

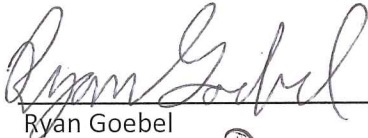
# Bay Area WTP

## Monthly Operations Report



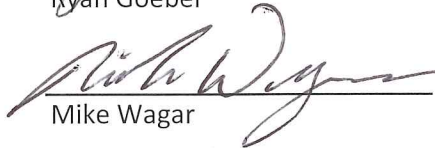
April, 2022

Water Systems Serial Number: 0465

  
Ryan Goebel

Water Plant Superintendent  
Title

F-1  
Classification

  
Mike Wagar

Operations Supervisor  
Title

F-2  
Classification

# Bay Area Water Treatment Plant

## Monthly Operations Report

Supply Name: Bay Area Water System  
 WSSN: 0465

Ryan Goebel  
 Operator-in-charge

April, 2022  
 Month, Year

F-1  
 Certification of Operator-in-charge

F-1  
 Water Plant Classification

Bay  
 County

### Treatment Rate and Membrane Data

Treatment Rate, Approved Rated Plant Capacity	<u>17.4</u>	Millions of Gallons per Day
Treatment Rate, Maximum	<u>7.6</u>	Millions of Gallons per Day
Maximum Approved Transmembrane Pressure	<u>22</u>	PSI
Maximum Operating Transmembrane Pressure	<u>9.73</u>	PSI
Maximum Approved Flux Rate	<u>36.25</u>	gpd/sq.ft.
Maximum Operating Flux Rate	<u>20.35</u>	gpd/sq.ft.

### Chemical Data

Sodium Hypochlorite on hand:	<u>4,754</u>	Gallons	Estimated Supply: <u>68.8</u> days
Caustic Soda on hand:	<u>2,558</u>	Gallons	Estimated Supply: <u>175.2</u> days
Corrosion Inhibitor on hand:	<u>650</u>	Gallons	Estimated Supply: <u>29.4</u> days
Hydrofluosilicic Acid on hand:	<u>1,929</u>	Gallons	Estimated Supply: <u>104.8</u> days
Aluminum Chlorohydrate on hand:	<u>313</u>	Gallons	Estimated Supply: <u>27.3</u> days
Sulfuric Acid on hand:	<u>759</u>	Gallons	Estimated Supply: <u>379.7</u> days
Sodium Bisulfite on hand:	<u>1,205</u>	Gallons	Estimated Supply: <u>415.5</u> days
Citric Acid on hand:	<u>1,532</u>	Gallons	Estimated Supply: <u>122.6</u> days
Cost of All Chemicals per Million Gallons:	<u>84.68</u>	Dollars	
Estimated Electrical Cost per Million Gallons:	<u>90.9</u>	Dollars	
Estimated Natural Gas Cost per Million Gallons:	<u>25.55</u>	Dollars	

### 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

# Bay Area WTP Monthly Operating Report

Date	Flows								
	Raw Water (MG)			Clarified (MG)	Sludge (MG)	Treated (MG)	Finished Water Pumped (MG)		
	North	South	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
4/1/2022	0.00	6.44	6.44	0.43	0.07	6.60	3.19	3.04	6.23
4/2/2022	0.00	5.77	5.77	0.44	0.08	6.90	3.38	3.21	6.59
4/3/2022	0.00	6.84	6.84	0.45	0.07	6.77	3.34	3.19	6.53
4/4/2022	0.00	7.58	7.58	0.45	0.08	6.88	3.38	3.20	6.58
4/5/2022	0.00	7.21	7.21	0.46	0.08	7.01	3.40	3.25	6.65
4/6/2022	0.00	6.68	6.68	0.46	0.07	6.72	3.26	3.09	6.35
4/7/2022	0.00	6.73	6.73	0.43	0.07	6.74	3.26	3.17	6.42
4/8/2022	0.00	6.64	6.64	0.45	0.07	6.59	3.24	3.07	6.30
4/9/2022	0.00	6.38	6.38	0.45	0.07	6.88	3.39	3.19	6.58
4/10/2022	0.00	7.02	7.02	0.45	0.07	7.07	3.47	3.28	6.75
4/11/2022	0.00	7.35	7.35	0.49	0.07	7.27	3.58	3.38	6.96
4/12/2022	0.00	7.15	7.15	0.43	0.09	6.92	3.48	3.25	6.72
4/13/2022	0.00	7.10	7.10	0.47	0.10	7.14	3.51	3.27	6.78
4/14/2022	0.30	7.02	7.32	0.44	0.07	6.93	3.43	3.20	6.63
4/15/2022	0.18	6.99	7.17	0.49	0.07	6.95	3.40	3.26	6.66
4/16/2022	0.00	6.49	6.49	0.45	0.07	6.73	3.30	3.14	6.44
4/17/2022	0.00	6.78	6.78	0.44	0.07	6.75	3.32	3.09	6.41
4/18/2022	0.00	7.09	7.09	0.44	0.08	6.91	3.40	3.24	6.64
4/19/2022	0.00	7.08	7.08	0.44	0.08	6.63	3.23	3.07	6.30
4/20/2022	0.00	6.19	6.19	0.48	0.07	7.13	3.44	3.25	6.69
4/21/2022	0.00	6.61	6.61	0.44	0.07	6.55	3.29	3.13	6.42
4/22/2022	0.00	6.95	6.95	0.45	0.07	7.24	3.50	3.33	6.83
4/23/2022	0.00	7.02	7.02	0.47	0.07	7.10	3.43	3.28	6.70
4/24/2022	0.00	7.46	7.46	0.47	0.07	7.23	3.57	3.39	6.96
4/25/2022	0.00	7.67	7.67	0.49	0.07	7.61	3.69	3.49	7.18
4/26/2022	0.00	7.45	7.45	0.47	0.07	6.95	3.51	3.24	6.75
4/27/2022	0.00	7.11	7.11	0.45	0.07	6.87	3.39	3.24	6.63
4/28/2022	0.00	6.82	6.82	0.48	0.07	7.16	3.51	3.35	6.86
4/29/2022	0.00	7.35	7.35	0.45	0.08	7.15	3.54	3.30	6.84
4/30/2022	0.00	7.02	7.02	0.46	0.09	6.72	3.36	3.15	6.51
Total	0.48	208.00	208.48	13.67	2.31	208.09	102.17	96.73	198.91
Avg	0.02	6.93	6.95	0.46	0.08	6.94	3.41	3.22	6.63
Min	0.00	5.77	5.77	0.43	0.07	6.55	3.19	3.04	6.23
Max	0.30	7.67	7.67	0.49	0.10	7.61	3.69	3.49	7.18



