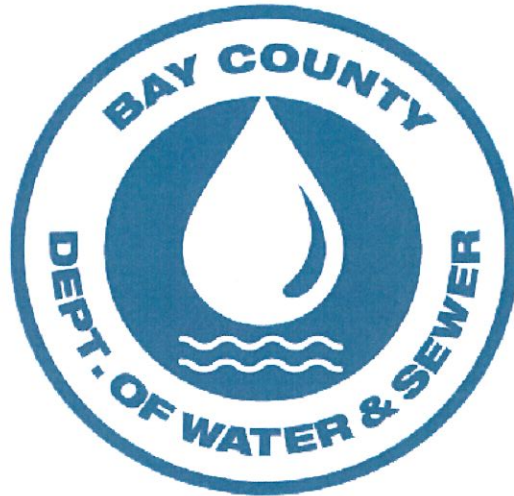


Bay Area WTP

Monthly Operations Report



September, 2024

Water Systems Serial Number: 0465

Carl J. Overly
Carl J. Overly

Water Plant Superintendent
Title

F-1, S-3, D-4
Classification

Mike Wagar
Mike Wagar

Operations Supervisor
Title

F-1, S-4
Classification

Bay Area Water Treatment Plant

Monthly Operations Report

Supply Name: Bay Area Water System
 WSSN: 0465

September, 2024
 Month, Year

F-1
 Water Plant Classification

Bay
 County

Carl J. Overly
 Operator-in-charge

F-1, S-3, D-4
 Certification of Operator-in-charge

20001
 Operator Identification Number for Operator-in-charge

Treatment Rate and Membrane Data

Treatment Rate, Approved Rated Plant Capacity	<u>17.4</u>	Millions of Gallons per Day
Treatment Rate, Maximum	<u>9.9</u>	Millions of Gallons per Day
Maximum Approved Transmembrane Pressure	<u>22</u>	PSI
Maximum Operating Transmembrane Pressure	<u>16.15</u>	PSI
Maximum Approved Flux Rate	<u>36.25</u>	gpd/sq.ft.
Maximum Operating Flux Rate	<u>29.18</u>	gpd/sq.ft.

Chemical Data

Sodium Hypochlorite on hand:	<u>4,073</u>	Gallons	Estimated Supply:	<u>37.3</u>	days
Caustic Soda on hand:	<u>3,305</u>	Gallons	Estimated Supply:	<u>226.4</u>	days
Corrosion Inhibitor on hand:	<u>921</u>	Gallons	Estimated Supply:	<u>33.8</u>	days
Hydrofluosilicic Acid on hand:	<u>1,482</u>	Gallons	Estimated Supply:	<u>72.7</u>	days
Aluminum Chlorohydrate on hand:	<u>526</u>	Gallons	Estimated Supply:	<u>52.8</u>	days
Sulfuric Acid on hand:	<u>159</u>	Gallons	Estimated Supply:	<u>79.5</u>	days
Sodium Bisulfite on hand:	<u>200</u>	Gallons	Estimated Supply:	<u>69.1</u>	days
Citric Acid on hand:	<u>3,004</u>	Gallons	Estimated Supply:	<u>240.3</u>	days
Cost of All Chemicals per Million Gallons:	<u>114.22</u>	Dollars			

Utility Data

Estimated Electrical Kilo Watts per Million Gallons:	<u>982.25</u>	KW
Estimated Natural Gas Million Cubic Feet per Million Gallons:	<u>2.59</u>	Mcf

Remarks

Number of periods of filter confluence turbidity samples > 0.3 NTU	<u>0</u>
Percent of membrane period confluence samples > 0.3 NTU:	<u>0.00%</u>
Was continuous (every 15 minutes) filter monitoring equipment off-line during the month? If yes, indicate date(s), duration, and individual filter grab sampling frequency on a separate sheet.	<u>No</u>
Did POE disinfectant residual fall below 0.2 ppm during the month? If yes, indicate date(s) and duration on a separate sheet.	<u>No</u>
Was minimum C*T credit achieved for the entire month? If no, indicate on a separate sheet the date(s) not achieved.	<u>Yes</u>
Was continuous POE chlorine residual monitoring equipment off-line during the month? If yes, date(s) and duration will be indicated on the rule page.	<u>No</u>

Notes

Fraser Twp water tower taken out of service on 8/20/24 for cleaning inside and out and back in service on 9/18/24.
 CFE Turbidity spike on 9/13 was due to maintenance work, attached addendum details the event.
 Acron's BacT sample had a chlorine of 0.06 mg/L, HPC were ran and showed no growth.
 Turbidity spike on filter #7 on 9/17/24 was the result of construction work taking place next to the skid.
 Conti was work on replacing adjacent pipe supports and disturbed the sample line going to the analyzer.

