0.15
12	23.08	9.63	13.45								3	0.14	0.15
13	22.69	10.27	12.42								3	0.14	0.15
14	23.06	10.36	12.70								3	0.13	0.13
15	22.96	10.07	12.89								3	0.13	0.14
16	22.95	9.77	13.18								3	0.12	0.14
17	23.64	9.90	13.74								3	0.13	0.15
18	24.66	10.51	14.15								3	0.14	0.15
19	24.00	10.51	13.49								3	0.15	0.16
20	23.40	10.97	12.43								3	0.14	0.15
21	22.90	10.96	11.94								3	0.12	0.13
22	23.29	10.37	12.92								3	0.09	0.09
23	24.61	10.54	14.07								3	0.13	0.14
24	24.20	10.02	14.18								3	0.12	0.13
25	23.43	10.36	13.07								3	0.16	0.16
26	21.43	10.48	10.95								3	0.13	0.15
27	22.19	10.08	12.11								3	0.13	0.14
28	21.98	9.60	12.38								3	0.12	0.12
29	22.83	9.38	13.45								3	0.10	0.11
30	22.74	9.34	13.40								3	0.11	0.14
AVG	22.91	9.83	13.08								3	0.13	0.14
MAX	24.66	10.97	14.18								3	0.16	0.17
MIN	21.43	8.66	10.95								3	0.09	0.09
Total	687.39	294.90	392.50										

FLINT
WATER PLANT & FACILITIES

Flouridation & Chlorination **WSSN 2310** **Nov-10**

DATE	Fluoride Applied F- mg/l	Fluoride Analyses mg/l			Chlorine App. Mg/l			Chlorine Residual mg/l							
		Raw	Tap	Dist		Chlorine (prior to filtration) mg/L OCl-	Post Chlorine mg/L	B&P Free	Sta II Free	Dort Free	3MG Well Free		Tap	Tap Free	
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1			0.95					1.1	0.9	0.8	0.8			0.8	
2			1.12					1.0	0.9	0.7	0.8			0.9	
3			1.06					1.0	0.8	0.8	0.9			0.9	
4			1.10					1.0	0.8	0.8	0.9			0.9	
5			1.17					1.1	0.8	0.8	0.9			0.9	
6			1.09					1.1	1.0	0.8	0.8			1.0	
7			1.15					1.1	1.0	0.8	0.9			1.0	
8			1.14					0.9	0.8	0.8	0.8			0.8	
9			1.07					1.0	0.9	0.8	0.9			0.9	
10			1.17					1.0	0.9	0.9	0.9			0.8	
11			1.07					1.0	0.9	0.9	0.9			0.9	
12			1.11					1.0	0.8	0.8	0.9			0.9	
13			1.11					1.0	0.8	0.8	0.9			0.9	
14			1.08					1.0	0.9	0.8	0.9			0.9	
15			1.12					1.0	0.9	0.8	1.0			0.9	
16			1.09					1.0	0.9	0.8	1.0			0.9	
17			1.14					1.0	0.8	0.8	0.9			0.9	
18			1.24					1.0	0.9	0.8	1.0			0.9	
19			1.21					1.1	0.9	0.8	0.9			1.0	
20			1.25					1.0	0.9	0.9	0.9			1.0	
21			1.09					1.1	1.0	0.9	1.0			0.9	
22			1.07					1.0	0.9	0.9	0.9			0.9	
23			1.17					1.0	0.8	0.9	0.9			0.9	
24			1.07					1.0	0.9	0.9	0.9			0.9	
25			1.18					1.0	0.9	0.9	1.0			1.0	
26			1.15					1.1	0.8	0.9	1.0			1.0	
27			1.16					1.0	0.9	0.9	0.9			1.0	
28			1.14					1.0	0.8	0.9	0.9			1.1	
29			1.21					1.0	0.9	0.8	0.9			0.9	
30			1.28					1.0	1.0	0.9	0.9			0.9	
AVG			1.13					1.0	0.9	0.8	0.9			0.9	
MAX			1.28					1.1	1.0	0.9	1.0			1.1	
MIN			0.95					0.9	0.8	0.7	0.8			0.8	

