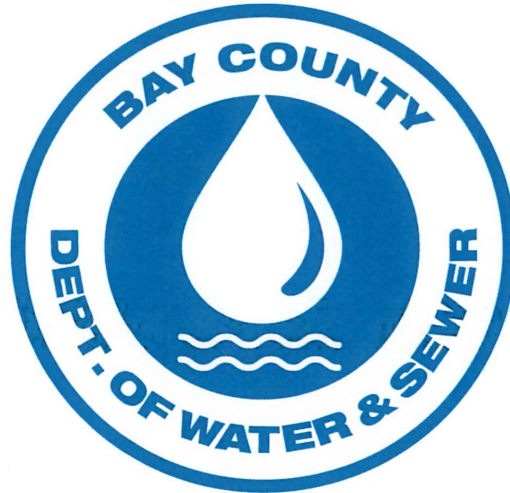


# Bay Area WTP

## Monthly Operations Report



April, 2024

Water Systems Serial Number: 0465

  
Carl J. Overly

Water Plant Superintendent  
Title

F-1, S-3  
Classification

  
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

Carl J. Overly  
Operator-in-charge

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

20001  
Operator Identification Number for Operator-in-charge

April, 2024  
Month, Year

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>6.5</u>	Millions of Gallons per Day
Maximum Approved Transmembrane Pressure	<u>22</u>	PSI
Maximum Operating Transmembrane Pressure	<u>17.61</u>	PSI
Maximum Approved Flux Rate	<u>36.25</u>	gpd/sq.ft.
Maximum Operating Flux Rate	<u>25.95</u>	gpd/sq.ft.

**Chemical Data**

Sodium Hypochlorite on hand:	<u>3,750</u>	Gallons	Estimated Supply:	<u>69.8</u>	days
Caustic Soda on hand:	<u>1,541</u>	Gallons	Estimated Supply:	<u>105.5</u>	days
Corrosion Inhibitor on hand:	<u>706</u>	Gallons	Estimated Supply:	<u>36.3</u>	days
Hydrofluosilicic Acid on hand:	<u>1,166</u>	Gallons	Estimated Supply:	<u>80.4</u>	days
Aluminum Chlorohydrate on hand:	<u>649</u>	Gallons	Estimated Supply:	<u>111.7</u>	days
Sulfuric Acid on hand:	<u>512</u>	Gallons	Estimated Supply:	<u>256.2</u>	days
Sodium Bisulfite on hand:	<u>635</u>	Gallons	Estimated Supply:	<u>219.0</u>	days
Citric Acid on hand:	<u>1,036</u>	Gallons	Estimated Supply:	<u>82.9</u>	days
Cost of All Chemicals per Million Gallons:	<u>100.86</u>	Dollars			

**Utility Data**

Estimated Electrical Kilo Watts per Million Gallons:	<u>1,163</u>	KW
Estimated Natural Gas Million Cubic Feet per Million Gallons:	<u>11.89</u>	Mcf

**Remarks**

Number of periods of filter confluence turbidity samples > 0.3 NTU 0

Percent of membrane period confluence samples > 0.3 NTU: 0.00%

Was continuous (every 15 minutes) filter monitoring equipment off-line during the month? No  
If yes, indicate date(s), duration, and individual filter grab sampling frequency on a separate sheet.

Did POE disinfectant residual fall below 0.2 ppm during the month? No  
If yes, indicate date(s) and duration on a separate sheet.

Was minimum C\*T credit achieved for the entire month? Yes  
If no, indicate on a separate sheet the date(s) not achieved.

Was continuous POE chlorine residual monitoring equipment off-line during the month? No  
If yes, date(s) and duration will be indicated on the rule page.

**Notes**

New Lovibond PTV 1000 Turbidity units installed on the following filters.

- #8 in service on 4/22/24 @ 3:45pm
- #7 in service on 4/23/24 @ 1:00pm
- #6 in service on 4/26/24 @ 8:00am
- #5 in service on 4/26/24 @ 2:40pm
- #4 in service on 4/30/24 @ 2:45pm