Bay Area WTP Monthly Operating Report

Date	Flows								
	Raw Water (MG)			Clarified (MG)	Sludge (MG)	Treated (MG)	Finished Water Pumped (MG)		
	N. Euclid	Lauria Road	Total	Total	Total	Total	N. Euclid	Lauria Road	Total
	FIT-1000-1	FIT-1000-2	Calculated	FIT-5520-1	FIT-5180	FIT-4000-1	FIT-4040-1	FIT-4040-2	Calculated
9/1/2024	3.06	4.86	7.92	0.12	0.26	7.70	3.85	3.41	7.26
9/2/2024	2.78	5.46	8.24	0.16	0.26	8.99	4.27	3.82	8.09
9/3/2024	2.56	6.35	8.91	0.15	0.26	8.58	4.15	3.67	7.82
9/4/2024	2.58	6.69	9.26	0.16	0.26	8.80	4.47	3.73	8.19
9/5/2024	2.61	6.22	8.82	0.17	0.26	8.40	4.18	3.49	7.66
9/6/2024	2.69	5.94	8.63	0.23	0.17	8.27	4.20	3.52	7.72
9/7/2024	3.01	5.16	8.17	0.21	0.20	8.26	4.04	3.57	7.61
9/8/2024	2.91	4.76	7.66	0.17	0.26	8.09	3.90	3.44	7.34
9/9/2024	2.60	6.44	9.04	0.29	0.18	9.04	4.54	3.79	8.32
9/10/2024	2.56	7.08	9.64	0.22	0.26	9.49	4.80	4.00	8.80
9/11/2024	2.63	7.29	9.92	0.27	0.15	9.09	4.57	3.87	8.44
9/12/2024	2.67	6.55	9.22	0.34	0.08	9.17	4.64	3.78	8.42
9/13/2024	2.73	6.34	9.07	0.31	0.09	8.95	4.53	3.74	8.27
9/14/2024	3.03	5.45	8.49	0.31	0.08	9.10	4.59	3.76	8.34
9/15/2024	3.05	5.03	8.08	0.28	0.08	8.82	4.50	3.67	8.17
9/16/2024	2.85	6.24	9.09	0.33	0.08	9.93	5.02	4.12	9.14
9/17/2024	2.66	7.61	10.27	0.26	0.17	9.63	4.94	4.03	8.98
9/18/2024	2.60	8.42	11.02	0.24	0.23	9.63	4.83	3.96	8.79
9/19/2024	2.66	6.60	9.26	0.28	0.15	8.71	4.40	3.68	8.08
9/20/2024	2.76	5.13	7.89	0.33	0.08	9.13	4.50	3.87	8.37
9/21/2024	3.08	6.03	9.11	0.20	0.21	8.81	4.48	3.76	8.25
9/22/2024	2.98	6.33	9.31	0.22	0.20	8.29	4.21	3.45	7.66
9/23/2024	2.40	5.13	7.54	0.27	0.11	7.87	3.93	3.24	7.17
9/24/2024	2.30	5.58	7.87	0.26	0.08	7.55	3.82	3.16	6.98
9/25/2024	2.29	4.98	7.28	0.21	0.20	7.99	3.88	3.36	7.24
9/26/2024	2.32	5.78	8.10	0.22	0.13	7.91	4.05	3.31	7.36
9/27/2024	2.33	6.10	8.42	0.26	0.08	7.95	3.89	3.30	7.19
9/28/2024	2.60	5.12	7.73	0.19	0.17	7.68	3.78	3.28	7.06
9/29/2024	2.69	5.07	7.75	0.14	0.26	8.11	3.98	3.42	7.40
9/30/2024	2.46	6.36	8.82	0.16	0.26	8.26	3.99	3.54	7.53
Total	80.46	180.09	260.55	6.94	5.26	258.19	128.94	108.73	237.67
Avg	2.68	6.00	8.69	0.23	0.18	8.61	4.30	3.62	7.92
Min	2.29	4.76	7.28	0.12	0.08	7.55	3.78	3.16	6.98
Max	3.08	8.42	11.02	0.34	0.26	9.93	5.02	4.12	9.14

Raw Water Analysis								
Date	Temp	pH	Turbidity		F ⁻	Free Cl	Bacti	
	Average	Average	Average	Maximum	Grab	Average	Positive/Negative	
	°C		NTU		mg/L	mg/L	Total Coliform	E. coli
	TIT-1000	AIT-1000-2	AIT-1000-1		Lab	AIT-1035-2	Lab	
9/1/2024	21.8	7.81	1.10	1.39	0.08	0.06	Negative	Negative
9/2/2024	21.3	7.87	1.00	1.32	0.09	0.10	Negative	Negative
9/3/2024	21.1	8.10	0.80	1.14	0.08	0.09	Negative	Negative
9/4/2024	21.1	7.83	0.84	1.15	0.08	0.08	Negative	Negative
9/5/2024	21.7	7.67	0.59	0.81	0.09	0.20	Negative	Negative
9/6/2024	21.7	7.61	0.58	1.21	0.09	0.26	Negative	Negative
9/7/2024	20.7	7.62	0.69	0.84	0.09	0.32	Negative	Negative
9/8/2024	20.4	7.68	0.88	1.12	0.09	0.27	Negative	Negative
9/9/2024	21.1	7.78	0.88	1.05	0.09	0.22	Negative	Negative
9/10/2024	21.3	7.89	0.71	0.85	0.09	0.32	Negative	Negative
9/11/2024	21.1	7.95	0.76	0.87	0.09	0.34	Negative	Negative
9/12/2024	21.4	7.98	0.74	0.86	0.09	0.37	Negative	Negative
9/13/2024	21.4	7.98	0.46	8.75	0.09	0.44	Negative	Negative
9/14/2024	21.7	7.99	0.39	0.57	0.08	0.47	Negative	Negative
9/15/2024	21.8	8.06	0.51	0.97	0.10	0.35	Negative	Negative
9/16/2024	20.4	7.97	0.62	0.76	0.08	0.29	Negative	Negative
9/17/2024	20.0	7.87	0.55	0.72	0.09	0.32	Negative	Negative
9/18/2024	20.1	7.87	0.60	4.17	0.07	0.31	Negative	Negative
9/19/2024	20.1	8.01	0.69	3.31	0.09	0.17	Negative	Negative
9/20/2024	20.2	8.05	0.70	0.90	0.09	0.11	Negative	Negative
9/21/2024	20.2	8.00	0.87	1.11	0.09	0.10	Negative	Negative
9/22/2024	20.2	7.98	0.74	0.97	0.09	0.15	Negative	Negative
9/23/2024	19.2	7.78	0.61	0.74	0.09	0.16	Negative	Negative
9/24/2024	19.6	7.95	0.70	1.04	0.09	0.10	Negative	Negative
9/25/2024	20.4	8.00	1.11	1.49	0.09	0.05	Negative	Negative
9/26/2024	19.6	7.94	0.81	1.04	0.09	0.05	Negative	Negative
9/27/2024	19.6	7.93	0.62	0.77	0.09	0.10	Negative	Negative
9/28/2024	20.0	7.93	0.64	0.86	0.09	0.16	Negative	Negative
9/29/2024	20.1	7.94	1.29	2.24	0.09	0.10	Negative	Negative
9/30/2024	20.4	7.91	1.71	3.09	0.09	0.07	Negative	Negative
Avg	20.7	7.90	0.77	1.54	0.09	0.20	NA	NA
Min	19.2	7.61	0.39	0.57	0.07	0.05	NA	NA
Max	21.8	8.10	1.71	8.75	0.10	0.47	NA	NA