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	
4/1/2022	2.0	7.99	1.55	3.23	0.10	0.15	Negative	Negative
4/2/2022	2.3	7.97	1.75	4.46	0.10	0.30	Negative	Negative
4/3/2022	2.5	7.98	0.93	2.16	0.10	0.46	Negative	Negative
4/4/2022	3.4	7.99	0.68	1.29	0.10	0.45	Negative	Negative
4/5/2022	3.6	7.99	0.64	1.12	0.10	0.39	Negative	Negative
4/6/2022	3.6	8.00	0.77	1.16	0.10	0.29	Negative	Negative
4/7/2022	4.0	7.99	0.75	0.95	0.09	0.29	Negative	Negative
4/8/2022	4.1	7.98	0.93	1.04	0.09	0.23	Negative	Negative
4/9/2022	4.2	7.97	1.01	1.26	0.09	0.32	Negative	Negative
4/10/2022	4.4	7.98	0.90	1.43	0.09	0.35	Negative	Negative
4/11/2022	4.3	7.98	0.76	0.95	0.09	0.37	Negative	Negative
4/12/2022	4.3	7.98	0.67	0.92	0.08	0.40	Negative	Negative
4/13/2022	4.5	7.98	0.61	0.92	0.08	0.41	Negative	Negative
4/14/2022	4.4	8.00	0.50	0.83	0.10	0.44	Negative	Negative
4/15/2022	4.4	7.99	0.45	0.61	0.10	0.45	Negative	Negative
4/16/2022	4.3	7.98	0.49	1.02	0.07	0.49	Negative	Negative
4/17/2022	4.4	7.98	0.51	0.95	0.10	0.51	Negative	Negative
4/18/2022	5.0	7.98	0.35	0.66	0.09	0.51	Negative	Negative
4/19/2022	5.1	7.98	0.34	1.46	0.10	0.47	Negative	Negative
4/20/2022	5.2	7.99	0.40	0.68	0.09	0.40	Negative	Negative
4/21/2022	5.4	7.99	0.19	0.49	0.08	0.46	Negative	Negative
4/22/2022	5.3	7.98	0.20	0.28	0.08	0.48	Negative	Negative
4/23/2022	5.3	7.97	0.33	1.66	0.08	0.49	Negative	Negative
4/24/2022	5.4	7.98	0.38	0.58	0.09	0.48	Negative	Negative
4/25/2022	5.6	7.98	0.50	0.71	0.09	0.48	Negative	Negative
4/26/2022	5.7	7.98	0.26	0.35	0.08	0.47	Negative	Negative
4/27/2022	5.8	7.98	0.32	0.51	0.09	0.42	Negative	Negative
4/28/2022	5.9	7.99	0.36	0.58	0.10	0.40	Negative	Negative
4/29/2022	5.9	8.00	0.47	0.90	0.09	0.40	Negative	Negative
4/30/2022	6.0	8.00	0.50	0.97	0.09	0.41	Negative	Negative
Avg	4.5	7.98	0.62	1.14	0.09	0.41	NA	NA
Min	2.0	7.97	0.19	0.28	0.07	0.15	NA	NA
Max	6.0	8.00	1.75	4.46	0.10	0.51	NA	NA