# Bay Area WTP Monthly Operating Report

Flows												
Date	Raw Water (MG)			Clarified (MG)		Sludge (MG)		Treated (MG)		Finished Water Pumped (MG)		
	N. Euclid FIT-1000-1	Lauria Road FIT-1000-2	Total Calculated	Total FIT-5520-1	Total FIT-5180	Total FIT-4000-1	N. Euclid FIT-4040-1	Lauria Road FIT-4040-2	Total Calculated			
4/1/2024	0.00	6.51	6.51	0.28	0.08	6.04	2.88	2.44	5.32			
4/2/2024	0.00	6.97	6.97	0.25	0.09	6.09	2.99	2.55	5.54			
4/3/2024	0.00	6.29	6.29	0.33	0.08	6.31	3.01	2.61	5.61			
4/4/2024	0.00	5.60	5.60	0.30	0.08	6.28	2.94	2.62	5.57			
4/5/2024	0.00	5.92	5.92	0.28	0.11	5.91	2.85	2.53	5.38			
4/6/2024	0.00	6.44	6.44	0.28	0.08	6.31	2.91	2.60	5.51			
4/7/2024	0.00	6.31	6.31	0.29	0.08	6.25	2.96	2.68	5.64			
4/8/2024	0.00	6.65	6.65	0.17	0.20	6.37	3.02	2.71	5.74			
4/9/2024	0.00	6.64	6.64	0.23	0.15	6.52	3.10	2.75	5.85			
4/10/2024	0.00	6.41	6.41	0.30	0.08	6.45	3.05	2.73	5.79			
4/11/2024	0.00	6.30	6.30	0.28	0.08	6.49	3.06	2.73	5.79			
4/12/2024	0.00	6.57	6.57	0.27	0.08	6.08	2.88	2.57	5.45			
4/13/2024	0.00	5.89	5.89	0.28	0.08	6.21	2.90	2.62	5.52			
4/14/2024	0.00	6.74	6.74	0.28	0.08	6.10	2.92	2.63	5.55			
4/15/2024	0.00	5.19	5.19	0.28	0.10	6.43	3.07	2.68	5.74			
4/16/2024	0.00	6.81	6.81	0.27	0.08	6.48	3.06	2.75	5.81			
4/17/2024	0.00	6.40	6.40	0.29	0.08	6.25	2.99	2.61	5.60			
4/18/2024	0.00	6.23	6.23	0.29	0.08	6.38	3.12	2.69	5.81			
4/19/2024	0.00	6.51	6.51	0.27	0.08	5.75	2.78	2.34	5.11			
4/20/2024	0.00	6.15	6.15	0.29	0.08	6.03	2.89	2.47	5.35			
4/21/2024	0.00	5.75	5.75	0.27	0.08	6.27	3.02	2.60	5.63			
4/22/2024	0.00	6.73	6.73	0.24	0.10	6.29	3.10	2.65	5.76			
4/23/2024	0.00	6.76	6.76	0.25	0.08	6.30	3.04	2.58	5.61			
4/24/2024	0.00	6.03	6.03	0.27	0.08	6.50	3.10	2.67	5.77			
4/25/2024	0.00	6.33	6.33	0.23	0.08	6.28	3.06	2.60	5.66			
4/26/2024	0.00	6.27	6.27	0.26	0.08	6.44	3.02	2.64	5.66			
4/27/2024	0.00	6.17	6.17	0.24	0.08	6.16	2.99	2.63	5.61			
4/28/2024	0.00	6.39	6.39	0.24	0.08	6.29	2.96	2.61	5.57			
4/29/2024	0.00	6.58	6.58	0.27	0.08	6.13	2.97	2.56	5.53			
4/30/2024	0.00	6.18	6.18	0.23	0.08	6.12	2.97	2.59	5.55			
<b>Total</b>	0.00	189.70	189.70	8.03	2.61	187.49	89.62	78.41	168.03			
<b>Avg</b>	0.00	6.32	6.32	0.27	0.09	6.25	2.99	2.61	5.60			
<b>Min</b>	0.00	5.19	5.19	0.17	0.08	5.75	2.78	2.34	5.11			
<b>Max</b>	0.00	6.97	6.97	0.33	0.20	6.52	3.12	2.75	5.85			