Finished Water Analysis																		
Date	Temp	pH	Phosphate	Fluoride		Free Cl ₂	Alkalinity (as CaCO ₃)		Chloride	Sulfate	Calcium (as CaCO ₃)	Dissolved Oxygen	Conductivity	Langelier Saturation Index	Chloride: Sulfate Mass Ratio	Larson-Skold Index	Bacti	
	Average	Average	Average	Tap	Dist	Average	Carbonate	Bicarbonate	Grab	Grab	Grab	Grab	Grab				Positive/Negative	
	°C		mg/L	mg/L		mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	uS/cm				Total Coliform	E. coli
	AIT-4040-1	AIT-4050-2	AIT-4040-5	Lab		AIT-4050-1	Lab		Lab	Lab	Lab	Lab	Lab				Lab	
9/1/2024	21.2	7.59	3.39	0.67		1.27	0	80	14	12	78	8.4	233	-0.55	1.17	0.50	Negative	Negative
9/2/2024	21.1	7.67	3.39	0.70		1.29	0	82	14	12	76	8.5	231	-0.47	1.17	0.48	Negative	Negative
9/3/2024	20.8	7.62	3.38	0.67	0.68	1.28	0	82	14	12	76	8.5	230	-0.53	1.17	0.48	Negative	Negative
9/4/2024	20.9	7.43	3.39	0.68		1.37	0	82	11	11	74	7.8	272	-0.74	1.00	0.40	Negative	Negative
9/5/2024	20.9	7.39	3.39	0.69		1.31	0	83	13	11	68	8.2	267	-0.81	1.18	0.44	Negative	Negative
9/6/2024	20.8	7.60	3.41	0.69		1.29	0	83	13	12	70	8.2	267	-0.59	1.08	0.46	Negative	Negative
9/7/2024	20.4	7.71	3.45	0.69		1.34	0	80	14	11	66	8.5	259	-0.53	1.27	0.48	Negative	Negative
9/8/2024	20.1	7.80	3.39	0.69		1.30	0	81	14	12	72	8.2	262	-0.40	1.17	0.49	Negative	Negative
9/9/2024	20.1	7.74	3.39	0.69	0.70	1.29	0	83	14	11	68	8.7	263	-0.47	1.27	0.46	Negative	Negative
9/10/2024	20.0	7.73	3.41	0.69		1.31	0	82	14	10	68	8.6	261	-0.49	1.40	0.45	Negative	Negative
9/11/2024	19.7	7.74	3.38	0.68		1.29	0	77	13	12	70	8.8	258	-0.50	1.08	0.49	Negative	Negative
9/12/2024	19.8	7.53	3.39	0.68		1.30	0	78	14	13	80	8.9	256	-0.65	1.08	0.52	Negative	Negative
9/13/2024	19.7	7.59	3.38	0.67		1.31	0	76	13	11	84	8.6	253	-0.58	1.18	0.48	Negative	Negative
9/14/2024	19.6	7.67	3.38	0.66		1.33	0	78	13	11	76	8.5	244	-0.53	1.18	0.47	Negative	Negative
9/15/2024	19.6	7.66	3.38	0.66		1.31	0	77	12	12	76	8.7	249	-0.54	1.00	0.47	Negative	Negative
9/16/2024	20.0	7.50	3.38	0.69	0.65	1.30	0	78	13	11	82	8.7	247	-0.66	1.18	0.47	Negative	Negative
9/17/2024	20.3	7.49	3.38	0.69		1.30	0	79	12	12	82	8.6	251	-0.66	1.00	0.46	Negative	Negative
9/18/2024	20.2	7.59	3.37	0.65		1.30	0	78	14	12	82	8.6	250	-0.56	1.17	0.51	Negative	Negative
9/19/2024	20.2	7.58	3.37	0.68		1.29	0	82	13	11	70	8.6	255	-0.62	1.18	0.45	Negative	Negative
9/20/2024	20.4	7.67	3.37	0.69		1.30	0	84	13	11	66	8.6	261	-0.54	1.18	0.44	Negative	Negative
9/21/2024	20.6	7.82	3.36	0.69		1.28	0	85	13	11	76	8.7	266	-0.32	1.18	0.43	Negative	Negative
9/22/2024	20.7	7.67	3.37	0.69		1.28	0	84	13	12	74	8.6	268	-0.49	1.08	0.45	Negative	Negative
9/23/2024	20.4	7.57	3.36	0.68	0.70	1.29	0	84	13	11	68	8.6	264	-0.63	1.18	0.44	Negative	Negative
9/24/2024	20.3	7.53	3.36	0.69		1.29	0	81	12	11	68	8.6	261	-0.69	1.09	0.43	Negative	Negative
9/25/2024	20.5	7.60	3.36	0.69		1.28	0	78	12	12	79	8.9	266	-0.57	1.00	0.46	Negative	Negative
9/26/2024	20.2	7.52	3.39	0.70		1.30	0	82	14	10	82	8.4	267	-0.62	1.40	0.45	Negative	Negative
9/27/2024	20.2	7.47	3.40	0.69		1.29	0	82	13	12	88	8.3	266	-0.63	1.08	0.46	Negative	Negative
9/28/2024	20.2	7.65	3.38	0.69		1.30	0	79	13	12	84	8.5	264	-0.49	1.08	0.48	Negative	Negative
9/29/2024	20.2	7.62	3.38	0.68		1.29	0	78	12	12	80	8.0	259	-0.55	1.00	0.46	Negative	Negative
9/30/2024	20.5	7.57	3.38	0.70		1.29	0	80	14	12	78	8.4	263	-0.60	1.17	0.50	Negative	Negative
Avg	20.3	7.61	3.38	0.68	0.68	1.30	0	81	13	12	75	8.5	257	-0.57	1.15	0.47	NA	NA
Min	19.6	7.39	3.36	0.65	0.65	1.27	0	76	11	10	66	7.8	230	-0.81	1.00	0.40	NA	NA
Max	21.2	7.82	3.45	0.70	0.70	1.37	0	85	14	13	88	8.9	272	-0.32	1.40	0.52	NA	NA