Finished Water Analysis																		
Date	Temp	pH	Phosphate	Fluoride		Free Cl <sub>2</sub>	Alkalinity (as CaCO <sub>3</sub> )		Chloride	Sulfate	Calcium (as CaCO <sub>3</sub> )	Dissolved Oxygen	Conductivity	Langelier Saturation Index	Chloride: Sulfate Mass Ratio	Larson-Skold Index	Bacteriological	
	Average	Average	Average	Tap	Dist	Average	Carbonate	Bicarbonate	Grab	Grab	Grab	Grab	Grab	Index	Ratio	Index	Positive/Negative	
	°C		mg/L	mg/L		mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	uS/cm				Calculated	Index
	AIT-4040-1	AIT-4050-2	AIT-4040-5	Lab		AIT-4050-1	Lab		Lab	Lab	Lab	Lab	Lab	Lab		Lab		
4/1/2022	2.1	7.76	3.37	0.82		1.00	0	86	11	9	82	12.9	262	-0.81	1.22	0.36	Negative	Negative
4/2/2022	2.0	7.76	3.37	0.81		1.00	0	85	13	9	80	13.3	276	-0.83	1.44	0.40	Negative	Negative
4/3/2022	2.2	7.75	3.37	0.78		1.03	0	87	11	7	78	13.0	265	-0.83	1.57	0.32	Negative	Negative
4/4/2022	2.3	7.73	3.40	0.79	0.79	1.03	0	83	11	7	80	13.0	255	-0.85	1.57	0.34	Negative	Negative
4/5/2022	2.4	7.72	3.46	0.78		1.02	0	80	10	8	74	12.7	252	-0.91	1.25	0.34	Negative	Negative
4/6/2022	2.4	7.72	3.39	0.79		1.01	0	79	10	7	84	14.2	245	-0.86	1.43	0.33	Negative	Negative
4/7/2022	2.4	7.73	3.38	0.76		1.02	0	82	11	8	76	13.7	255	-0.88	1.38	0.36	Negative	Negative
4/8/2022	2.3	7.74	3.37	0.75		1.00	0	83	10	8	76	13.8	253	-0.87	1.25	0.33	Negative	Negative
4/9/2022	2.2	7.74	3.37	0.75		1.00	0	83	11	9	76	13.8	270	-0.87	1.22	0.37	Negative	Negative
4/10/2022	2.3	7.74	3.37	0.76		1.01	0	82	10	9	78	14.5	268	-0.87	1.11	0.35	Negative	Negative
4/11/2022	2.5	7.73	3.36	0.75	0.74	1.01	0	82	10	9	76	14.3	240	-0.87	1.11	0.35	Negative	Negative
4/12/2022	2.6	7.73	3.35	0.75		1.01	0	83	10	8	76	14.0	236	-0.87	1.25	0.33	Negative	Negative
4/13/2022	2.6	7.72	3.35	0.74		1.02	0	82	10	9	86	14.0	229	-0.82	1.11	0.35	Negative	Negative
4/14/2022	2.9	7.73	3.34	0.76		1.03	0	81	10	10	78	13.9	239	-0.86	1.00	0.37	Negative	Negative
4/15/2022	3.0	7.73	3.36	0.77		1.03	0	80	9	8	80	13.1	236	-0.84	1.13	0.32	Negative	Negative
4/16/2022	2.9	7.72	3.36	0.74		1.11	0	80	9	11	78	12.8	235	-0.87	0.82	0.37	Negative	Negative
4/17/2022	2.9	7.73	3.35	0.76		1.07	0	78	9	12	72	13.2	232	-0.90	0.75	0.40	Negative	Negative
4/18/2022	3.4	7.72	3.36	0.75	0.72	1.03	0	81	9	7	74	12.9	229	-0.87	1.29	0.30	Negative	Negative
4/19/2022	3.4	7.72	3.36	0.76		1.03	0	78	9	7	76	12.7	227	-0.87	1.29	0.32	Negative	Negative
4/20/2022	3.3	7.72	3.35	0.75		1.03	0	78	10	10	76	13.6	229	-0.88	1.00	0.39	Negative	Negative
4/21/2022	3.7	7.72	3.36	0.73		1.02	0	79	10	8	76	14.1	228	-0.86	1.25	0.35	Negative	Negative
4/22/2022	3.7	7.71	3.37	0.74		1.02	0	78	9	9	72	13.8	225	-0.90	1.00	0.35	Negative	Negative
4/23/2022	3.7	7.70	3.36	0.75		1.01	0	78	10	9	74	14.1	223	-0.89	1.11	0.37	Negative	Negative
4/24/2022	3.8	7.69	3.37	0.75		1.01	0	77	9	7	74	13.9	225	-0.91	1.29	0.32	Negative	Negative
4/25/2022	4.0	7.69	3.35	0.76	0.73	1.03	0	77	9	9	74	13.3	225	-0.90	1.00	0.35	Negative	Negative
4/26/2022	4.1	7.70	3.34	0.76		1.01	0	77	10	9	74	13.2	223	-0.89	1.11	0.37	Negative	Negative
4/27/2022	4.1	7.70	3.33	0.76		1.01	0	75	10	8	76	12.9	218	-0.89	1.25	0.37	Negative	Negative
4/28/2022	4.2	7.70	3.34	0.78		1.02	0	82	10	9	72	12.1	227	-0.87	1.11	0.35	Negative	Negative
4/29/2022	4.4	7.71	3.38	0.77		1.02	0	82	9	13	78	12.5	233	-0.83	0.69	0.39	Negative	Negative
4/30/2022	4.5	7.71	3.42	0.80		1.02	0	80	9	10	72	12.8	231	-0.87	0.90	0.35	Negative	Negative
Avg	3.1	7.72	3.37	0.76	0.75	1.02	0	81	10	9	77	13.4	240	-0.87	1.16	0.35	NA	NA
Min	2.0	7.69	3.33	0.73	0.72	1.00	0	75	9	7	72	12.1	218	-0.91	0.69	0.30	NA	NA
Max	4.5	7.76	3.46	0.82	0.79	1.11	0	87	13	13	86	14.5	276	-0.81	1.57	0.40	NA	NA