Chemical Analyses WSSN 2310 Nov-10

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		7.32		96		72		24				29.7		5.3		
2		7.43		98		70		28				29.7		5.8		
3		7.24		98		70		28				29.7		5.8		
4		7.50		96		71		25				29.7		5.3		
5		7.32		96		66		30				28.9		5.8		
6		7.24		94		68		26				28.9		5.3		
7		7.36		96		70		26				28.9		5.3		
8		7.37		96		70		26				29.7		5.8		
9		7.29		96		68		28				28.1		6.3		
10		7.42		96		69		27				29.7		5.3		
11		7.33		96		66		30				28.9		5.8		
12		7.29		96		66		30				28.9		5.8		
13		7.27		98		66		32				28.9		6.3		
14		7.38		96		70		26				30.8		4.9		
15		7.30		96		74		22				28.9		5.8		
16		7.29		100		70		30				30.5		5.8		
17		7.28		96		66		30				28.1		6.3		
18		7.29		96		68		28				28.9		5.8		
19		7.27		96		68		28				28.1		6.3		
20		7.28		96		68		28				28.1		6.3		
21		7.28		98		69		29				28.9		6.3		
22		7.21		100		70		30				28.9		6.8		
23		7.33		94		66		28				29.7		4.9		
24		7.26		96		68		28				29.7		5.3		
25		7.21		96		66		30				28.9		5.8		
26		7.30		94		66		28				28.1		5.8		
27		7.31		94		64		30				27.3		6.3		
28		7.31		94		64		30				26.5		6.8		
29		7.30		96		69		27				28.9		5.3		
30		7.20		96		68		28				28.9		5.3		
AVG		7.31		96		68		28				29.0		5.8		
MAX		7.50		100		74		32				30.8		6.8		
MIN		7.20		94		64		22				26.5		4.9		

FLINT WATER PLANT & FACILITIES

Bacteriological & Physical Parameters WSSN 2310 Nov-10

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						15.6				
2	1/0		2/0	2/0	2/0						15.1				
3	1/0		2/0	2/0	2/0						14.4				
4	1/0		2/0	2/0	2/0						14.2				
5	1/0		2/0	2/0	2/0						14.3				
6	1/0		2/0	2/0	2/0						13.9				
7	1/0		2/0	2/0	2/0						13.4				
8	1/0		2/0	2/0	2/0						14.0				
9	1/0		2/0	2/0	2/0						13.2				
10	1/0		2/0	2/0	2/0						13.5				
11	1/0		2/0	2/0	2/0				< 2		13.1				
12	1/0		2/0	2/0	2/0						12.9				
13	1/0		2/0	2/0	2/0						12.9				
14	1/0		2/0	2/0	2/0						13.3				
15	1/0		2/0	2/0	2/0						12.9				
16	1/0		2/0	2/0	2/0						13.3				
17	1/0		2/0	2/0	2/0						15.1				
18	1/0		2/0	2/0	2/0						16.0				
19	1/0		2/0	2/0	2/0						16.3				
20	1/0		2/0	2/0	2/0						16.3				
21	1/0		2/0	2/0	2/0						16.9				
22	1/0		2/0	2/0	2/0						16.3				
23	1/0		2/0	2/0	2/0						14.1				
24	1/0		2/0	2/0	2/0						16.1				
25	1/0		2/0	2/0	2/0						16.0				
26	1/0		2/0	2/0	2/0						16.2				
27	1/0		2/0	2/0	2/0						16.1				
28	1/0		2/0	2/0	2/0						16.3				
29	1/0		2/0	2/0	2/0						15.9				
30	1/0		2/0	2/0	2/0						14.8				
											14.7				
											16.9				
											12.9				

Distribution System Monitoring **WSSN 2310** **Nov-10**

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

Monthly Cl_2 Avg.	**0.641**
Quarterly Cl_2 Avg.	**0.594**
Yearly Cl_2 Avg.	**0.657**
Total Samples	**164**

FLINT WATER PLANT & FACILITIES

Distribution System Monitoring **WSSN 2310** **Nov-10**

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

Monthly Cl_2 Avg.	**0.794**
Quarterly Cl_2 Avg.	**0.737**
Yearly Cl_2 Avg.	**0.800**
Total Samples	**164**

FLINT
WATER PLANT & FACILITIES

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:				**164**			
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 December 2010

Flint Water Plant
NAME OF WATER SYSTEM

2310 Genesee
WSSN COUNTY

Brent F. Wright
CERTIFIED OPERATOR

F-2 S-3
CLASSIFICATION

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.