Raw Water Analysis												
Date	Temp		pH		Turbidity		F <sup>-</sup>		Free Cl		Bacti	
	Average	°C	Average	AIT-1000-2	Average	NTU	Maximum	Grab	Average	mg/L	Positive/Negative	E. coli
	TIT-1000					AIT-1000-1		mg/L	AIT-1035-2	Total Coliform	Lab	Lab
4/1/2024	3.2		7.87		0.28	0.33	0.33	0.09	0.38	Negative	Negative	Negative
4/2/2024	3.3		7.87		0.25	0.99	0.99	0.09	0.34	Negative	Negative	Negative
4/3/2024	3.4		7.90		0.21	0.33	0.33	0.09	0.24	Negative	Negative	Negative
4/4/2024	3.5		7.85		1.18	3.06	3.06	0.09	0.35	Negative	Negative	Negative
4/5/2024	3.5		7.83		2.22	4.28	4.28	0.09	0.33	Negative	Negative	Negative
4/6/2024	3.5		7.81		2.42	3.69	3.69	0.09	0.46	Negative	Negative	Negative
4/7/2024	3.7		7.82		1.40	3.35	3.35	0.09	0.39	Negative	Negative	Negative
4/8/2024	3.9		7.80		0.71	3.72	3.72	0.09	0.46	Negative	Negative	Negative
4/9/2024	4.0		7.78		0.58	1.15	1.15	0.09	0.46	Negative	Negative	Negative
4/10/2024	4.0		7.81		0.50	0.74	0.74	0.09	0.39	Negative	Negative	Negative
4/11/2024	4.2		7.83		1.23	4.08	4.08	0.09	0.41	Negative	Negative	Negative
4/12/2024	4.3		7.85		0.97	3.22	3.22	0.09	0.25	Negative	Negative	Negative
4/13/2024	4.3		7.86		2.62	6.57	6.57	0.09	0.33	Negative	Negative	Negative
4/14/2024	4.5		7.81		1.48	1.91	1.91	0.08	0.44	Negative	Negative	Negative
4/15/2024	5.7		7.78		2.02	7.96	7.96	0.08	0.41	Negative	Negative	Negative
4/16/2024	6.4		7.73		1.56	5.15	5.15	0.08	0.38	Negative	Negative	Negative
4/17/2024	6.7		7.69		0.98	1.17	1.17	0.08	0.34	Negative	Negative	Negative
4/18/2024	6.7		7.70		1.12	2.84	2.84	0.08	0.37	Negative	Negative	Negative
4/19/2024	7.0		7.73		2.01	10.00	10.00	0.09	0.31	Negative	Negative	Negative
4/20/2024	6.5		7.79		1.67	3.35	3.35	0.09	0.56	Negative	Negative	Negative
4/21/2024	6.2		7.81		0.99	1.88	1.88	0.09	0.45	Negative	Negative	Negative
4/22/2024	6.6		7.86		0.88	1.06	1.06	0.09	0.28	Negative	Negative	Negative
4/23/2024	7.1		7.70		0.61	0.83	0.83	0.09	0.40	Negative	Negative	Negative
4/24/2024	6.9		7.71		0.47	4.13	4.13	0.09	0.31	Negative	Negative	Negative
4/25/2024	6.3		7.82		0.39	1.10	1.10	0.08	0.42	Negative	Negative	Negative
4/26/2024	6.7		7.71		2.38	5.79	5.79	0.09	0.31	Negative	Negative	Negative
4/27/2024	7.3		7.69		1.02	1.30	1.30	0.09	0.31	Negative	Negative	Negative
4/28/2024	7.9		7.66		1.06	1.58	1.58	0.09	0.28	Negative	Negative	Negative
4/29/2024	8.1		7.60		0.89	1.04	1.04	0.09	0.44	Negative	Negative	Negative
4/30/2024	8.4		7.56		1.10	3.25	3.25	0.09	0.40	Negative	Negative	Negative
Avg	5.5		7.77		1.17	3.00	3.00	0.09	0.37	NA	NA	NA
Min	3.2		7.56		0.21	0.33	0.33	0.08	0.24	NA	NA	NA
Max	8.4		7.90		2.62	10.00	10.00	0.09	0.56	NA	NA	NA