Turbidity										
Date	Raw Water		Clarified Water	Membrane Feed Water	Combined Membrane Filtrate					Finished Water
	Avg	Max	Avg	Avg	Avg	Max	# Samples	# > 0.3	% Exceeded	Avg
	NTU									
	AIT-1000-1		AIT-5030-1	AIT-1035-3	AIT-4000-1					Calculated
4/1/2022	1.55	3.23	2.21	1.29	0.024	0.025	96	0	0.0	0.019
4/2/2022	1.75	4.46	2.14	1.64	0.024	0.025	96	0	0.0	0.019
4/3/2022	0.93	2.16	1.65	1.39	0.024	0.025	96	0	0.0	0.019
4/4/2022	0.68	1.29	1.21	1.00	0.024	0.024	96	0	0.0	0.019
4/5/2022	0.64	1.12	1.08	0.79	0.024	0.024	96	0	0.0	0.019
4/6/2022	0.77	1.16	1.47	0.81	0.024	0.024	96	0	0.0	0.019
4/7/2022	0.75	0.95	1.89	0.85	0.024	0.024	96	0	0.0	0.019
4/8/2022	0.93	1.04	2.13	0.92	0.024	0.024	96	0	0.0	0.019
4/9/2022	1.01	1.26	2.18	0.96	0.024	0.024	96	0	0.0	0.019
4/10/2022	0.90	1.43	2.35	0.96	0.024	0.024	96	0	0.0	0.019
4/11/2022	0.76	0.95	2.27	0.87	0.024	0.024	96	0	0.0	0.019
4/12/2022	0.67	0.92	2.38	0.76	0.024	0.024	96	0	0.0	0.019
4/13/2022	0.61	0.92	1.73	0.70	0.024	0.024	96	0	0.0	0.019
4/14/2022	0.50	0.83	1.20	0.56	0.024	0.024	96	0	0.0	0.019
4/15/2022	0.45	0.61	1.21	0.51	0.024	0.024	96	0	0.0	0.019
4/16/2022	0.49	1.02	1.02	0.47	0.024	0.024	96	0	0.0	0.019
4/17/2022	0.51	0.95	0.94	0.45	0.024	0.024	96	0	0.0	0.019
4/18/2022	0.35	0.66	0.82	0.37	0.024	0.024	96	0	0.0	0.019
4/19/2022	0.34	1.46	0.77	0.31	0.023	0.023	96	0	0.0	0.018
4/20/2022	0.40	0.68	1.14	0.31	0.023	0.023	96	0	0.0	0.018
4/21/2022	0.19	0.49	1.33	0.30	0.023	0.023	96	0	0.0	0.018
4/22/2022	0.20	0.28	1.26	0.23	0.023	0.023	96	0	0.0	0.018
4/23/2022	0.33	1.66	1.64	0.27	0.023	0.023	96	0	0.0	0.018
4/24/2022	0.38	0.58	1.35	0.34	0.023	0.023	96	0	0.0	0.018
4/25/2022	0.50	0.71	1.59	0.40	0.023	0.023	96	0	0.0	0.018
4/26/2022	0.26	0.35	1.31	0.33	0.023	0.023	96	0	0.0	0.018
4/27/2022	0.32	0.51	1.18	0.31	0.023	0.023	96	0	0.0	0.018
4/28/2022	0.36	0.58	1.61	0.34	0.023	0.023	96	0	0.0	0.018
4/29/2022	0.47	0.90	1.70	0.36	0.023	0.023	96	0	0.0	0.018
4/30/2022	0.50	0.97	1.95	0.43	0.023	0.023	96	0	0.0	0.018
Avg	0.62	1.14	1.56	0.64	0.024	0.024	96	0	0.0	0.019
Min	0.19	0.28	0.77	0.23	0.023	0.023	96	0	0.0	0.018
Max	1.75	4.46	2.38	1.64	0.024	0.025	96	0	0.0	0.019



Note: % Exceeded are 4 hr compliance periods where the average of samples are greater than 0.3 NTU