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FLINT
WATER PLANT & FACILITIES

Coagulation Parameters **WSSN 2310** **Dec-10**

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	23.25	9.38	13.87								3	0.14	0.16
2	23.16	9.28	13.88								3	0.10	0.11
3	23.97	9.58	14.39								3	0.14	0.15
4	24.12	9.55	14.57								3	0.14	0.15
5	23.58	9.77	13.81								3	0.10	0.11
6	24.18	9.76	14.42								3	0.11	0.14
7	24.28	9.61	14.67								3	0.15	0.19
8	24.28	9.62	14.66								3	0.11	0.12
9	23.09	9.72	13.37								3	0.14	0.16
10	24.20	9.59	14.61								3	0.12	0.14
11	27.16	9.66	17.50								3	0.16	0.16
12	25.60	9.77	15.83								3	0.14	0.15
13	24.13	9.66	14.47								3	0.10	0.11
14	25.09	9.98	15.11								3	0.13	0.15
15	25.27	9.71	15.56								3	0.12	0.13
16	25.81	10.13	15.68								3	0.12	0.13
17	26.82	11.14	15.68								3	0.11	0.11
18	28.29	12.74	15.55								3	0.13	0.15
19	27.27	12.14	15.13								3	0.15	0.18
20	26.18	11.23	14.95								3	0.10	0.11
21	26.59	11.41	15.18								3	0.12	0.14
22	25.76	11.44	14.32								3	0.11	0.12
23	26.53	11.80	14.73								3	0.11	0.12
24	26.73	12.04	14.69								3	0.11	0.12
25	25.69	11.56	14.13								3	0.13	0.14
26	25.02	10.67	14.35								3	0.10	0.11
27	24.47	9.77	14.70								3	0.09	0.10
28	24.75	9.29	15.46								3	0.13	0.14
29	23.41	12.23	11.18								3	0.12	0.14
30	24.24	9.66	14.58								3	0.14	0.16
31	24.27	9.66	14.61								3	0.13	0.13
AVG	25.07	10.37	14.70								3	0.12	0.14
MAX	28.29	12.74	17.50								3	0.16	0.19
MIN	23.09	9.28	11.18								3	0.09	0.10
Total	777.20	321.55	455.61										

FLINT WATER PLANT & FACILITIES

Flouridation & Chlorination **WSSN 2310** **Dec-10**

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			1.29					1.0	0.9	0.9	0.9			1.0	
2			1.18					0.9	0.9	0.8	0.9			1.0	
3			1.21					1.0	0.8	0.9	1.0			1.0	
4			1.14					0.9	0.8	0.9	0.9			1.0	
5			1.03					0.9	0.9	0.8	0.9			0.8	
6			0.99					1.0	0.9	0.8	0.9			0.8	
7			1.18					1.0	0.9	0.8	0.9			1.0	
8			1.08					1.0	1.0	0.8	0.9			1.0	
9			1.05					1.0	0.9	0.8	0.9			1.0	
10			1.09					1.0	0.8	0.9	0.9			1.0	
11			1.08					1.1	0.9	0.9	0.9			1.0	
12			1.04					1.1	0.9	0.9	1.0			1.0	
13			1.04					0.9	1.0	0.9	1.0			1.0	
14			1.06					1.0	0.8	0.9	1.0			1.1	
15			1.09					1.0	1.0	0.9	1.0			1.0	
16			1.14					1.0	0.9	0.9	0.9			1.0	
17			0.62					1.1	0.9	0.9	1.0			1.1	
18			0.60					1.0	0.9	0.9	1.0			0.9	
19			0.95					1.1	0.9	0.9	0.9			1.0	
20			1.19					1.0	1.0	0.9	1.0			1.0	
21			1.14					1.0	0.9	0.9	1.0			1.0	
22			1.18					0.9	1.0	0.9	1.0			0.9	
23			1.01					1.0	0.9	0.9	0.9			0.9	
24			1.10					1.0	0.9	0.9	0.9			0.9	
25			1.02					1.0	0.9	0.9	1.0			1.0	
26			1.00					1.0	1.0	0.8	1.0			1.0	
27			0.95					1.0	1.0	0.9	1.1			1.0	
28			0.96					0.9	0.9	0.9	1.0			1.1	
29			1.10					1.0	0.9	0.9	1.0			0.9	
30			1.23					1.0	0.9	0.9	0.9			0.9	
31			1.23					1.0	0.9	0.9	0.9			1.0	
AVG			1.06					1.0	0.9	0.9	1.0			1.0	
MAX			1.29					1.1	1.0	0.9	1.1			1.1	
MIN			0.60					0.9	0.8	0.8	0.9			0.8	