Finished Water Analysis																								
Date	Temp Average °C	pH Average	Phosphate Average mg/L	Fluoride		Free Cl <sub>2</sub> Average mg/L	Alkalinity (as CaCO <sub>3</sub> )		Chloride Grab mg/L	Sulfate Grab mg/L	Calcium (as CaCO <sub>3</sub> ) Grab mg/L	Dissolved Oxygen		Langlier Saturation Index	Chloride: Sulfate Mass Ratio	Larson- Skold Index	Bacti							
				Tap	Dist		Carbonate	Bicarbonate				Grab	Grab				Grab	Grab	Grab	Grab	Lab	Lab	Total Coliform	E. coli
4/1/2024	3.8	7.66	3.38	0.67	0.67	1.01	0	74	10	11	80	13.5	222	-0.92	0.91	0.42	Negative	Negative						
4/2/2024	3.9	7.66	3.38	0.67	0.67	1.00	0	76	10	9	78	13.2	220	-0.92	1.11	0.38	Negative	Negative						
4/3/2024	4.0	7.65	3.37	0.67	0.67	1.00	0	78	11	12	82	13.6	223	-0.90	0.92	0.44	Negative	Negative						
4/4/2024	4.2	7.62	3.39	0.68	0.68	1.01	0	77	10	10	76	12.7	222	-0.96	1.00	0.39	Negative	Negative						
4/5/2024	4.2	7.63	3.39	0.69	0.69	1.01	0	78	10	9	76	12.7	222	-0.94	1.11	0.37	Negative	Negative						
4/6/2024	4.3	7.63	3.38	0.68	0.68	1.01	0	78	11	10	74	13.6	223	-0.95	1.10	0.41	Negative	Negative						
4/7/2024	4.5	7.61	3.38	0.69	0.69	1.00	0	78	10	10	68	13.0	221	-1.00	1.00	0.39	Negative	Negative						
4/8/2024	4.7	7.61	3.38	0.69	0.69	1.00	0	77	10	10	72	13.0	225	-0.98	1.00	0.39	Negative	Negative						
4/9/2024	4.8	7.61	3.36	0.69	0.69	1.02	0	78	10	10	74	12.2	221	-0.96	1.00	0.39	Negative	Negative						
4/10/2024	4.9	7.60	3.36	0.70	0.70	1.01	0	76	9	9	74	13.0	219	-0.97	1.00	0.36	Negative	Negative						
4/11/2024	4.9	7.62	3.40	0.67	0.67	1.01	0	76	9	11	74	12.0	219	-0.95	0.82	0.39	Negative	Negative						
4/12/2024	3.8	7.64	3.40	0.68	0.68	1.00	0	72	10	9	76	13.4	222	-0.98	1.11	0.40	Negative	Negative						
4/13/2024	4.7	7.66	3.40	0.67	0.67	1.00	0	78	9	9	78	13.3	223	-0.89	1.00	0.35	Negative	Negative						
4/14/2024	4.9	7.66	3.40	0.67	0.67	1.01	0	77	10	9	78	12.8	223	-0.89	1.11	0.37	Negative	Negative						
4/15/2024	5.8	7.63	3.39	0.67	0.67	1.01	0	77	10	10	78	12.6	222	-0.89	1.00	0.39	Negative	Negative						
4/16/2024	6.0	7.63	3.40	0.67	0.67	1.00	0	76	11	10	76	12.3	221	-0.90	1.10	0.42	Negative	Negative						
4/17/2024	6.2	7.62	3.39	0.68	0.68	1.01	0	79	13	12	78	13.0	222	-0.88	1.08	0.48	Negative	Negative						
4/18/2024	6.3	7.62	3.39	0.69	0.69	1.01	0	79	10	10	70	12.7	222	-0.92	1.00	0.38	Negative	Negative						
4/19/2024	6.4	7.62	3.39	0.72	0.72	1.01	0	80	11	11	70	13.0	225	-0.91	1.00	0.41	Negative	Negative						
4/20/2024	6.6	7.67	3.39	0.70	0.70	0.99	0	79	10	10	72	12.7	235	-0.86	1.00	0.38	Negative	Negative						
4/21/2024	6.6	7.66	3.36	0.68	0.68	1.01	0	78	10	9	72	12.3	230	-0.88	1.11	0.37	Negative	Negative						
4/22/2024	6.7	7.64	3.36	0.66	0.66	1.01	0	80	10	9	70	12.2	230	-0.90	1.11	0.36	Negative	Negative						
4/23/2024	7.0	7.62	3.36	0.67	0.67	0.99	0	81	11	10	74	12.1	230	-0.88	1.10	0.39	Negative	Negative						
4/24/2024	7.0	7.64	3.36	0.68	0.68	1.00	0	80	10	11	76	12.0	214	-0.85	0.91	0.39	Negative	Negative						
4/25/2024	6.7	7.65	3.36	0.66	0.66	1.00	0	77	10	11	76	12.6	210	-0.86	0.91	0.41	Negative	Negative						
4/26/2024	6.6	7.64	3.35	0.66	0.66	1.02	0	76	10	10	78	12.0	206	-0.87	1.00	0.40	Negative	Negative						
4/27/2024	6.8	7.59	3.36	0.67	0.67	1.00	0	75	10	11	78	12.2	213	-0.92	0.91	0.42	Negative	Negative						
4/28/2024	7.3	7.57	3.36	0.66	0.66	0.99	0	80	10	11	80	11.9	222	-0.89	0.91	0.39	Negative	Negative						
4/29/2024	7.5	7.58	3.36	0.66	0.64	1.01	0	82	11	11	78	10.4	225	-0.87	1.00	0.40	Negative	Negative						
4/30/2024	7.8	7.55	3.36	0.66	0.66	1.00	0	79	12	11	78	11.8	218	-0.91	1.09	0.44	Negative	Negative						
Avg	5.6	7.63	3.38	0.68	0.67	1.01	0	78	10	10	75	12.6	222	-0.91	1.01	0.40	NA	NA						
Min	3.8	7.55	3.35	0.66	0.64	0.99	0	72	9	9	68	10.4	206	-1.00	0.82	0.35	NA	NA						
Max	7.8	7.67	3.40	0.72	0.70	1.02	0	82	13	12	82	13.6	235	-0.85	1.11	0.48	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											Calculated
	AIT-1000-1		AIT-5030-1	AIT-1035-3	AIT-4000-1					Calculated		
4/1/2024	0.28	0.33	1.53	0.42	0.030	0.030	96	0	0.0	0.019		
4/2/2024	0.25	0.99	2.04	0.41	0.030	0.030	96	0	0.0	0.019		
4/3/2024	0.21	0.33	1.70	0.39	0.030	0.030	96	0	0.0	0.019		
4/4/2024	1.18	3.06	1.59	0.53	0.030	0.030	96	0	0.0	0.019		
4/5/2024	2.22	4.28	2.96	1.72	0.030	0.030	96	0	0.0	0.019		
4/6/2024	2.42	3.69	2.36	2.11	0.030	0.030	96	0	0.0	0.019		
4/7/2024	1.40	3.35	2.70	2.50	0.030	0.030	96	0	0.0	0.019		
4/8/2024	0.71	3.72	1.23	1.79	0.030	0.030	96	0	0.0	0.019		
4/9/2024	0.58	1.15	0.95	1.30	0.030	0.030	96	0	0.0	0.019		
4/10/2024	0.50	0.74	0.84	1.03	0.030	0.030	96	0	0.0	0.019		
4/11/2024	1.23	4.08	0.70	1.17	0.030	0.030	96	0	0.0	0.019		
4/12/2024	0.97	3.22	0.73	1.41	0.029	0.030	96	0	0.0	0.019		
4/13/2024	2.62	6.57	0.85	1.91	0.030	0.030	96	0	0.0	0.019		
4/14/2024	1.48	1.91	0.82	2.14	0.030	0.030	96	0	0.0	0.019		
4/15/2024	2.02	7.96	0.91	2.23	0.030	0.030	96	0	0.0	0.023		
4/16/2024	1.56	5.15	1.13	2.60	0.030	0.030	96	0	0.0	0.025		
4/17/2024	0.98	1.17	1.58	2.00	0.030	0.030	96	0	0.0	0.025		
4/18/2024	1.12	2.84	1.81	1.64	0.030	0.030	96	0	0.0	0.024		
4/19/2024	2.01	10.00	1.94	1.61	0.029	0.030	96	0	0.0	0.025		
4/20/2024	1.67	3.35	1.78	1.45	0.029	0.030	96	0	0.0	0.025		
4/21/2024	0.99	1.88	1.54	1.31	0.029	0.030	96	0	0.0	0.025		
4/22/2024	0.88	1.06	4.84	1.08	0.029	0.030	96	0	0.0	0.025		
4/23/2024	0.61	0.83	1.08	0.82	0.029	0.030	96	0	0.0	0.025		
4/24/2024	0.47	4.13	0.90	0.59	0.029	0.030	96	0	0.0	0.025		
4/25/2024	0.39	1.10	0.63	0.45	0.029	0.030	96	0	0.0	0.024		
4/26/2024	2.38	5.79	0.91	0.79	0.029	0.030	96	0	0.0	0.024		
4/27/2024	1.02	1.30	1.22	0.87	0.029	0.030	96	0	0.0	0.025		
4/28/2024	1.06	1.58	1.69	0.84	0.030	0.030	96	0	0.0	0.025		
4/29/2024	0.89	1.04	1.60	0.74	0.029	0.030	96	0	0.0	0.026		
4/30/2024	1.10	3.25	1.44	0.70	0.029	0.030	96	0	0.0	0.025		
Avg	1.17	3.00	1.53	1.28	0.030	0.030	96	0	0.0	0.022		
Min	0.21	0.33	0.63	0.39	0.029	0.030	96	0	0.0	0.019		
Max	2.62	10.00	4.84	2.60	0.030	0.030	96	0	0.0	0.026		