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		
	Average	Max	Max	Average	Max	Max	Average	Max	Max	Average	Max	Max	Average	Max	Max	Average	Max	Max	Average	Max	Max	Average	Max	Max		
psi/min	Pass/Fail	NTU	psi/min	Pass/Fail	NTU	psi/min	Pass/Fail	NTU	psi/min	Pass/Fail	NTU	psi/min	Pass/Fail	NTU	psi/min	Pass/Fail	NTU	psi/min	Pass/Fail	NTU	psi/min	Pass/Fail	NTU	psi/min	Pass/Fail	NTU
4/1/2022	4.52	PASS	0.017	4.15	PASS	0.024	4.37	PASS	0.020	4.62	PASS	0.016	4.42	PASS	0.022	4.48	PASS	0.020	4.46	PASS	0.028	4.29	PASS	0.020		
4/2/2022	4.45	PASS	0.015	4.17	PASS	0.025	4.46	PASS	0.020	4.57	PASS	0.016	4.42	PASS	0.021	4.52	PASS	0.021	4.43	PASS	0.028	4.23	PASS	0.018		
4/3/2022	4.45	PASS	0.015	4.16	PASS	0.024	4.38	PASS	0.020	4.57	PASS	0.016	4.39	PASS	0.021	4.51	PASS	0.020	4.49	PASS	0.028	4.19	PASS	0.022		
4/4/2022	4.44	PASS	0.016	4.16	PASS	0.024	4.51	PASS	0.019	4.66	PASS	0.016	4.44	PASS	0.021	4.48	PASS	0.020	4.46	PASS	0.028	4.22	PASS	0.023		
4/5/2022	4.45	PASS	0.015	4.15	PASS	0.023	4.38	PASS	0.019	4.65	PASS	0.016	4.49	PASS	0.021	4.50	PASS	0.020	4.47	PASS	0.028	4.25	PASS	0.018		
4/6/2022	4.44	PASS	0.014	4.13	PASS	0.023	4.41	PASS	0.019	4.61	PASS	0.016	4.42	PASS	0.021	4.52	PASS	0.020	4.45	PASS	0.027	4.25	PASS	0.017		
4/7/2022	4.45	PASS	0.017	4.16	PASS	0.024	4.53	PASS	0.020	4.62	PASS	0.016	4.41	PASS	0.021	4.50	PASS	0.020	4.45	PASS	0.028	4.23	PASS	0.017		
4/8/2022	4.44	PASS	0.014	4.15	PASS	0.024	4.38	PASS	0.020	4.67	PASS	0.016	4.41	PASS	0.022	4.50	PASS	0.020	4.50	PASS	0.028	4.28	PASS	0.018		
4/9/2022	4.44	PASS	0.017	4.18	PASS	0.024	4.39	PASS	0.020	4.64	PASS	0.016	4.44	PASS	0.061	4.52	PASS	0.020	4.55	PASS	0.028	4.26	PASS	0.021		
4/10/2022	4.44	PASS	0.018	4.15	PASS	0.024	4.37	PASS	0.020	4.61	PASS	0.016	4.41	PASS	0.021	4.50	PASS	0.020	4.52	PASS	0.028	4.24	PASS	0.017		
4/11/2022	4.42	PASS	0.018	4.14	PASS	0.024	4.32	PASS	0.019	4.66	PASS	0.016	4.39	PASS	0.021	4.49	PASS	0.020	4.48	PASS	0.028	4.26	PASS	0.020		
4/12/2022	4.40	PASS	0.018	4.14	PASS	0.024	4.35	PASS	0.019	4.65	PASS	0.016	4.38	PASS	0.021	4.51	PASS	0.020	4.49	PASS	0.028	4.25	PASS	0.018		
4/13/2022	4.48	PASS	0.018	4.12	PASS	0.027	4.39	PASS	0.019	4.64	PASS	0.015	4.44	PASS	0.021	4.55	PASS	0.021	4.46	PASS	0.028	4.26	PASS	0.017		
4/14/2022	4.46	PASS	0.019	4.15	PASS	0.025	4.55	PASS	0.019	4.59	PASS	0.015	4.45	PASS	0.021	4.52	PASS	0.020	4.53	PASS	0.027	4.24	PASS	0.020		
4/15/2022	4.49	PASS	0.019	4.14	PASS	0.024	4.57	PASS	0.019	4.66	PASS	0.015	4.41	PASS	0.021	4.52	PASS	0.020	4.90	PASS	0.027	4.29	PASS	0.017		
4/16/2022	4.49	PASS	0.019	4.13	PASS	0.025	4.52	PASS	0.019	4.65	PASS	0.016	4.40	PASS	0.020	4.53	PASS	0.019	4.60	PASS	0.027	4.25	PASS	0.031		
4/17/2022	4.46	PASS	0.019	4.14	PASS	0.024	4.58	PASS	0.020	4.62	PASS	0.016	4.40	PASS	0.021	4.52	PASS	0.020	4.59	PASS	0.027	4.23	PASS	0.031		
4/18/2022	4.42	PASS	0.019	4.12	PASS	0.023	4.50	PASS	0.019	4.66	PASS	0.016	4.40	PASS	0.021	4.53	PASS	0.022	4.59	PASS	0.027	4.25	PASS	0.031		
4/19/2022	4.47	PASS	0.020	4.15	PASS	0.027	4.50	PASS	0.023	4.65	PASS	0.016	4.66	PASS	0.021	4.51	PASS	0.020	4.59	PASS	0.029	4.29	PASS	0.030		
4/20/2022	4.46	PASS	0.021	4.15	PASS	0.029	4.52	PASS	0.022	4.64	PASS	0.018	4.93	PASS	0.020	4.49	PASS	0.020	4.70	PASS	0.026	4.28	PASS	0.023		
4/21/2022	4.42	PASS	0.023	4.14	PASS	0.029	4.50	PASS	0.020	4.69	PASS	0.017	4.67	PASS	0.025	4.54	PASS	0.021	4.61	PASS	0.028	4.27	PASS	0.020		
4/22/2022	4.41	PASS	0.019	4.17	PASS	0.027	4.49	PASS	0.020	4.64	PASS	0.016	4.65	PASS	0.020	4.54	PASS	0.023	4.61	PASS	0.027	4.27	PASS	0.021		
4/23/2022	4.82	PASS	0.019	4.15	PASS	0.029	4.49	PASS	0.020	4.64	PASS	0.016	4.71	PASS	0.024	4.55	PASS	0.022	4.62	PASS	0.028	4.30	PASS	0.020		
4/24/2022	4.80	PASS	0.019	4.15	PASS	0.027	4.50	PASS	0.021	4.66	PASS	0.016	4.78	PASS	0.024	4.52	PASS	0.020	4.56	PASS	0.029	4.27	PASS	0.020		
4/25/2022	4.73	PASS	0.018	4.13	PASS	0.028	4.51	PASS	0.020	4.66	PASS	0.016	4.64	PASS	0.023	4.51	PASS	0.021	4.61	PASS	0.029	4.24	PASS	0.020		
4/26/2022	4.72	PASS	0.019	4.12	PASS	0.028	4.49	PASS	0.019	4.67	PASS	0.020	4.57	PASS	0.022	4.52	PASS	0.020	4.55	PASS	0.028	4.29	PASS	0.020		
4/27/2022	4.69	PASS	0.019	4.15	PASS	0.027	4.67	PASS	0.019	4.67	PASS	0.017	4.71	PASS	0.023	4.53	PASS	0.020	4.56	PASS	0.029	4.27	PASS	0.020		
4/28/2022	4.60	PASS	0.018	4.14	PASS	0.031	4.55	PASS	0.020	4.65	PASS	0.017	4.54	PASS	0.023	4.49	PASS	0.021	4.55	PASS	0.028	4.22	PASS	0.021		
4/29/2022	4.62	PASS	0.019	4.11	PASS	0.029	4.45	PASS	0.020	4.83	PASS	0.017	4.64	PASS	0.022	4.52	PASS	0.022	4.60	PASS	0.028	4.22	PASS	0.021		
4/30/2022	4.63	PASS	0.018	4.11	PASS	0.027	4.44	PASS	0.019	4.79	PASS	0.017	4.56	PASS	0.022	4.50	PASS	0.022	4.54	PASS	0.028	4.48	PASS	0.020		
Avg	4.52		0.018	4.14		0.026	4.47		0.020	4.65		0.016	4.52		0.023	4.51		0.020	4.55		0.028	4.26		0.021		
Min	4.40		0.014	4.11		0.023	4.32		0.019	4.57		0.015	4.38		0.020	4.48		0.019	4.43		0.026	4.19		0.017		
Max	4.82		0.023	4.18		0.031	4.67		0.023	4.83		0.020	4.93		0.061	4.55		0.023	4.90		0.029	4.48		0.031		