Date	Turbidity									Finished Water
	Raw Water		Clarified Water	Membrane Feed Water	Combined Membrane Filtrate					
	Avg	Max	Avg	Avg	Avg	Max	# Samples	# > 0.3	% Exceeded	
	NTU									
	AIT-1000-1	AIT-5030-1	AIT-1035-3	AIT-4000-1					Calculated	
9/1/2024	1.10	1.39	11.36	0.89	0.036	0.038	96	0	0.0	0.030
9/2/2024	1.00	1.32	19.08	0.89	0.036	0.038	96	0	0.0	0.030
9/3/2024	0.80	1.14	9.36	0.85	0.035	0.035	96	0	0.0	0.030
9/4/2024	0.84	1.15	9.85	0.81	0.035	0.035	96	0	0.0	0.030
9/5/2024	0.59	0.81	9.37	0.71	0.035	0.035	96	0	0.0	0.030
9/6/2024	0.58	1.21	17.51	0.61	0.034	0.035	96	0	0.0	0.029
9/7/2024	0.69	0.84	22.48	0.60	0.033	0.034	96	0	0.0	0.029
9/8/2024	0.88	1.12	12.09	0.64	0.033	0.034	96	0	0.0	0.029
9/9/2024	0.88	1.05	22.58	0.75	0.034	0.036	96	0	0.0	0.029
9/10/2024	0.71	0.85	16.02	0.70	0.033	0.035	96	0	0.0	0.029
9/11/2024	0.76	0.87	17.64	0.65	0.033	0.034	96	0	0.0	0.029
9/12/2024	0.74	0.86	36.10	0.68	0.033	0.035	96	0	0.0	0.029
9/13/2024	0.46	8.75	15.88	0.79	0.083	5.004	96	1	0.2	0.027
9/14/2024	0.39	0.57	3.10	0.44	0.030	0.031	96	0	0.0	0.025
9/15/2024	0.51	0.97	2.83	0.45	0.031	0.031	96	0	0.0	0.025
9/16/2024	0.62	0.76	5.99	0.51	0.031	0.032	96	0	0.0	0.025
9/17/2024	0.55	0.72	11.19	0.54	0.031	0.032	96	0	0.0	0.025
9/18/2024	0.60	4.17	9.42	0.55	0.030	0.031	96	0	0.0	0.025
9/19/2024	0.69	3.31	15.30	0.58	0.030	0.032	96	0	0.0	0.025
9/20/2024	0.70	0.90	20.72	0.62	0.031	0.032	96	0	0.0	0.026
9/21/2024	0.87	1.11	22.61	0.70	0.031	0.032	96	0	0.0	0.026
9/22/2024	0.74	0.97	26.47	0.72	0.031	0.032	96	0	0.0	0.026
9/23/2024	0.61	0.74	20.86	0.67	0.031	0.032	96	0	0.0	0.026
9/24/2024	0.70	1.04	14.71	0.62	0.031	0.032	96	0	0.0	0.026
9/25/2024	1.11	1.49	18.36	0.75	0.032	0.032	96	0	0.0	0.026
9/26/2024	0.81	1.04	14.88	0.82	0.032	0.032	96	0	0.0	0.026
9/27/2024	0.62	0.77	25.67	0.72	0.032	0.032	96	0	0.0	0.026
9/28/2024	0.64	0.86	40.23	0.65	0.032	0.032	96	0	0.0	0.026
9/29/2024	1.29	2.24	17.74	0.80	0.032	0.032	96	0	0.0	0.026
9/30/2024	1.71	3.09	31.43	1.31	0.032	0.033	96	0	0.0	0.026
Avg	0.77	1.54	17.36	0.70	0.034	0.033	96	0	0.0	0.027
Min	0.39	0.57	2.83	0.44	0.030	0.031	96	0	0.0	0.025
Max	1.71	8.75	40.23	1.31	0.083	5.004	96	1	0.2	0.030

Note: % Exceeded are 4 hr compliance periods where the average of samples are greater than 0.3 NTU
High turbidity on 9/13 due to maintenance activity on CFE analyzer and doesn't reflect actual water quality.
Details of the event are attached as an addendum.