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



Treatment Chemical Dosages														
Date	Sodium Hypochlorite					Phosphoric Acid				Hydrofluorosilicic Acid				
	Treated Water	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	Raw Water	Dose pre-FW Tanks	Post FW Tanks
	Volume	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	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	Added	Lab	
4/1/2024	6.0	0.38	0.30	0.72	1.07	1.01	3.22	3.38	0.09	0.54	0.09	0.54	0.67	
4/2/2024	6.1	0.34	0.27	0.72	1.05	1.00	3.22	3.38	0.09	0.54	0.09	0.54	0.67	
4/3/2024	6.3	0.24	0.21	0.84	1.07	1.00	3.22	3.37	0.09	0.54	0.09	0.54	0.67	
4/4/2024	6.3	0.35	0.20	0.84	1.09	1.01	3.22	3.39	0.09	0.54	0.09	0.54	0.68	
4/5/2024	5.9	0.33	0.21	0.82	1.07	1.01	3.22	3.39	0.09	0.54	0.09	0.54	0.69	
4/6/2024	6.3	0.46	0.26	0.74	1.08	1.01	3.22	3.38	0.09	0.54	0.09	0.54	0.68	
4/7/2024	6.2	0.39	0.28	0.74	1.07	1.00	3.22	3.38	0.09	0.54	0.09	0.54	0.69	
4/8/2024	6.4	0.46	0.29	0.72	1.07	1.00	3.22	3.38	0.09	0.54	0.09	0.54	0.69	
4/9/2024	6.5	0.46	0.33	0.78	1.08	1.02	3.22	3.36	0.09	0.54	0.09	0.54	0.69	
4/10/2024	6.4	0.39	0.32	0.76	1.06	1.02	3.28	3.36	0.09	0.54	0.09	0.54	0.70	
4/11/2024	6.5	0.41	0.29	0.80	1.07	1.01	3.28	3.40	0.09	0.54	0.09	0.54	0.67	
4/12/2024	6.1	0.25	0.26	0.86	1.05	1.00	3.28	3.40	0.09	0.54	0.09	0.54	0.68	
4/13/2024	6.2	0.33	0.21	0.90	1.07	1.00	3.28	3.40	0.09	0.54	0.09	0.54	0.67	
4/14/2024	6.1	0.44	0.25	0.86	1.07	1.01	3.28	3.40	0.08	0.54	0.08	0.54	0.67	
4/15/2024	6.4	0.41	0.29	0.80	1.07	1.01	3.28	3.39	0.08	0.54	0.08	0.54	0.67	
4/16/2024	6.5	0.38	0.28	0.84	1.08	1.00	3.28	3.40	0.08	0.55	0.08	0.55	0.67	
4/17/2024	6.2	0.34	0.26	0.86	1.07	1.01	3.28	3.39	0.08	0.56	0.08	0.56	0.68	
4/18/2024	6.4	0.37	0.26	0.86	1.08	1.01	3.28	3.39	0.08	0.56	0.08	0.56	0.69	
4/19/2024	5.7	0.31	0.23	0.92	1.06	1.01	3.28	3.39	0.09	0.56	0.09	0.56	0.72	
4/20/2024	6.0	0.56	0.25	0.84	1.07	0.99	3.26	3.39	0.09	0.53	0.09	0.53	0.70	
4/21/2024	6.3	0.45	0.32	0.80	1.09	1.01	3.26	3.36	0.09	0.52	0.09	0.52	0.68	
4/22/2024	6.3	0.28	0.25	0.88	1.06	1.01	3.26	3.36	0.09	0.52	0.09	0.52	0.66	
4/23/2024	6.3	0.40	0.24	0.87	1.07	0.99	3.26	3.36	0.09	0.52	0.09	0.52	0.67	
4/24/2024	6.5	0.31	0.25	0.86	1.06	1.00	3.26	3.36	0.09	0.52	0.09	0.52	0.68	
4/25/2024	6.3	0.42	0.21	0.93	1.09	1.00	3.26	3.36	0.08	0.52	0.08	0.52	0.66	
4/26/2024	6.4	0.31	0.24	0.88	1.07	1.02	3.26	3.35	0.09	0.52	0.09	0.52	0.66	
4/27/2024	6.2	0.31	0.22	0.92	1.07	1.00	3.26	3.36	0.09	0.52	0.09	0.52	0.67	
4/28/2024	6.3	0.28	0.18	1.00	1.08	0.99	3.26	3.36	0.09	0.52	0.09	0.52	0.66	
4/29/2024	6.1	0.44	0.21	0.92	1.10	1.01	3.26	3.36	0.09	0.52	0.09	0.52	0.66	
4/30/2024	6.1	0.40	0.25	0.92	1.10	1.00	3.26	3.36	0.09	0.52	0.09	0.52	0.66	
Avg	6.2	0.37	0.25	0.84	1.07	1.01	3.25	3.38	0.09	0.54	0.09	0.54	0.68	
Min	5.7	0.24	0.18	0.72	1.05	0.99	3.22	3.35	0.08	0.52	0.08	0.52	0.66	
Max	6.5	0.56	0.33	1.00	1.10	1.02	3.28	3.40	0.09	0.56	0.09	0.56	0.72	