\*LRV must remain above Upper Control Limit of 3.32 psi/min



Treatment Chemical Dosages											
Date	Treated Water	Sodium Hypochlorite					Phosphoric Acid		Hydrofluorosilicic 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 <sub>2</sub>					PO <sub>4</sub>		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
4/1/2022	6.6	0.15	0.19	1.21	1.04	1.00	3.33	3.37	0.10	0.63	0.82
4/2/2022	6.9	0.30	0.15	1.25	1.09	1.00	3.34	3.37	0.10	0.61	0.81
4/3/2022	6.8	0.46	0.24	1.17	1.10	1.03	3.34	3.37	0.10	0.61	0.78
4/4/2022	6.9	0.45	0.29	1.13	1.07	1.03	3.34	3.40	0.10	0.61	0.79
4/5/2022	7.0	0.39	0.30	1.14	1.07	1.02	3.26	3.46	0.10	0.61	0.78
4/6/2022	6.7	0.29	0.24	1.26	1.06	1.01	3.23	3.39	0.10	0.61	0.79
4/7/2022	6.7	0.29	0.21	1.28	1.07	1.02	3.23	3.38	0.09	0.61	0.76
4/8/2022	6.6	0.23	0.17	1.32	1.05	1.00	3.23	3.37	0.09	0.61	0.75
4/9/2022	6.9	0.32	0.17	1.28	1.06	1.00	3.23	3.37	0.09	0.61	0.75
4/10/2022	7.1	0.35	0.20	1.24	1.07	1.01	3.23	3.37	0.09	0.61	0.76
4/11/2022	7.3	0.37	0.22	1.22	1.07	1.01	3.23	3.36	0.09	0.61	0.75
4/12/2022	6.9	0.40	0.26	1.22	1.07	1.01	3.23	3.35	0.08	0.61	0.75
4/13/2022	7.1	0.41	0.27	1.18	1.07	1.02	3.23	3.35	0.08	0.61	0.74
4/14/2022	6.9	0.44	0.31	0.78	1.08	1.03	3.24	3.34	0.10	0.61	0.76
4/15/2022	6.9	0.45	0.32	0.79	1.09	1.03	3.24	3.36	0.10	0.62	0.77
4/16/2022	6.7	0.49	0.34	0.75	1.08	1.11	3.24	3.36	0.07	0.62	0.74
4/17/2022	6.8	0.51	0.37	0.67	1.07	1.07	3.24	3.35	0.10	0.62	0.76
4/18/2022	6.9	0.51	0.38	0.68	1.07	1.03	3.24	3.36	0.09	0.62	0.75
4/19/2022	6.6	0.47	0.38	0.73	1.06	1.03	3.25	3.36	0.10	0.62	0.76
4/20/2022	7.1	0.40	0.35	0.70	1.07	1.03	3.25	3.35	0.09	0.61	0.75
4/21/2022	6.6	0.46	0.33	0.73	1.08	1.02	3.25	3.36	0.08	0.61	0.73
4/22/2022	7.2	0.48	0.36	0.70	1.06	1.02	3.25	3.37	0.08	0.62	0.74
4/23/2022	7.1	0.49	0.37	0.68	1.06	1.01	3.25	3.36	0.08	0.63	0.75
4/24/2022	7.2	0.48	0.37	0.70	1.07	1.01	3.25	3.37	0.09	0.64	0.75
4/25/2022	7.6	0.48	0.38	0.68	1.08	1.03	3.25	3.35	0.09	0.64	0.76
4/26/2022	6.9	0.47	0.39	0.70	1.07	1.01	3.25	3.34	0.08	0.64	0.76
4/27/2022	6.9	0.42	0.37	0.73	1.06	1.01	3.25	3.33	0.09	0.64	0.76
4/28/2022	7.2	0.40	0.33	0.76	1.08	1.02	3.26	3.34	0.10	0.64	0.78
4/29/2022	7.2	0.40	0.32	0.78	1.08	1.02	3.26	3.38	0.09	0.64	0.77
4/30/2022	6.7	0.41	0.31	0.79	1.07	1.02	3.26	3.42	0.09	0.64	0.80
Avg	6.9	0.41	0.30	0.94	1.07	1.02	3.26	3.37	0.09	0.62	0.76
Min	6.6	0.15	0.15	0.67	1.04	1.00	3.23	3.33	0.07	0.61	0.73
Max	7.6	0.51	0.39	1.32	1.10	1.11	3.34	3.46	0.10	0.64	0.82