Date	Membrane LRV/Integrity/Max Turbidity																									
	Membrane 1			Membrane 2			Membrane 3			Membrane 4			Membrane 5			Membrane 6			Membrane 7			Membrane 8				
	LRV	Integrity	Turbidity	LRV	Integrity	Turbidity	LRV	Integrity	Turbidity	LRV	Integrity	Turbidity	LRV	Integrity	Turbidity	LRV	Integrity	Turbidity	LRV	Integrity	Turbidity	LRV	Integrity	Turbidity		
	Minimum	Max	Max	Minimum	Max	Max	Minimum	Max	Max	Minimum	Max	Max	Minimum	Max	Max	Minimum	Max	Max	Minimum	Max	Max	Minimum	Max	Max		
Daily Value	Pass/Fail	NTU	Daily Value	Pass/Fail	NTU	Daily Value	Pass/Fail	NTU	Daily Value	Pass/Fail	NTU	Daily Value	Pass/Fail	NTU	Daily Value	Pass/Fail	NTU	Daily Value	Pass/Fail	NTU	Daily Value	Pass/Fail	NTU	Daily Value	Pass/Fail	NTU
9/1/2024	5.34	PASS	0.032	5.19	PASS	0.032	5.45	PASS	0.031	4.11	PASS	0.030	5.31	PASS	0.032	4.10	PASS	0.030	3.98	PASS	0.028	5.38	PASS	0.032		
9/2/2024	5.41	PASS	0.031	5.20	PASS	0.033	5.44	PASS	0.031	4.27	PASS	0.030	5.29	PASS	0.032	4.07	PASS	0.030	3.97	PASS	0.028	5.37	PASS	0.030		
9/3/2024	5.32	PASS	0.033	5.17	PASS	0.032	5.44	PASS	0.030	4.20	PASS	0.030	5.26	PASS	0.031	4.07	PASS	0.029	3.99	PASS	0.029	5.34	PASS	0.031		
9/4/2024	5.30	PASS	0.031	5.17	PASS	0.032	5.38	PASS	0.030	4.16	PASS	0.030	5.26	PASS	0.031	4.12	PASS	0.029	3.98	PASS	0.027	5.37	PASS	0.030		
9/5/2024	5.30	PASS	0.031	5.18	PASS	0.031	5.43	PASS	0.030	4.16	PASS	0.030	5.30	PASS	0.031	4.11	PASS	0.029	3.97	PASS	0.027	5.38	PASS	0.032		
9/6/2024	5.41	PASS	0.030	5.20	PASS	0.031	5.43	PASS	0.029	4.16	PASS	0.029	5.30	PASS	0.030	4.09	PASS	0.028	3.97	PASS	0.026	5.39	PASS	0.030		
9/7/2024	5.38	PASS	0.030	5.19	PASS	0.030	5.43	PASS	0.029	4.25	PASS	0.028	5.35	PASS	0.030	4.12	PASS	0.028	3.99	PASS	0.026	5.40	PASS	0.031		
9/8/2024	5.35	PASS	0.030	5.21	PASS	0.030	5.43	PASS	0.029	4.23	PASS	0.028	5.41	PASS	0.030	4.31	PASS	0.028	4.07	PASS	0.026	5.43	PASS	0.031		
9/9/2024	5.39	PASS	0.030	5.18	PASS	0.030	5.38	PASS	0.030	4.17	PASS	0.029	5.34	PASS	0.030	4.21	PASS	0.028	3.99	PASS	0.027	5.41	PASS	0.029		
9/10/2024	5.36	PASS	0.030	5.19	PASS	0.031	5.44	PASS	0.029	4.20	PASS	0.029	5.35	PASS	0.030	4.22	PASS	0.028	3.99	PASS	0.027	5.42	PASS	0.029		
9/11/2024	5.34	PASS	0.029	5.22	PASS	0.030	5.43	PASS	0.042	4.21	PASS	0.028	5.33	PASS	0.030	4.20	PASS	0.028	4.04	PASS	0.027	5.41	PASS	0.032		
9/12/2024	5.42	PASS	0.030	5.18	PASS	0.030	5.41	PASS	0.030	4.19	PASS	0.029	5.31	PASS	0.030	4.21	PASS	0.028	4.02	PASS	0.026	5.43	PASS	0.031		
9/13/2024	5.41	PASS	0.030	5.16	PASS	0.029	5.35	PASS	0.029	4.18	PASS	0.028	5.28	PASS	0.030	4.19	PASS	0.032	4.01	PASS	0.026	5.44	PASS	0.031		
9/14/2024	5.44	PASS	0.029	5.22	PASS	0.030	5.45	PASS	0.029	4.21	PASS	0.028	5.33	PASS	0.029	4.22	PASS	0.028	4.04	PASS	0.026	5.44	PASS	0.034		
9/15/2024	5.53	PASS	0.029	5.24	PASS	0.030	5.37	PASS	0.029	4.18	PASS	0.028	5.36	PASS	0.029	4.19	PASS	0.028	4.07	PASS	0.026	5.44	PASS	0.030		
9/16/2024	5.41	PASS	0.035	5.21	PASS	0.030	5.45	PASS	0.033	4.16	PASS	0.028	5.33	PASS	0.029	4.19	PASS	0.028	4.04	PASS	0.026	5.42	PASS	0.031		
9/17/2024	5.39	PASS	0.030	5.21	PASS	0.031	5.40	PASS	0.029	4.21	PASS	0.029	5.30	PASS	0.029	4.18	PASS	0.028	4.03	PASS	0.148	5.46	PASS	0.030		
9/18/2024	5.50	PASS	0.035	5.22	PASS	0.034	5.42	PASS	0.028	4.24	PASS	0.027	5.35	PASS	0.026	4.24	PASS	0.029	4.03	PASS	0.027	5.46	PASS	0.029		
9/19/2024	5.48	PASS	0.029	5.16	PASS	0.037	5.46	PASS	0.029	4.18	PASS	0.028	5.38	PASS	0.027	4.22	PASS	0.028	4.04	PASS	0.028	5.44	PASS	0.030		
9/20/2024	5.41	PASS	0.030	5.14	PASS	0.035	5.45	PASS	0.029	4.14	PASS	0.029	5.27	PASS	0.027	4.12	PASS	0.029	4.00	PASS	0.028	5.38	PASS	0.029		
9/21/2024	5.42	PASS	0.030	5.15	PASS	0.036	5.42	PASS	0.030	4.17	PASS	0.029	5.27	PASS	0.028	4.09	PASS	0.029	3.98	PASS	0.029	5.35	PASS	0.029		
9/22/2024	5.34	PASS	0.030	5.14	PASS	0.041	5.37	PASS	0.030	4.10	PASS	0.029	5.21	PASS	0.028	4.09	PASS	0.030	3.95	PASS	0.029	5.29	PASS	0.031		
9/23/2024	5.33	PASS	0.030	5.14	PASS	0.040	5.35	PASS	0.030	4.07	PASS	0.029	5.21	PASS	0.027	4.07	PASS	0.029	3.95	PASS	0.029	5.28	PASS	0.032		
9/24/2024	5.38	PASS	0.029	5.17	PASS	0.036	5.38	PASS	0.029	4.08	PASS	0.028	5.23	PASS	0.027	4.09	PASS	0.029	3.96	PASS	0.028	5.28	PASS	0.030		
9/25/2024	5.36	PASS	0.030	5.11	PASS	0.035	5.40	PASS	0.030	4.08	PASS	0.029	5.26	PASS	0.028	4.07	PASS	0.029	3.96	PASS	0.029	5.33	PASS	0.030		
9/26/2024	5.36	PASS	0.030	5.07	PASS	0.035	5.31	PASS	0.030	4.05	PASS	0.029	5.21	PASS	0.028	4.07	PASS	0.029	3.96	PASS	0.029	5.26	PASS	0.029		
9/27/2024	5.34	PASS	0.031	5.03	PASS	0.034	5.30	PASS	0.030	4.05	PASS	0.029	5.19	PASS	0.028	4.07	PASS	0.029	4.07	PASS	0.029	5.25	PASS	0.029		
9/28/2024	5.35	PASS	0.030	5.11	PASS	0.034	5.40	PASS	0.029	4.05	PASS	0.028	5.26	PASS	0.028	4.04	PASS	0.029	4.06	PASS	0.029	5.38	PASS	0.029		
9/29/2024	5.39	PASS	0.030	5.13	PASS	0.033	5.37	PASS	0.029	4.06	PASS	0.029	5.21	PASS	0.028	4.06	PASS	0.029	4.03	PASS	0.028	5.31	PASS	0.028		
9/30/2024	5.39	PASS	0.030	5.12	PASS	0.035	5.35	PASS	0.030	4.05	PASS	0.029	5.23	PASS	0.028	4.06	PASS	0.030	3.96	PASS	0.029	5.30	PASS	0.030		
Avg	5.39		0.031	5.17		0.033	5.40		0.030	4.15		0.029	5.29		0.029	4.14		0.029	4.00		0.032	5.37		0.030		
Min	5.30		0.029	5.03		0.029	5.30		0.028	4.05		0.027	5.19		0.026	4.04		0.028	3.95		0.026	5.25		0.028		
Max	5.53		0.035	5.24		0.041	5.46		0.042	4.27		0.030	5.41		0.032	4.31		0.032	4.07		0.148	5.46		0.034		

Note: As calculated by the manufacturer, the Upper Control Limit (UCL) for the installed membrane filtration system is 3.32 psi/min.
Per the manufacturer's UCL calculation: Q = 1,848 gpm, ALCR = 44.6, P atm = 14.4 psi, LRC = 3, V sys = 356.9 gallons, and VCF = 1.

In Service Dates For Modules			
Train 1		Train 2	
Skid 1	8/2024	12/2023	Skid 2
Skid 3	11/2023	8/2015	Skid 4
Skid 5	2/2023	8/2015	Skid 6
Skid 7	8/2015	1/2023	Skid 8