Disinfection CT															
Pipeline CT					FW Tank CT										
Date	Whitestone Flow MGD	Travel Time Min	Residual RW mg/L	CT Achieved mg-min/L	FW Tank 1 Min Level ft	FW Tank 2 Min Level ft	Plant Flow MGD	Contact Time Min	Free Cl <sub>2</sub> Min mg/L	CT Achieved mg-min/L	Total CT Achieved mg-min/L	Temp Avg °C	Required mg-min/L	CT Calculated	Met Y/N
4/1/2024	54.8	2,281	0.38	869	28.7	24.6	5.3	686	0.99	340	1209	3.2	12.00	12.00	Y
4/2/2024	40.8	3,069	0.34	1057	28.4	24.6	5.5	656	0.98	323	1380	3.3	12.00	12.00	Y
4/3/2024	35.1	3,568	0.24	867	28.7	24.5	5.6	649	0.98	317	1184	3.4	12.00	12.00	Y
4/4/2024	37.0	3,384	0.35	1186	28.3	25.2	5.6	658	0.98	324	1510	3.5	12.00	12.00	Y
4/5/2024	41.2	3,035	0.33	995	28.4	24.8	5.4	666	0.97	323	1318	3.5	12.00	12.00	Y
4/6/2024	55.2	2,268	0.46	1037	28.6	23.9	5.5	653	0.98	319	1356	3.5	12.00	12.00	Y
4/7/2024	55.7	2,244	0.39	864	28.6	25.8	5.6	661	0.98	326	1190	3.7	12.00	12.00	Y
4/8/2024	53.1	2,357	0.46	1088	28.7	25.3	5.7	645	0.97	313	1401	3.9	12.00	12.00	Y
4/9/2024	39.0	3,209	0.46	1471	28.6	25.3	5.8	632	1.00	316	1787	4.0	12.00	12.00	Y
4/10/2024	32.6	3,832	0.39	1499	28.7	25.6	5.8	641	0.98	316	1814	4.0	12.00	12.00	Y
4/11/2024	34.0	3,684	0.41	1502	28.7	25.6	5.8	642	0.97	312	1814	4.2	12.00	12.00	Y
4/12/2024	48.1	2,598	0.25	659	28.7	25.2	5.5	676	0.97	328	987	4.3	12.00	12.00	Y
4/13/2024	54.7	2,287	0.33	747	28.2	21.7	5.5	621	0.97	301	1048	4.3	12.00	12.00	Y
4/14/2024	55.9	2,239	0.44	987	28.5	24.8	5.5	659	0.98	325	1311	4.5	12.00	12.00	Y
4/15/2024	56.5	2,214	0.41	919	28.7	24.1	5.7	629	1.00	314	1233	5.7	8.00	8.00	Y
4/16/2024	40.2	3,111	0.38	1181	28.7	25.1	5.8	635	0.98	310	1491	6.4	8.00	8.00	Y
4/17/2024	34.4	3,640	0.34	1243	28.7	25.9	5.6	667	1.00	333	1576	6.7	8.00	8.00	Y
4/18/2024	34.4	3,634	0.37	1336	28.6	24.5	5.8	626	0.98	308	1644	6.7	8.00	8.00	Y
4/19/2024	40.5	3,085	0.31	949	28.6	24.5	5.1	712	0.98	350	1299	7.0	8.00	8.00	Y
4/20/2024	54.8	2,282	0.56	1287	28.6	24.4	5.4	678	0.94	320	1607	6.5	8.00	8.00	Y
4/21/2024	55.4	2,256	0.45	1024	28.6	25.0	5.6	653	0.98	319	1343	6.2	8.00	8.00	Y
4/22/2024	50.9	2,459	0.28	692	28.6	23.6	5.8	622	0.96	300	991	6.6	8.00	8.00	Y
4/23/2024	40.1	3,118	0.40	1243	28.6	23.6	5.6	638	0.97	310	1553	7.1	8.00	8.00	Y
4/24/2024	39.2	3,189	0.31	981	28.6	24.2	5.8	628	0.96	303	1284	6.9	8.00	8.00	Y
4/25/2024	41.2	3,035	0.42	1262	28.6	25.2	5.7	652	0.96	312	1574	6.3	8.00	8.00	Y
4/26/2024	44.0	2,842	0.31	883	28.7	24.0	5.7	639	0.98	314	1198	6.7	8.00	8.00	Y
4/27/2024	53.1	2,358	0.31	731	28.6	25.1	5.6	656	0.96	316	1047	7.3	8.00	8.00	Y
4/28/2024	53.7	2,329	0.28	661	28.6	25.5	5.6	666	0.94	314	975	7.9	8.00	8.00	Y
4/29/2024	52.3	2,393	0.44	1060	28.6	24.5	5.5	658	0.95	313	1373	8.1	8.00	8.00	Y
4/30/2024	46.4	2,693	0.40	1084	28.7	24.8	5.6	660	0.97	320	1404	8.4	8.00	8.00	Y
Avg	45.8	2,823	0.37	1045	28.6	24.7	5.6	652	0.98	318	1363	5.5	9.87	9.87	NA
Min	32.6	2,214	0.24	659	28.2	21.7	5.1	621	0.94	300	975	3.2	8.00	8.00	NA
Max	56.5	3,832	0.56	1502	28.7	25.9	5.8	712	1.00	350	1814	8.4	12.00	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 Cl<sub>2</sub>)