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 <sub>2</sub>	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	TIT-1000	Calculated	Calculated	
4/1/2022	41.1	3,041	0.15	461	28.7	23.5	6.2	574	0.96	554	1015	2.0	12.00	Y
4/2/2022	53.2	2,350	0.30	710	28.7	24.7	6.6	556	0.96	536	1247	2.3	12.00	Y
4/3/2022	53.7	2,331	0.46	1069	28.7	24.0	6.5	553	1.01	556	1626	2.5	12.00	Y
4/4/2022	51.1	2,446	0.45	1092	28.7	23.9	6.6	548	1.00	547	1639	3.4	12.00	Y
4/5/2022	42.7	2,930	0.39	1136	28.7	22.9	6.6	532	0.99	528	1664	3.6	12.00	Y
4/6/2022	38.9	3,219	0.29	920	28.7	25.0	6.4	578	0.99	570	1490	3.6	12.00	Y
4/7/2022	43.6	2,871	0.29	832	28.7	24.7	6.4	569	0.97	553	1385	4.0	12.00	Y
4/8/2022	43.8	2,853	0.23	660	28.7	24.7	6.3	580	0.98	567	1227	4.1	12.00	Y
4/9/2022	53.0	2,359	0.32	750	28.7	25.7	6.6	566	0.96	546	1296	4.2	12.00	Y
4/10/2022	53.4	2,343	0.35	825	28.7	25.5	6.8	550	0.98	538	1362	4.4	12.00	Y
4/11/2022	51.0	2,453	0.37	913	28.7	25.3	7.0	532	0.96	509	1422	4.3	12.00	Y
4/12/2022	44.5	2,812	0.40	1125	28.7	23.1	6.7	528	0.96	509	1635	4.3	12.00	Y
4/13/2022	44.8	2,792	0.41	1157	28.7	24.1	6.8	533	0.99	529	1686	4.5	12.00	Y
4/14/2022	44.2	2,830	0.44	1259	28.7	24.4	6.6	549	1.02	559	1819	4.4	12.00	Y
4/15/2022	42.0	2,977	0.45	1338	28.7	24.3	6.7	545	1.00	544	1882	4.4	12.00	Y
4/16/2022	50.4	2,481	0.49	1227	28.7	24.2	6.4	563	1.04	586	1813	4.3	12.00	Y
4/17/2022	50.8	2,462	0.51	1258	28.7	24.1	6.4	564	1.03	579	1837	4.4	12.00	Y
4/18/2022	50.6	2,474	0.51	1258	28.7	24.1	6.6	545	1.01	552	1810	5.0	12.00	Y
4/19/2022	41.8	2,990	0.47	1412	28.7	24.1	6.3	574	1.01	578	1990	5.1	8.00	Y
4/20/2022	37.7	3,321	0.40	1315	28.7	24.7	6.7	547	1.01	554	1868	5.2	8.00	Y
4/21/2022	39.3	3,183	0.46	1467	28.6	23.3	6.4	554	0.99	549	2016	5.4	8.00	Y
4/22/2022	43.7	2,865	0.48	1365	28.7	22.9	6.8	518	0.98	507	1872	5.3	8.00	Y
4/23/2022	52.4	2,386	0.49	1159	28.7	25.2	6.7	551	1.00	551	1709	5.3	8.00	Y
4/24/2022	52.9	2,367	0.48	1128	28.7	25.7	7.0	536	0.99	531	1659	5.4	8.00	Y
4/25/2022	49.9	2,508	0.48	1199	28.7	26.1	7.2	523	1.01	526	1725	5.6	8.00	Y
4/26/2022	41.1	3,043	0.47	1442	28.7	25.2	6.7	547	1.00	546	1988	5.7	8.00	Y
4/27/2022	38.7	3,234	0.42	1342	28.7	25.0	6.6	556	0.99	551	1893	5.8	8.00	Y
4/28/2022	41.6	3,008	0.40	1189	28.7	24.9	6.9	536	1.00	535	1724	5.9	8.00	Y
4/29/2022	45.2	2,765	0.40	1107	28.7	23.5	6.8	523	0.94	494	1601	5.9	8.00	Y
4/30/2022	54.1	2,312	0.41	940	28.7	23.6	6.5	551	0.99	542	1482	6.0	8.00	Y
Avg	46.4	2,734	0.41	1102	28.7	24.4	6.6	549	0.99	544	1646	4.5	10.40	NA
Min	37.7	2,312	0.15	461	28.6	22.9	6.2	518	0.94	494	1015	2.0	8.00	NA
Max	54.1	3,321	0.51	1467	28.7	26.1	7.2	580	1.04	586	2016	6.0	12.00	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
4/1/2022																								
4/2/2022																								
4/3/2022																								
4/4/2022																								
4/5/2022		0.69	0.63	0.59	0.97				0.77	0.67	0.84	0.78	0.48	0.93	0.71							0.56		1.03
4/6/2022																								
4/7/2022	0.42								0.76	0.74	0.63	0.81	0.56	0.98	0.82	0.92	0.79	0.82	0.79	0.68				
4/8/2022																								
4/9/2022																								
4/10/2022																								
4/11/2022																								0.94
4/12/2022						0.83	0.95		0.71	0.63	0.74	0.91	0.41	1.00	0.81	0.83	0.83	0.89	0.76	0.69				
4/13/2022																								
4/14/2022		0.70	0.44					0.99														0.62		
4/15/2022																								
4/16/2022																								
4/17/2022																								
4/18/2022																								
4/19/2022		0.69	0.59	0.59	0.92				0.79	0.63	0.69		0.50	0.95	0.74						0.91			0.89
4/20/2022																								
4/21/2022									0.70	0.57	0.71	0.82	0.43	0.96	0.73									
4/22/2022																								
4/23/2022																								
4/24/2022																								
4/25/2022																								
4/26/2022																								0.95
4/27/2022									0.77	0.54	0.67	0.80	0.57	0.88	0.69									
4/28/2022																								
4/29/2022																								
4/30/2022																								
Average	0.42	0.68				0.92			0.73							0.80					0.91	0.59		0.95
Min	0.42	0.44				0.83			0.41							0.68					0.91	0.56		0.89
Max	0.42	0.97				0.99			1.00							0.92					0.91	0.62		1.03



MONITORING STATION ADDRESSES

1. Sample station at corner of 5758 M-25 & F
3. Bangor Fire Station, 3921 Wheeler
4. BCDWS Admin. Bldg. 3933 Patterson Rd.
5. 7-11, 3543 S. Old Kawkawlin Rd.
6. Admiral Petroleum, 314 S Euclid Ave.
7. Sequin Lumber, 3881 Euclid Ave
9. B's Boutique, 2981 Midland Rd
10. Little Caesars, 3475 E North Union Rd

11. Number 1 Fire Station, 1401 Center Ave
12. Number 2 Fire Station, 1000 Fremont Ave
13. Skizak's Sport Shop, 807 Salzburg Ave
14. Number 4 Fire Station, 212 S. Dean St
15. Number 5 Fire Station, 1209 Smith St
16. Bay City Hall, 301 Washington Ave
17. Skipper Buds Marina, 1809 S Water St
18. Bay Valley Animal Hospital 6015 WS Saginaw Rd

19. Dore's M-84 Party Store, 6183 WS Saginaw Rd
20. Pump Station #13, 6000 WS Saginaw Rd
23. Rail Trail Pump Station, 366 N. Tuscola Rd.
24. Little Learners Daycare, 1694 Cass Ave.
26. Wieland Contracting, 2443 S Mackinaw Rd
29. Sample Station, 2515 S. 11 Mile Rd
30. Sample Station, 340 W. Beaver Rd
32. Essexville City Hall, 1107 Woodside Ave

Distribution System Monitoring

Chlorine Residual at Bacteriological Monitoring Stations (mg/L Free Cl<sub>2</sub>)

WSSN:	2465		2960			3565			3570		4280		4440			5330		5335		5540	7125			7134
	Fraser Twp.		Hampton Twp.			Kawkawlin Twp.			Kawkawlin Met.		Merritt Twp.		Monitor Twp.			City Pinconning		Pinconning Twp.		Portsmouth	Williams Twp.			Wisner
Date	34	35	37	38	39	40	41	42	43	45	46	48	49	52	55	58	59	61	63	65	68	69	70	72
4/1/2022			0.52	0.97	0.51																			
4/2/2022																								
4/3/2022																								
4/4/2022																								
4/5/2022			0.73	0.60	0.62																0.65	0.51	0.68	
4/6/2022																								
4/7/2022	0.63	0.89				0.95	0.80		0.82		0.56					0.62		0.69	0.64	0.66				0.53
4/8/2022																								
4/9/2022																								
4/10/2022																								
4/11/2022																								
4/12/2022													0.60											
4/13/2022			0.72	0.78	0.56									0.88	0.68	0.72								
4/14/2022																								
4/15/2022																								
4/16/2022																								
4/17/2022																								
4/18/2022			0.58	0.85	0.80																			
4/19/2022								0.89	0.72							0.70								
4/20/2022																								
4/21/2022																								
4/22/2022																								
4/23/2022																								
4/24/2022																								
4/25/2022																								
4/26/2022																								
4/27/2022																								
4/28/2022																								
4/29/2022																								
4/30/2022																								
Average	0.76		0.69			0.88			0.77		0.58		0.76			0.66		0.67		0.66		0.62		0.53
Min	0.63		0.51			0.80			0.72		0.56		0.68			0.62		0.64		0.66		0.51		0.53
Max	0.89		0.97			0.95			0.82		0.60		0.88			0.70		0.69		0.66		0.73		0.53



MONITORING STATION ADDRESSES

- 34. Fraser Elevated Tank, 2949 1/2 N. Huron Rd
- 35. Lloyd's Cabinet, 1947 N Huron Rd
- 37. Hampton DPW, 950 Wagner Rd.
- 38. Bay County Golf Course, 584 W Hampton Rd.
- 39. Sewer Lift Station, 902 Nebobish Rd.
- 40. Bay Co. Road Commisison, 2600 E Beaver Rd
- 41. Parish Rd. Elevated Tank, 1770 E. Parish Rd
- 42. Linwood Tile, 205 S Huron Rd

- 43. Kawkawlin Party Store, 105 Grove St
- 45. Kawkawlin Restaurant, 103 S Huron Rd
- 46. John's Bar, 1476 S Tuscola Rd
- 48. Tool Shed Bar, 12 W Munger Rd
- 49. Wilder Rd Party Store, 2951 E Wilder Rd
- 52. Monitor Twp. Elevated Tank, 1611 E. Midland Rd
- 55. Auburn Fertilizer, 4640 S 7 Mile Rd
- 58. Pinconning City Hall, 208 S Manitou St

- 59. Marathon Gas Station, 511 S Mabel St
- 61. Pinconning Meter Pit, 3005 N Huron Rd
- 63. Master Meter Pit, 2865 Pinconning Rd
- 65. Ike's Welding, 50 N Finn Rd
- 68. Williams Township Hall, 1080 W Midland Rd
- 69. Pump Station, 490 W. Salzburg & 9 Mile Rd
- 70. 11 Mile Elevated Tank, 5003 S. 11 Mile Rd
- 72. Lindy's Sales, 9051 M-25

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			
				April, 2022			
COUNTY	COMMUNITY	WSSN NUMBER	DISTRIBUTION SYSTEM SAMPLES				
			avg free cl2 mg/L	NUMBER REQUIRED	NUMBER COLLECTED	NUMBER POSITIVE	NUMBER REPEAT SAMPLES
Tuscola	Akron	0072	0.42	1	1	0	0
BAY	Bangor Township	0390	0.68	10	10	0	0
BAY	Bangor-Monitor Dist.	0400	0.92	3	3	0	0
BAY	Bay City	0470	0.73	30	41	0	0
BAY	Bay County (Frankl./Monitor/Portsm.)	0485	0.80	9	10	0	0
BAY	Beaver Road Area	0517	0.91	1	1	0	0
BAY	Beaver Township	0518	0.59	2	2	0	0
BAY	Essexville	2180	0.95	4	4	0	0
BAY	Fraser Township	2465	0.76	2	2	0	0
BAY	Hampton Township	2960	0.69	10	12	0	0
BAY	Kawkawlin Township	3565	0.88	3	3	0	0
BAY	Kawkawlin Metro Dist.	3570	0.77	2	2	0	0
BAY	Merritt Township	4280	0.58	2	2	0	0
BAY	Monitor Township	4440	0.76	6	6	0	0
BAY	City of Pinconning	5330	0.66	2	2	0	0
BAY	Pinconning Township	5335	0.67	2	2	0	0
BAY	Portsmouth Township	5540	0.66	1	1	0	0
BAY	Williams Township	7125	0.62	6	6	0	0
Tuscola	Wisner	7134	0.53	1	1	0	0
Average Free Cl2 Residual of All Distribution Sites			0.71	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%				