Treatment Chemical Dosages											
Date	Treated Water	Sodium Hypochlorite					Phosphoric Acid		Hydroflourosilicic Acid		
		Raw Water	Membrane Feed Water	Dose pre-FW Tanks	Treated Water	Post FW Tanks	Dose pre-FW Tanks	Post FW Tanks	Raw Water	Dose pre-FW Tanks	Post FW Tanks
	Volume	Free Cl ₂					PO4		F		
	MG	mg/L					mg/L		mg/L		
	FIT-4000-1	AIT-1035-2	AIT-1035-4	Added	AIT-4030-1	AIT-4050-1	Added	AIT-4040-5	Lab	Added	Lab
9/1/2024	7.7	0.06	0.03	1.90	1.56	1.27	3.30	3.39	0.08	0.54	0.67
9/2/2024	9.0	0.10	0.04	1.90	1.55	1.29	3.30	3.39	0.09	0.54	0.70
9/3/2024	8.6	0.09	0.04	1.90	1.56	1.28	3.30	3.38	0.08	0.54	0.67
9/4/2024	8.8	0.08	0.03	1.78	1.52	1.37	3.30	3.39	0.08	0.53	0.68
9/5/2024	8.4	0.20	0.03	1.69	1.47	1.31	3.30	3.39	0.09	0.53	0.69
9/6/2024	8.3	0.26	0.07	1.22	1.46	1.29	3.30	3.41	0.09	0.53	0.69
9/7/2024	8.3	0.32	0.10	1.14	1.49	1.34	3.28	3.45	0.09	0.53	0.69
9/8/2024	8.1	0.27	0.10	1.13	1.45	1.30	3.25	3.39	0.09	0.53	0.69
9/9/2024	9.0	0.22	0.08	1.11	1.44	1.29	3.25	3.39	0.09	0.53	0.69
9/10/2024	9.5	0.32	0.11	0.96	1.45	1.31	3.24	3.41	0.09	0.53	0.69
9/11/2024	9.1	0.34	0.15	1.08	1.41	1.29	3.24	3.38	0.09	0.53	0.68
9/12/2024	9.2	0.37	0.15	1.07	1.45	1.30	3.26	3.39	0.09	0.53	0.68
9/13/2024	9.0	0.44	0.18	1.07	1.44	1.31	3.26	3.38	0.09	0.53	0.67
9/14/2024	9.1	0.47	0.23	1.00	1.45	1.33	3.26	3.38	0.08	0.54	0.66
9/15/2024	8.8	0.35	0.22	1.00	1.42	1.31	3.26	3.38	0.10	0.55	0.66
9/16/2024	9.9	0.29	0.17	1.08	1.43	1.30	3.26	3.38	0.08	0.55	0.69
9/17/2024	9.6	0.32	0.17	1.12	1.44	1.30	3.26	3.38	0.09	0.55	0.69
9/18/2024	9.6	0.31	0.18	1.08	1.41	1.30	3.26	3.37	0.07	0.55	0.65
9/19/2024	8.7	0.17	0.11	1.17	1.42	1.29	3.26	3.37	0.09	0.55	0.68
9/20/2024	9.1	0.11	0.05	1.25	1.45	1.30	3.26	3.37	0.09	0.55	0.69
9/21/2024	8.8	0.10	0.03	1.28	1.45	1.28	3.26	3.36	0.09	0.55	0.69
9/22/2024	8.3	0.15	0.03	1.30	1.47	1.28	3.26	3.37	0.09	0.55	0.69
9/23/2024	7.9	0.16	0.04	1.29	1.46	1.29	3.26	3.36	0.09	0.55	0.68
9/24/2024	7.5	0.10	0.03	1.31	1.48	1.29	3.26	3.36	0.09	0.55	0.69
9/25/2024	8.0	0.05	0.02	1.42	1.52	1.28	3.28	3.36	0.09	0.55	0.69
9/26/2024	7.9	0.05	0.02	1.38	1.51	1.30	3.29	3.39	0.09	0.55	0.70
9/27/2024	8.0	0.10	0.02	1.38	1.50	1.29	3.29	3.40	0.09	0.55	0.69
9/28/2024	7.7	0.16	0.03	1.34	1.49	1.30	3.29	3.38	0.09	0.55	0.69
9/29/2024	8.1	0.10	0.03	1.36	1.48	1.29	3.29	3.38	0.09	0.55	0.68
9/30/2024	8.3	0.07	0.02	1.42	1.50	1.29	3.29	3.38	0.09	0.55	0.70
Avg	8.6	0.20	0.08	1.30	1.47	1.30	3.27	3.38	0.09	0.54	0.68
Min	7.5	0.05	0.02	0.96	1.41	1.27	3.24	3.36	0.07	0.53	0.65
Max	9.9	0.47	0.23	1.90	1.56	1.37	3.30	3.45	0.10	0.55	0.70

Disinfection CT														
Date	Pipeline CT				FW Tank CT						Compliance			
	Whitestone	Travel Time	Residual	CT	FW Tank 1	FW Tank 2	Plant	Contact Time	Free Cl ₂	CT	Total CT	Temp	CT	CT
	Flow	Min	RW	Achieved	Min Level	Min Level	Flow	Min	Min	Achieved	Achieved	Avg	Required	Met
	MGD	Minutes	mg/L	mg-min/L	ft	ft	MGD	Minutes	mg/L	mg-min/L	mg-min/L	°C	mg-min/L	Y/N
Entry	Calculated	AIT-1035-2	Calculated	LIT-4005-1	LIT-4005-2	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	TIT-1000	Calculated	Calculated
9/1/2024	66.1	1,893	0.06	105	28.7	20.7	7.3	467	1.25	291	396	21.8	2.00	Y
9/2/2024	67.0	1,868	0.10	184	28.9	21.2	8.1	424	1.25	265	449	21.3	2.00	Y
9/3/2024	59.9	2,088	0.09	198	28.9	23.0	7.8	454	1.25	283	482	21.1	2.00	Y
9/4/2024	52.9	2,364	0.08	192	28.8	24.1	8.2	443	1.18	261	454	21.1	2.00	Y
9/5/2024	55.3	2,264	0.20	457	28.5	22.1	7.7	453	1.24	281	738	21.7	2.00	Y
9/6/2024	58.6	2,135	0.26	555	28.7	24.2	7.7	470	1.25	295	850	21.7	2.00	Y
9/7/2024	69.6	1,798	0.32	579	28.8	22.9	7.6	466	1.31	305	884	20.7	2.00	Y
9/8/2024	70.4	1,776	0.27	476	28.7	22.8	7.3	481	1.19	287	762	20.4	2.00	Y
9/9/2024	63.8	1,962	0.22	423	28.9	22.9	8.3	426	1.26	269	691	21.1	2.00	Y
9/10/2024	56.3	2,220	0.32	708	28.7	22.8	8.8	402	1.21	242	950	21.3	2.00	Y
9/11/2024	58.6	2,134	0.34	723	28.7	23.8	8.4	427	1.25	266	989	21.1	2.00	Y
9/12/2024	60.2	2,077	0.37	760	28.6	22.8	8.4	418	1.25	262	1023	21.4	2.00	Y
9/13/2024	60.9	2,053	0.44	894	28.7	22.9	8.3	427	1.28	274	1168	21.4	2.00	Y
9/14/2024	67.5	1,854	0.47	868	28.7	23.1	8.3	426	1.28	273	1141	21.7	2.00	Y
9/15/2024	68.3	1,831	0.35	649	28.7	22.8	8.2	432	1.28	275	925	21.8	2.00	Y
9/16/2024	67.9	1,842	0.29	529	28.7	23.7	9.1	393	1.25	245	774	20.4	2.00	Y
9/17/2024	66.4	1,884	0.32	601	28.7	23.6	9.0	399	1.26	252	853	20.0	4.00	Y
9/18/2024	63.6	1,965	0.31	610	28.7	22.3	8.8	397	1.26	251	861	20.1	2.00	Y
9/19/2024	59.2	2,114	0.17	365	28.5	22.6	8.1	434	1.26	274	639	20.1	2.00	Y
9/20/2024	58.0	2,158	0.11	246	28.5	21.4	8.4	408	1.22	249	495	20.2	2.00	Y
9/21/2024	68.6	1,823	0.10	182	28.7	23.0	8.2	429	1.24	266	448	20.2	2.00	Y
9/22/2024	69.6	1,798	0.15	261	28.7	24.0	7.7	472	1.22	288	549	20.2	2.00	Y
9/23/2024	70.4	1,777	0.16	288	28.7	24.0	7.2	503	1.23	309	596	19.2	4.00	Y
9/24/2024	57.4	2,178	0.10	207	28.6	23.4	7.0	510	1.21	308	515	19.6	4.00	Y
9/25/2024	51.2	2,441	0.05	121	28.7	23.9	7.2	497	1.24	309	429	20.4	2.00	Y
9/26/2024	47.2	2,651	0.05	145	28.7	23.7	7.4	487	1.16	282	427	19.6	4.00	Y
9/27/2024	47.9	2,609	0.10	256	28.7	24.1	7.2	504	1.22	307	563	19.6	4.00	Y
9/28/2024	62.4	2,004	0.16	330	28.7	23.1	7.1	503	1.22	307	637	20.0	4.00	Y
9/29/2024	64.7	1,934	0.10	188	28.7	24.0	7.4	488	1.24	303	491	20.1	2.00	Y
9/30/2024	65.6	1,908	0.07	128	28.8	23.9	7.5	480	1.22	293	421	20.4	2.00	Y
Avg	61.8	2,047	0.20	408	28.7	23.1	7.9	451	1.24	279	687	20.7	2.40	NA
Min	47.2	1,776	0.05	105	28.5	20.7	7.0	393	1.16	242	396	19.2	2.00	NA
Max	70.4	2,651	0.47	894	28.9	24.2	9.1	510	1.31	309	1168	21.8	4.00	NA