WSSN:	0072 Akron		0390 Bangor Twp.			0400 Bangor Monitor Dist.			0470 Bay City							0485 Bay County							0517 Beaver Rd		0518 Beaver Twp			2180 Essexville	
	Date	1	3	4	5	6	7	9	10	11	12	13	14	15	16	17	18	19	20	23	24	26	29	30	32	0.91			
		0.33	0.68	0.50	0.53	0.89	0.64	0.49	0.81	0.83	0.48	0.70	0.84	0.36	0.91	0.68	0.75	0.76	0.67	0.67	0.68	0.65	0.42	0.83	0.75				
4/1/2024																													
4/2/2024																													
4/3/2024																													
4/4/2024																													
4/5/2024																													
4/6/2024																													
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4/26/2024																													
4/27/2024																													
4/28/2024																													
4/29/2024																													
4/30/2024																													
Average	0.33																												
Min	0.33																												
Max	0.33																												

**MONITORING STATION ADDRESSES**

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>1. Sample station at corner of 5758 M-25 &amp; F</li> <li>3. Bangor Fire Station, 3921 Wheeler</li> <li>4. BCDWS Admin. Bldg. 3933 Patterson Rd.</li> <li>5. 7-11, 3543 S. Old Kawkawlin Rd.</li> <li>6. Admiral Petroleum, 314 S Euclid Ave.</li> <li>7. Sequin Lumber, 3881 Euclid Ave</li> <li>9. Top Gun Liquor, 2981 Midland Rd</li> <li>10. Little Caesars, 3475 E North Union Rd</li> </ul> | <ul style="list-style-type: none"> <li>11. Number 1 Fire Station, 1401 Center Ave</li> <li>12. Number 2 Fire Station, 1000 Fremont Ave</li> <li>13. Jack's Fruit Market, 1000 Salzburg Ave</li> <li>14. Number 4 Fire Station, 212 S. Dean St</li> <li>15. Number 5 Fire Station, 1209 Smith St</li> <li>16. Bay City Hall, 301 Washington Ave</li> <li>17. Skipper Buds Marina, 1809 S Water St</li> <li>18. Bay Valley Animal Hospital 6015 WS Saginaw Rd</li> </ul> | <ul style="list-style-type: none"> <li>19. Dore's M-84 Party Store, 6183 WS Saginaw Rd</li> <li>20. Pump Station #13, 6000 WS Saginaw Rd</li> <li>23. Rail Trail Pump Station, 366 N. Tuscola Rd.</li> <li>24. Little Learners Daycare, 1694 Cass Ave.</li> <li>26. Wieland Contracting, 2443 S Mackinaw Rd</li> <li>29. Sample Station, 2515 S. 11 Mile Rd</li> <li>30. Sample Station, 340 W. Beaver Rd</li> <li>32. Essexville City Hall, 1107 Woodside Ave</li> </ul> |
|---|--|---|