FLINT WATER PLANT & FACILITIES

Chemical Analyses **WSSN 2310** **Dec-10**

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		7.21		94		66		28				28.1		5.8		
2		7.27		96		70		26				28.9		5.8		
3		7.26		94		66		28				28.1		5.8		
4		7.24		96		70		26				28.1		6.3		
5		7.27		96		69		27				28.9		5.3		
6		7.31		96		70		26				28.9		5.3		
7		7.23		94		68		26				28.1		5.8		
8		7.31		94		68		26				28.9		5.3		
9		7.31		94		70		24				27.3		6.3		
10		7.20		94		66		28				28.9		5.3		
11		7.21		96		68		28				28.1		6.3		
12		7.24		96		64		32				28.1		6.3		
13		6.87		96		69		27				27.3		6.8		
14		6.73		98		68		30				28.9		6.3		
15		7.24		96		66		30				28.9		5.8		
16		7.25		96		70		26				28.1		6.3		
17		7.18		98		66		32				28.1		6.8		
18		7.11		98		64		34				28.9		6.3		
19		6.68		96		70		26				28.9		5.8		
20		7.20		92		65		27				28.9		4.9		
21		7.17		96		66		30				28.9		5.8		
22		7.17		96		66		30				28.9		5.8		
23		7.22		94		70		24				28.9		5.3		
24		7.13		94		66		28				28.9		5.3		
25		7.21		94		70		24				28.1		5.8		
26		7.27		88		66		22				27.3		4.9		
27		7.11		98		67		31				28.1		6.8		
28		7.13		96		66		30				28.9		5.8		
29		7.18		100		66		34				29.7		6.3		
30		7.11		100		71		29				29.7		6.3		
31		7.08		100		66		34				28.9		6.8		
AVG		7.16		96		68		28				28.5		5.9		
MAX		7.31		100		71		34				29.7		6.8		
MIN		6.68		88		64		22				27.3		4.9		

FLINT
WATER PLANT & FACILITIES

Bacteriological & Physical Parameters **WSSN 2310** **Dec-10**

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						15.7				
2	1/0		2/0	2/0	2/0						15.4				
3	1/0		2/0	2/0	2/0						15.7				
4	1/0		2/0	2/0	2/0						15.3				
5	1/0		2/0	2/0	2/0						15.7				
6	1/0		2/0	2/0	2/0						15.5				
7	1/0		2/0	2/0	2/0						15.4				
8	1/0		2/0	2/0	2/0						15.5				
9	1/0		2/0	2/0	2/0						15.2				
10	1/0		2/0	2/0	2/0						15.3				
11	1/0		2/0	2/0	2/0						15.4				
12	1/0		2/0	2/0	2/0						14.2				
13	1/0		2/0	2/0	2/0						14.7				
14	1/0		2/0	2/0	2/0						12.5				
15	1/0		2/0	2/0	2/0				< 2		13.5				
16	1/0		2/0	2/0	2/0						13.5				
17	1/0		2/0	2/0	2/0						12.3				
18	1/0		2/0	2/0	2/0						11.3				
19	1/0		2/0	2/0	2/0						11.4				
20	1/0		2/0	2/0	2/0						11.8				
21	1/0		2/0	2/0	2/0						11.3				
22	1/0		2/0	2/0	2/0						11.8				
23	1/0		2/0	2/0	2/0						11.9				
24	1/0		2/0	2/0	2/0						12.1				
25	1/0		2/0	2/0	2/0						12.2				
26	1/0		2/0	2/0	2/0						13.7				
27	1/0		2/0	2/0	2/0						12.7				
28	1/0		2/0	2/0	2/0						15.3				
29	1/0		2/0	2/0	2/0						12.5				
30	1/0		2/0	2/0	2/0						11.9				
31	1/0		2/0	2/0	2/0						12.3				
											13.6				
											15.7				
											11.3				

Distribution System Monitoring **WSSN 2310** **Dec-10**

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

Monthly Cl_2 Avg.	**0.768**
Quarterly Cl_2 Avg.	**0.642**
Yearly Cl_2 Avg.	**0.672**
Total Samples	**145**

Distribution System Monitoring **WSSN 2310** **Dec-10**

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

Monthly Cl_2 Avg.	**0.932**
Quarterly Cl_2 Avg.	**0.793**
Yearly Cl_2 Avg.	**0.815**
Total Samples	**145**

FLINT
WATER PLANT & FACILITIES

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:				**145**			
Total number of routine distribution samples required:				**100**			