Notes:

Pipeline volume factor in SMMWSC to RW tank: 125,090 MG-min/day

Distribution System Monitoring																								
Chlorine Residual at Bacteriological Monitoring Stations (mg/L Free Cl2)																								
WSSN:	0072	0390				0400			0470							0485					0517	0518		2180
Date	Akron	Bangor Twp.				Bangor Monitor Dist.			Bay City							Bay County					Beaver Rd	Beaver Twp		Essexville
	1	3	4	5	6	7	9	10	11	12	13	14	15	16	17	18	19	20	23	24	26	29	30	32
9/1/2024																								
9/2/2024																								
9/3/2024		0.77	0.19	0.34	1.22				0.74	0.43	0.54	0.77	0.28	1.01	0.56	0.90	0.87	0.91	0.61	0.42		0.16		
9/4/2024																								1.04
9/5/2024						0.76	0.83		0.81	0.45	0.69	0.80	0.31	1.02	0.55									
9/6/2024																								
9/7/2024																								
9/8/2024																								
9/9/2024																								
9/10/2024		0.27	0.28													0.88	0.85	0.88	0.75	0.46		0.22		
9/11/2024									0.69	0.80	0.65	0.38	0.31	1.08	0.63						0.52			
9/12/2024								1.12																
9/13/2024																								
9/14/2024																								
9/15/2024																								
9/16/2024																								0.99
9/17/2024	0.06	0.90	0.40	0.95	1.06																			
9/18/2024																								
9/19/2024									0.84	0.52	0.77	0.89	0.41	1.13	0.74									0.98
9/20/2024																								
9/21/2024																								
9/22/2024																								
9/23/2024																								0.93
9/24/2024									0.84		0.71	0.87		1.16	0.74									
9/25/2024																								
9/26/2024									0.78	0.47	0.57	0.79	0.32	1.07	0.65									
9/27/2024																								
9/28/2024																								
9/29/2024																								
9/30/2024																								
Average	0.06		0.64				0.90					0.69					0.75				0.52		0.19	0.99
Min	0.06		0.19				0.76					0.28					0.42				0.52		0.16	0.93
Max	0.06		1.22				1.12					1.16					0.91				0.52		0.22	1.04

MONITORING STATION ADDRESSES

- | | | |
|---|---|---|
| 1. Sample station at corner of 5758 M-25 & Ro | 11. Number 1 Fire Station, 1401 Center Ave | 19. Dore's M-84 Party Store, 6183 WS Saginaw Rd |
| 3. Bangor Fire Station, 3921 Wheeler | 12. Number 2 Fire Station, 1000 Fremont Ave | 20. Pump Station #13, 6000 WS Saginaw Rd |
| 4. BCDWS Admin. Bldg. 3933 Patterson Rd. | 13. Jack's Fruit Market, 1000 Salzburg Ave | 23. Rail Trail Pump Station, 366 N. Tuscola Rd. |
| 5. 7-11, 3543 S. Old Kawkawlin Rd. | 14. Number 4 Fire Station, 212 S. Dean St | 24. Little Learners Daycare, 1694 Cass Ave. |
| 6. Admiral Petroleum, 314 S Euclid Ave. | 15. Number 5 Fire Station, 1209 Smith St | 26. Wieland Contracting, 2443 S Mackinaw Rd |
| 7. Sequin Lumber, 3881 Euclid Ave | 16. Bay City Hall, 301 Washington Ave | 29. Sample Station, 2515 S. 11 Mile Rd |
| 9. Top Gun Liquor, 2981 Midland Rd | 17. Skipper Buds Marina, 1809 S Water St | 30. Sample Station, 340 W. Beaver Rd |
| 10. Little Caesars, 3475 E North Union Rd | 18. Bay Valley Animal Hospital 6015 WS Saginaw Rd | 32. Essexville City Hall, 1107 Woodside Ave |