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

WSSN:	2465 Fraser Twp.			2960 Hampton Twp.			3565 Kawkawlin Twp.			3570 Kawkawlin Met.			3910 Linwood, LMWD			4280 Merritt Twp.			4440 Monitor Twp.			5330 City Pinconning			5335 Pinconning Twp.			5540 Portsmouth			7125 Williams Twp.			7134 Wisner
	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							
Date																																		
4/1/2024																																		
4/2/2024																																		
4/3/2024																																		
4/4/2024																																		
4/5/2024	0.74	0.89	0.53	0.70	0.58	0.84	0.66	0.60											0.52	0.75	0.67	0.72	0.55	0.63			0.45	0.64	0.72	0.64	0.44			
4/6/2024																																		
4/7/2024																																		
4/8/2024																																		
4/9/2024																																		
4/10/2024	0.60	0.54		0.54	0.50											0.53	0.92	0.57	0.69	0.50	0.54			0.39			0.63	0.50						
4/11/2024																																		
4/12/2024																																		
4/13/2024																																		
4/14/2024																																		
4/15/2024																																		
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4/28/2024																																		
4/29/2024																																		
4/30/2024																																		
Average	0.67	0.61		0.50	0.82	0.66	0.60	0.71	0.42	0.53	0.19	0.65	0.53	0.72	0.53	0.57	0.92	0.55	0.59	0.54	0.63	0.45	0.59	0.39	0.72	0.44								
Min	0.60	0.50		0.89	0.66	0.60	0.71	0.42	0.19	0.52	0.65	0.53	0.57	0.92	0.53	0.57	0.92	0.55	0.59	0.54	0.63	0.45	0.59	0.39	0.72	0.44								
Max	0.74	0.89			0.96	0.66	0.60	0.71	0.65	0.53	0.65	0.65	0.53	0.92	0.53	0.92	0.92	0.55	0.59	0.63	0.63	0.45	0.72	0.72	0.64	0.44								

MONITORING STATION ADDRESSES

- 34. Fraser Elevated Tank, 2949 1/2 N. Huron Rd
- 35. Lloyd's Cabinet, 1947 N Huron Rd
- 36. Shirts Mugs & More, 2728 Center Ave
- 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 Commission, 2600 E Beaver Rd
- 41. Parish Rd. Elevated Tank, 1770 E. Parish Rd
- 42. Linwood Tile, 205 S Huron Rd
- 43. Speedway, 106 S. Huron Rd.
- 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 Manitow 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. Saizburg & 9 Mile Rd
- 70. 11 Mile Elevated Tank, 5003 S. 11 Mile Rd
- 72. Lindy's Sales, 9051 M-25
- 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

Name of Water Supply  
**Bay Area Water Treatment Plant**

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

April, 2024

COUNTY	COMMUNITY	WSSN NUMBER	DISTRIBUTION SYSTEM SAMPLES				NUMBER REPEAT SAMPLES
			avg free cl2 mg/L	NUMBER REQUIRED	NUMBER COLLECTED	NUMBER POSITIVE	
Tuscola	Akron	0072	0.33	1	1	0	0
BAY	Bangor Township	0390	0.67	10	10	0	0
BAY	Bangor-Monitor Dist.	0400	0.78	3	3	0	0
BAY	Bay City	0470	0.72	30	33	0	0
BAY	Bay County (Frankl./Monitor/Portsm.)	0485	0.71	9	10	0	0
BAY	Beaver Road Area	0517	0.65	1	1	0	0
BAY	Beaver Township	0518	0.42	2	2	0	0
BAY	Essexville	2180	0.86	4	4	0	0
BAY	Fraser Township	2465	0.67	2	2	0	0
BAY	Hampton Township	2960	0.61	10	10	0	0
BAY	Kawkawlin Township	3565	0.82	3	3	0	0
BAY	Kawkawlin Metro Dist.	3570	0.66	2	2	0	0
BAY	Linwood Metro Water District	3910	0.42	1	2	0	0
BAY	Merritt Township	4280	0.53	2	2	0	0
BAY	Monitor Township	4440	0.72	6	6	0	0
BAY	City of Pinconning	5330	0.53	2	2	0	0
BAY	Pinconning Township	5335	0.59	2	2	0	0
BAY	Portsmouth Township	5540	0.45	1	1	0	0
BAY	Williams Township	7125	0.59	6	6	0	0
Tuscola	Wisner	7134	0.44	1	1	0	0

Average Free Cl2 Residual of All Distribution Sites

0.61 mg/L

1. Total distribution samples
2. Total distribution samples with detectable free cl2 residual
3. Total distribution samples with no detectable free cl2 residual
4. Total distribution samples with no detectable free cl2 residual and HPC was <500
5. Total distribution samples with no detectable free cl2 residual and HPC was >500
6. Percent of distribution samples with no detectable free cl2 residual
7. Percent shown line #6 in previous monthly report

103

103

0

0

0

0.00%

0.00%