Distribution System Monitoring

Chlorine Residual at Bacteriological Monitoring Stations (mg/L Free Cl ₂)																											
WSSN:	2465		2960				3565			3570		3910		4280		4440			5330		5335		5540	7125			7134
	Fraser Twp.		Hampton Twp.				Kawkawlin Twp.			Kawkawlin Met.		Linwood, LMWD		Merritt Twp.		Monitor Twp.			City Pinconning		Pinconning Twp.		Portsmouth	Williams Twp.			Wisner
Date	34	35	36	37	38	39	40	41	42	43	45	73	74	46	48	49	52	55	58	59	61	63	65	68	69	70	72
9/1/2024																											
9/2/2024																											
9/3/2024														0.30									0.25	0.57	0.68	0.26	0.22
9/4/2024																											
9/5/2024		0.77	0.67	0.35	0.32	0.30	1.11	0.68					0.65			0.81	0.52	0.60	0.35		0.75						
9/6/2024																											
9/7/2024																											
9/8/2024																											
9/9/2024																											
9/10/2024														0.23										0.56	0.72	0.21	
9/11/2024																											
9/12/2024				0.50	0.36	0.38			0.90	0.79						1.01	0.64	0.73	0.67		0.38						
9/13/2024																											
9/14/2024																											
9/15/2024																											
9/16/2024																											
9/17/2024																											
9/18/2024																											
9/19/2024		0.89		0.51	0.60	0.39				0.75						1.03	0.69										
9/20/2024																											
9/21/2024																											
9/22/2024																											
9/23/2024																											
9/24/2024																											
9/25/2024																											
9/26/2024																											
9/27/2024																											
9/28/2024																											
9/29/2024																											
9/30/2024																											
Average	0.83		0.44				0.90			0.77		0.65		0.27		0.75			0.51		0.57		0.25	0.50			0.22
Min	0.77		0.30				0.68			0.75		0.65		0.23		0.52			0.35		0.38		0.25	0.21			0.22
Max	0.89		0.67				1.11			0.79		0.65		0.30		1.03			0.67		0.75		0.25	0.72			0.22

MONITORING STATION ADDRESSES

34. Fraser Elevated Tank, 2949 1/2 N. Huron Rd	43. Speedway, 106 S. Huron Rd.	59. Marathon Gas Station, 511 S Mabel St
35. Lloyd's Cabinet, 1947 N Huron Rd	45. Kawkawlin Restaurant, 103 S Huron Rd	61. Pinconning Meter Pit, 3005 N Huron Rd
36. Shirts Mugs & More, 2728 Center Ave	46. John's Bar, 1476 S Tuscola Rd	63. Master Meter Pit, 2865 Pinconning Rd
37. Hampton DPW, 950 Wagner Rd.	48. Tool Shed Bar, 12 W Munger Rd	65. Ike's Welding, 50 N Finn Rd
38. Bay County Golf Course, 584 W Hampton Rd.	49. Wilder Rd Party Store, 2951 E Wilder Rd	68. Williams Township Hall, 1080 W Midland Rd
39. Sewer Lift Station, 902 Nebobish Rd.	52. Monitor Twp. Elevated Tank, 1611 E. Midland Rd	69. Pump Station, 490 W. Salzburg & 9 Mile Rd
40. Bay Co. Road Commisison, 2600 E Beaver Rd	55. Auburn Fertilizer, 4640 S 7 Mile Rd	70. 11 Mile Elevated Tank, 5003 S. 11 Mile Rd
41. Parish Rd. Elevated Tank, 1770 E. Parish Rd	58. Pinconning City Hall, 208 S Manitou St	72. Lindy's Sales, 9051 M-25
42. Linwood Tile, 205 S Huron Rd		73. Larry Chambers, 407 W. Clara Street
		74. Linwood Party and Sporting Goods, 211 W. Center St.

Distribution System Bacteriological

Water Supplier Bacteriological Analysis Report

MICHIGAN DEPARTMENT OF PUBLIC HEALTH
Bureau of Environmental Health
Water Supplier Bacteriological Analysis Report

Name of Water Supply
Bay Area Water Treatment Plant

September, 2024

COUNTY	COMMUNITY	WSSN NUMBER	DISTRIBUTION SYSTEM SAMPLES				
			avg free cl2 mg/L	NUMBER REQUIRED	NUMBER COLLECTED	NUMBER POSITIVE	NUMBER REPEAT SAMPLES
Tuscola	Akron	0072	0.06	1	1	0	0
BAY	Bangor Township	0390	0.64	10	10	0	0
BAY	Bangor-Monitor Dist.	0400	0.90	3	3	0	0
BAY	Bay City	0470	0.69	30	40	0	0
BAY	Bay County (Frankl./Monitor/Portsm.)	0485	0.75	9	10	0	0
BAY	Beaver Road Area	0517	0.52	1	1	0	0
BAY	Beaver Township	0518	0.19	2	2	0	0
BAY	Essexville	2180	0.99	4	4	0	0
BAY	Fraser Township	2465	0.83	2	2	0	0
BAY	Hampton Township	2960	0.44	10	10	0	0
BAY	Kawkawlin Township	3565	0.90	3	3	0	0
BAY	Kawkawlin Metro Dist.	3570	0.77	2	2	0	0
BAY	Linwood Metro Water District	3910	0.65	1	1	0	0
BAY	Merritt Township	4280	0.27	2	2	0	0
BAY	Monitor Township	4440	0.75	6	8	0	0
BAY	City of Pinconning	5330	0.51	2	2	0	0
BAY	Pinconning Township	5335	0.57	2	2	0	0
BAY	Portsmouth Township	5540	0.25	1	1	0	0
BAY	Williams Township	7125	0.50	6	6	0	0
Tuscola	Wisner	7134	0.22	1	1	0	0
				98			
Average Free Cl2 Residual of All Distribution Sites			0.57	mg/L			
1. Total distribution samples			111				
2. Total distribution samples with detectable free cl2 residual			111				
3. Total distribution samples with no detectable free cl2 residual			0				
4. Total distribution samples with no detectable free cl2 residual and HPC was <500			0				
5. Total distribution samples with no detectable free cl2 residual and HPC was >500			0				
6. Percent of distribution samples with no detectable free cl2 residual			0.00%				
7. Percent shown line #6 in previous monthly report			0.00%				

Monthly Operational Report Addendum

Over the course of this month, an event took place that requires a detailed explanation.

What took place?

On September 13th at 09:32 am, the combined filter effluent (CFE) online turbidity analyzer experienced a sharp increase in its turbidity reading. The CFE turbidity analyzer climbed up from a steady 0.032 NTU to 5.004 NTU in matter of about 20 seconds. It then held this 5.004 NTU for the next 25.5 minutes. At 9:57, its reading immediately dropped down to an acceptable 0.03 NTU.

Why did this happen?

Upon investigation, it was discovered that a member of the maintenance team was doing monthly verifications on that online analyzer at that time. While this is a regular maintenance activity, this individual failed to hold the outputs on the analyzer and that allowed the analyzer to see and transmit data during the maintenance activity. The 5.004 NTU reading that was recorded for 25.5 minutes was this maintenance event and the high reading corresponds to top end of the analog scaling of this analyzer.

Is there a concern?

Examining the upstream turbidity readings from the 8 individual filter effluent (IFE) online turbidity analyzers has confirmed that at no time was there an actual high turbidity event. The integrity of our treatment process is intact and there is no water quality concern.

During the event, a total of 6 skids were in service and producing water. Different skids were also going in and out of service during this time and all 8 skids were in services for different periods of time. At no time did any of the 8 IFE turbidity analyzer record a reading greater than 0.0292 NTU. To simplify the data for visual purposes, the turbidity reading from the 8 different IFEs during the event was averaged together and used to create the graph seen below:

