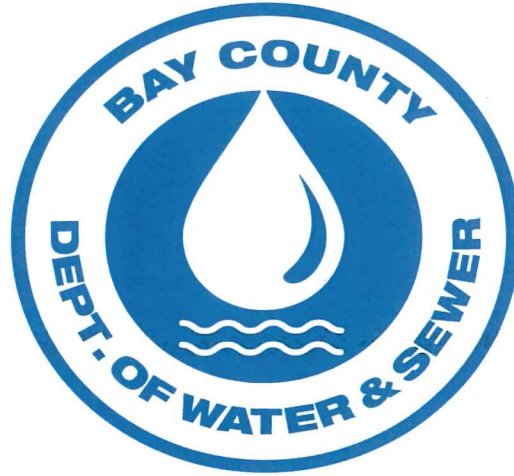


Bay Area WTP

Monthly Operations Report



February, 2024

Water Systems Serial Number: 0465

Carl J. Overly
Carl J. Overly

Water Plant Superintendent
Title

F-1, S-3
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

February, 2024
 Month, Year

F-1
 Water Plant Classification

Bay
 County

Carl J. Overly
 Operator-in-charge

F-1, S-3
 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>7.0</u>	Millions of Gallons per Day
Maximum Approved Transmembrane Pressure	<u>22</u>	PSI
Maximum Operating Transmembrane Pressure	<u>17.16</u>	PSI
Maximum Approved Flux Rate	<u>36.25</u>	gpd/sq.ft.
Maximum Operating Flux Rate	<u>28.33</u>	gpd/sq.ft.

Chemical Data

Sodium Hypochlorite on hand:	<u>4,422</u>	Gallons	Estimated Supply:	<u>89.5</u>	days
Caustic Soda on hand:	<u>2,219</u>	Gallons	Estimated Supply:	<u>152.0</u>	days
Corrosion Inhibitor on hand:	<u>411</u>	Gallons	Estimated Supply:	<u>21.1</u>	days
Hydrofluosilicic Acid on hand:	<u>374</u>	Gallons	Estimated Supply:	<u>22.7</u>	days
Aluminum Chlorohydrate on hand:	<u>940</u>	Gallons	Estimated Supply:	<u>191.2</u>	days
Sulfuric Acid on hand:	<u>630</u>	Gallons	Estimated Supply:	<u>315.1</u>	days
Sodium Bisulfite on hand:	<u>799</u>	Gallons	Estimated Supply:	<u>275.6</u>	days
Citric Acid on hand:	<u>1,542</u>	Gallons	Estimated Supply:	<u>123.4</u>	days
Cost of All Chemicals per Million Gallons:	<u>96.85</u>	Dollars			

Utility Data

Estimated Electrical Kilo Watts per Million Gallons:	<u>1,245.19</u>	KW
Estimated Natural Gas Million Cubic Feet per Million Gallons:	<u>3.217</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

#7 filter out Sat 2-17-24 @ 7:30am, back in service Tue 2-20-24 @ 3:00pm. (Out for valve Maint.)

Bay Area WTP Monthly Operating Report

Flows									
Date	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
2/1/2024	0.00	6.24	6.24	0.22	0.11	6.49	3.02	2.78	5.80
2/2/2024	0.00	6.27	6.27	0.26	0.08	6.34	3.02	2.78	5.80
2/3/2024	0.00	6.73	6.73	0.29	0.09	6.59	3.09	2.86	5.95
2/4/2024	0.00	6.89	6.89	0.29	0.08	6.53	3.10	2.86	5.96
2/5/2024	0.00	6.97	6.97	0.28	0.08	6.89	3.26	3.01	6.27
2/6/2024	0.00	6.29	6.29	0.35	0.08	7.01	3.26	2.92	6.18
2/7/2024	0.00	6.26	6.26	0.28	0.08	6.19	2.93	2.68	5.61
2/8/2024	0.00	6.49	6.49	0.27	0.08	5.97	2.91	2.64	5.55
2/9/2024	0.00	4.69	4.69	0.22	0.09	5.98	2.75	2.52	5.26
2/10/2024	0.00	7.23	7.23	0.23	0.15	6.99	3.32	3.09	6.41
2/11/2024	0.00	7.43	7.43	0.24	0.12	6.58	3.08	2.81	5.89
2/12/2024	0.00	6.74	6.74	0.30	0.08	6.38	3.01	2.73	5.74
2/13/2024	0.00	6.28	6.28	0.28	0.08	6.20	2.94	2.66	5.60
2/14/2024	0.00	6.27	6.27	0.30	0.08	6.36	3.01	2.67	5.68
2/15/2024	0.00	6.34	6.34	0.28	0.08	6.17	2.88	2.58	5.47
2/16/2024	0.00	5.97	5.97	0.28	0.08	6.15	2.93	2.63	5.56
2/17/2024	0.00	6.28	6.28	0.28	0.08	6.21	2.90	2.61	5.51
2/18/2024	0.00	6.37	6.37	0.27	0.08	6.10	2.84	2.57	5.42
2/19/2024	0.00	6.04	6.04	0.26	0.12	6.35	3.02	2.72	5.74
2/20/2024	0.00	6.47	6.47	0.30	0.08	6.49	3.06	2.71	5.76
2/21/2024	0.00	6.37	6.37	0.28	0.08	6.38	3.09	2.66	5.75
2/22/2024	0.00	6.24	6.24	0.28	0.08	6.11	3.00	2.59	5.60
2/23/2024	0.00	6.57	6.57	0.28	0.08	6.12	3.01	2.59	5.60
2/24/2024	0.00	6.14	6.14	0.31	0.08	6.67	3.09	2.64	5.72
2/25/2024	0.00	6.45	6.45	0.30	0.08	6.31	3.01	2.61	5.62
2/26/2024	0.00	6.53	6.53	0.24	0.12	5.97	2.94	2.49	5.42
2/27/2024	0.00	6.13	6.13	0.29	0.08	6.42	3.06	2.65	5.71
2/28/2024	0.00	6.36	6.36	0.28	0.08	6.42	3.10	2.70	5.80
2/29/2024	0.00	6.11	6.11	0.27	0.08	6.35	3.00	2.67	5.67
Total	0.00	185.15	185.15	8.03	2.48	184.73	87.61	78.43	166.04
Avg	0.00	6.38	6.38	0.28	0.09	6.37	3.02	2.70	5.73
Min	0.00	4.69	4.69	0.22	0.08	5.97	2.75	2.49	5.26
Max	0.00	7.43	7.43	0.35	0.15	7.01	3.32	3.09	6.41

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	
2/1/2024	4.9	7.97	0.73	4.65	0.09	0.36	Negative	Negative
2/2/2024	4.9	7.97	0.64	2.66	0.09	0.36	Negative	Negative
2/3/2024	5.0	7.98	1.24	4.50	0.09	0.30	Negative	Negative
2/4/2024	5.7	7.98	1.87	7.02	0.09	0.23	Negative	Negative
2/5/2024	5.3	7.99	1.12	5.62	0.08	0.37	Negative	Negative
2/6/2024	5.3	7.97	0.96	1.32	0.08	0.36	Negative	Negative
2/7/2024	5.3	7.98	0.87	1.26	0.09	0.34	Negative	Negative
2/8/2024	5.4	7.98	0.92	1.35	0.09	0.37	Negative	Negative
2/9/2024	5.5	7.96	1.03	1.35	0.09	0.33	Negative	Negative
2/10/2024	5.4	7.99	0.96	1.54	0.09	0.39	Negative	Negative
2/11/2024	5.4	8.01	0.82	1.82	0.09	0.41	Negative	Negative
2/12/2024	6.6	7.87	0.72	14.40	0.09	0.42	Negative	Negative
2/13/2024	7.3	7.76	0.62	1.02	0.09	0.40	Negative	Negative
2/14/2024	5.8	7.96	0.39	0.86	0.09	0.41	Negative	Negative
2/15/2024	4.8	8.03	0.46	2.50	0.09	0.41	Negative	Negative
2/16/2024	4.8	8.03	0.21	0.30	0.09	0.40	Negative	Negative
2/17/2024	4.7	8.04	0.25	0.34	0.09	0.42	Negative	Negative
2/18/2024	4.6	8.04	0.21	0.25	0.09	0.44	Negative	Negative
2/19/2024	3.2	8.05	0.55	1.25	0.09	0.42	Negative	Negative
2/20/2024	2.8	8.06	0.24	0.37	0.09	0.42	Negative	Negative
2/21/2024	3.2	8.01	0.17	0.26	0.09	0.41	Negative	Negative
2/22/2024	3.3	7.98	0.17	1.11	0.09	0.41	Negative	Negative
2/23/2024	2.9	8.03	0.21	0.38	0.09	0.44	Negative	Negative
2/24/2024	2.8	8.05	0.30	2.46	0.09	0.42	Negative	Negative
2/25/2024	3.0	8.05	3.09	4.94	0.09	0.28	Negative	Negative
2/26/2024	2.9	8.07	1.08	7.10	0.09	0.26	Negative	Negative
2/27/2024	3.3	8.01	0.52	1.21	0.09	0.39	Negative	Negative
2/28/2024	3.4	8.01	0.47	1.31	0.09	0.36	Negative	Negative
2/29/2024	2.9	8.07	0.46	0.46	0.09	0.37	Negative	Negative
Avg	4.5	8.00	0.73	2.54	0.09	0.38	NA	NA
Min	2.8	7.76	0.17	0.25	0.08	0.23	NA	NA
Max	7.3	8.07	3.09	14.40	0.09	0.44	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	Calculated		Lab		
2/1/2024	2.8	7.56	3.39	0.78		1.00	0	73	9	10	78	14.1	247	-1.08	0.90	0.39	Negative	Negative
2/2/2024	2.9	7.55	3.38	0.78		1.00	0	72	10	9	78	14.0	246	-1.09	1.11	0.40	Negative	Negative
2/3/2024	2.9	7.55	3.38	0.79		1.00	0	74	9	9	80	14.1	248	-1.07	1.00	0.37	Negative	Negative
2/4/2024	2.8	7.55	3.38	0.78		1.00	0	74	11	9	78	13.8	250	-1.07	1.22	0.41	Negative	Negative
2/5/2024	2.8	7.56	3.40	0.78	0.77	1.01	0	75	10	10	80	14.0	247	-1.05	1.00	0.40	Negative	Negative
2/6/2024	2.8	7.55	3.44	0.79		1.02	0	75	9	10	82	14.2	242	-1.05	0.90	0.38	Negative	Negative
2/7/2024	2.8	7.56	3.44	0.79		1.01	0	75	11	11	76	14.4	248	-1.07	1.00	0.44	Negative	Negative
2/8/2024	2.9	7.57	3.43	0.79		1.01	0	77	10	10	78	14.2	248	-1.04	1.00	0.39	Negative	Negative
2/9/2024	3.0	7.60	3.42	0.78		1.01	0	76	10	10	70	12.2	251	-1.06	1.00	0.40	Negative	Negative
2/10/2024	3.1	7.58	3.42	0.79		1.03	0	77	10	10	66	13.6	250	-1.10	1.00	0.39	Negative	Negative
2/11/2024	3.0	7.57	3.43	0.80		1.03	0	77	11	10	70	13.4	250	-1.09	1.10	0.41	Negative	Negative
2/12/2024	3.0	7.56	3.42	0.80	0.79	1.03	0	78	11	10	68	13.9	221	-1.09	1.10	0.41	Negative	Negative
2/13/2024	3.1	7.53	3.43	0.80		1.02	0	78	10	10	68	14.8	220	-1.11	1.00	0.39	Negative	Negative
2/14/2024	3.0	7.58	3.42	0.80		1.02	0	76	10	10	79	13.8	217	-1.02	1.00	0.40	Negative	Negative
2/15/2024	3.0	7.60	3.42	0.80		1.02	0	73	9	11	78	14.5	218	-1.02	0.82	0.41	Negative	Negative
2/16/2024	3.0	7.61	3.43	0.80		1.01	0	72	9	10	80	13.9	217	-1.00	0.90	0.39	Negative	Negative
2/17/2024	3.0	7.60	3.42	0.80		1.01	0	76	10	9	76	13.7	218	-1.01	1.11	0.38	Negative	Negative
2/18/2024	2.9	7.61	3.39	0.80		1.01	0	74	9	9	76	13.9	218	-1.01	1.00	0.37	Negative	Negative
2/19/2024	3.0	7.61	3.39	0.79		1.01	0	73	10	9	78	14.0	217	-1.01	1.11	0.40	Negative	Negative
2/20/2024	3.0	7.60	3.39	0.78	0.80	1.03	0	72	9	10	76	13.6	218	-1.04	0.90	0.39	Negative	Negative
2/21/2024	3.1	7.58	3.39	0.79		1.02	0	77	12	11	74	14.0	212	-1.04	1.09	0.45	Negative	Negative
2/22/2024	3.1	7.59	3.38	0.77		1.04	0	76	9	9	72	12.9	217	-1.04	1.00	0.36	Negative	Negative
2/23/2024	3.1	7.59	3.38	0.78		1.03	0	76	9	10	74	13.9	217	-1.03	0.90	0.37	Negative	Negative
2/24/2024	3.2	7.60	3.38	0.79		1.02	0	77	10	10	78	12.9	216	-0.99	1.00	0.39	Negative	Negative
2/25/2024	3.2	7.58	3.39	0.79		1.00	0	78	10	8	68	11.4	216	-1.06	1.25	0.35	Negative	Negative
2/26/2024	3.2	7.59	3.39	0.79	0.79	1.00	0	80	13	11	70	13.7	228	-1.04	1.18	0.46	Negative	Negative
2/27/2024	3.1	7.61	3.38	0.80		1.00	0	79	12	12	66	13.3	228	-1.05	1.00	0.46	Negative	Negative
2/28/2024	3.3	7.59	3.39	0.81		1.01	0	72	13	10	68	13.8	224	-1.09	1.30	0.49	Negative	Negative
2/29/2024	3.2	7.63	3.39	0.81		0.99	0	80	14	11	72	14.0	211	-0.98	1.27	0.48	Negative	Negative
Avg	3.0	7.58	3.40	0.79	0.79	1.01	0	76	10	10	74	13.7	230	-1.05	1.04	0.40	NA	NA
Min	2.8	7.53	3.38	0.77	0.77	0.99	0	72	9	8	66	11.4	211	-1.11	0.82	0.35	NA	NA
Max	3.3	7.63	3.44	0.81	0.80	1.04	0	80	14	12	82	14.8	251	-0.98	1.30	0.49	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
2/1/2024	0.73	4.65	1.31	1.02	0.022	0.022	96	0	0.0	0.014
2/2/2024	0.64	2.66	1.36	0.95	0.022	0.022	96	0	0.0	0.014
2/3/2024	1.24	4.50	1.95	1.15	0.022	0.022	96	0	0.0	0.014
2/4/2024	1.87	7.02	2.62	1.70	0.022	0.022	96	0	0.0	0.014
2/5/2024	1.12	5.62	2.87	1.46	0.022	0.022	96	0	0.0	0.014
2/6/2024	0.96	1.32	3.35	1.19	0.022	0.022	96	0	0.0	0.014
2/7/2024	0.87	1.26	2.16	0.95	0.022	0.022	96	0	0.0	0.014
2/8/2024	0.92	1.35	1.82	0.86	0.022	0.022	96	0	0.0	0.014
2/9/2024	1.03	1.35	1.89	0.89	0.022	0.023	96	0	0.0	0.014
2/10/2024	0.96	1.54	1.48	0.85	0.022	0.022	96	0	0.0	0.014
2/11/2024	0.82	1.82	1.08	0.81	0.022	0.022	96	0	0.0	0.014
2/12/2024	0.72	14.40	0.94	0.65	0.022	0.022	96	0	0.0	0.014
2/13/2024	0.62	1.02	1.00	0.51	0.022	0.022	96	0	0.0	0.014
2/14/2024	0.39	0.86	0.89	0.47	0.022	0.022	96	0	0.0	0.014
2/15/2024	0.46	2.50	0.91	0.43	0.022	0.022	96	0	0.0	0.014
2/16/2024	0.21	0.30	0.88	0.44	0.022	0.022	96	0	0.0	0.014
2/17/2024	0.25	0.34	0.87	0.49	0.022	0.022	96	0	0.0	0.014
2/18/2024	0.21	0.25	1.12	0.50	0.022	0.022	96	0	0.0	0.014
2/19/2024	0.55	1.25	1.51	0.61	0.022	0.022	96	0	0.0	0.014
2/20/2024	0.24	0.37	1.84	0.78	0.022	0.022	96	0	0.0	0.014
2/21/2024	0.17	0.26	1.47	0.56	0.022	0.022	96	0	0.0	0.014
2/22/2024	0.17	1.11	1.36	0.49	0.022	0.022	96	0	0.0	0.014
2/23/2024	0.21	0.38	1.24	0.45	0.022	0.022	96	0	0.0	0.014
2/24/2024	0.30	2.46	1.41	0.50	0.022	0.022	96	0	0.0	0.014
2/25/2024	3.09	4.94	1.61	2.18	0.022	0.022	96	0	0.0	0.014
2/26/2024	1.08	7.10	2.12	2.38	0.022	0.022	96	0	0.0	0.014
2/27/2024	0.52	1.21	2.70	1.83	0.022	0.022	96	0	0.0	0.014
2/28/2024	0.47	1.31	2.16	1.29	0.022	0.022	96	0	0.0	0.014
2/29/2024	0.46	0.46	1.54	1.18	0.022	0.022	96	0	0.0	0.014
Avg	0.73	2.54	1.64	0.95	0.022	0.022	96	0	0.0	0.014
Min	0.17	0.25	0.87	0.43	0.022	0.022	96	0	0.0	0.014
Max	3.09	14.40	3.35	2.38	0.022	0.023	96	0	0.0	0.014

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

Membrane LRV/Integrity/Max Turbidity																										
Date	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	Minimum		Max	Minimum		Max	Minimum		Max	Minimum		Max	Minimum		Max	Minimum		Max	Minimum		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
2/1/2024	4.18	PASS	0.020	5.44	PASS	0.023	4.90	PASS	0.020	4.29	PASS	0.020	5.52	PASS	0.021	4.25	PASS	0.023	4.21	PASS	0.027	5.01	PASS	0.021		
2/2/2024	4.18	PASS	0.020	5.43	PASS	0.023	4.84	PASS	0.020	4.26	PASS	0.020	5.54	PASS	0.023	4.23	PASS	0.023	4.26	PASS	0.026	5.01	PASS	0.021		
2/3/2024	4.19	PASS	0.020	5.43	PASS	0.023	4.86	PASS	0.020	4.31	PASS	0.021	5.59	PASS	0.021	4.22	PASS	0.023	4.26	PASS	0.027	4.83	PASS	0.021		
2/4/2024	4.22	PASS	0.021	5.42	PASS	0.023	4.87	PASS	0.020	4.30	PASS	0.021	5.47	PASS	0.021	4.25	PASS	0.023	4.28	PASS	0.027	4.84	PASS	0.021		
2/5/2024	4.15	PASS	0.020	5.41	PASS	0.023	4.92	PASS	0.020	4.27	PASS	0.021	5.49	PASS	0.021	4.32	PASS	0.024	4.22	PASS	0.027	4.88	PASS	0.022		
2/6/2024	4.18	PASS	0.021	5.43	PASS	0.023	4.91	PASS	0.021	4.37	PASS	0.021	5.48	PASS	0.021	4.26	PASS	0.024	4.22	PASS	0.027	5.10	PASS	0.022		
2/7/2024	4.29	PASS	0.020	5.41	PASS	0.024	4.78	PASS	0.020	4.33	PASS	0.020	5.50	PASS	0.021	4.26	PASS	0.023	4.29	PASS	0.027	4.90	PASS	0.022		
2/8/2024	4.27	PASS	0.020	5.43	PASS	0.023	4.78	PASS	0.019	4.30	PASS	0.020	5.55	PASS	0.021	4.22	PASS	0.024	4.46	PASS	0.026	4.90	PASS	0.022		
2/9/2024	4.25	PASS	0.022	5.40	PASS	0.023	4.91	PASS	0.021	4.28	PASS	0.021	5.56	PASS	0.028	4.20	PASS	0.023	4.37	PASS	0.026	4.99	PASS	0.022		
2/10/2024	4.25	PASS	0.022	5.40	PASS	0.023	4.96	PASS	0.022	4.32	PASS	0.021	5.50	PASS	0.021	4.20	PASS	0.023	4.33	PASS	0.027	5.03	PASS	0.022		
2/11/2024	4.27	PASS	0.021	5.41	PASS	0.023	4.77	PASS	0.020	4.31	PASS	0.020	5.49	PASS	0.026	4.19	PASS	0.023	4.31	PASS	0.026	4.88	PASS	0.022		
2/12/2024	4.30	PASS	0.020	5.41	PASS	0.023	4.76	PASS	0.020	4.29	PASS	0.020	5.54	PASS	0.021	4.23	PASS	0.023	4.34	PASS	0.026	4.87	PASS	0.022		
2/13/2024	4.26	PASS	0.020	5.48	PASS	0.023	5.17	PASS	0.020	4.30	PASS	0.020	5.52	PASS	0.021	4.22	PASS	0.023	4.49	PASS	0.027	5.61	PASS	0.022		
2/14/2024	4.26	PASS	0.020	5.54	PASS	0.023	5.05	PASS	0.019	4.35	PASS	0.022	5.39	PASS	0.021	4.25	PASS	0.023	4.34	PASS	0.026	5.61	PASS	0.022		
2/15/2024	4.27	PASS	0.020	5.51	PASS	0.023	5.09	PASS	0.019	4.31	PASS	0.020	5.60	PASS	0.021	4.25	PASS	0.023	4.35	PASS	0.026	5.60	PASS	0.022		
2/16/2024	4.33	PASS	0.020	5.50	PASS	0.023	5.06	PASS	0.020	4.33	PASS	0.020	5.54	PASS	0.021	4.24	PASS	0.023	4.32	PASS	0.026	5.56	PASS	0.022		
2/17/2024	4.33	PASS	0.020	5.53	PASS	0.023	5.10	PASS	0.020	4.31	PASS	0.020	5.53	PASS	0.021	4.25	PASS	0.022	4.33	PASS	0.026	5.57	PASS	0.022		
2/18/2024	4.26	PASS	0.020	5.53	PASS	0.023	5.07	PASS	0.019	4.34	PASS	0.020	5.50	PASS	0.020	4.23	PASS	0.023	Out for valve Maint			5.59	PASS	0.022		
2/19/2024	4.31	PASS	0.020	5.50	PASS	0.023	5.06	PASS	0.019	4.31	PASS	0.020	5.49	PASS	0.024	4.23	PASS	0.023				5.57	PASS	0.021		
2/20/2024	4.25	PASS	0.020	5.56	PASS	0.023	5.07	PASS	0.019	4.30	PASS	0.020	5.50	PASS	0.021	4.25	PASS	0.023	4.42	PASS	0.026	5.57	PASS	0.021		
2/21/2024	4.26	PASS	0.020	5.48	PASS	0.023	5.06	PASS	0.019	4.34	PASS	0.020	5.56	PASS	0.021	4.25	PASS	0.022	4.37	PASS	0.026	5.64	PASS	0.021		
2/22/2024	4.26	PASS	0.020	5.58	PASS	0.023	5.06	PASS	0.019	4.35	PASS	0.020	5.49	PASS	0.021	4.25	PASS	0.023	4.32	PASS	0.026	5.57	PASS	0.021		
2/23/2024	4.22	PASS	0.019	5.51	PASS	0.023	5.08	PASS	0.020	4.36	PASS	0.020	5.51	PASS	0.021	4.27	PASS	0.023	4.34	PASS	0.026	5.55	PASS	0.022		
2/24/2024	4.24	PASS	0.019	5.55	PASS	0.023	5.07	PASS	0.020	4.35	PASS	0.020	5.51	PASS	0.020	4.24	PASS	0.023	4.34	PASS	0.026	5.59	PASS	0.021		
2/25/2024	4.22	PASS	0.020	5.51	PASS	0.023	5.08	PASS	0.020	4.30	PASS	0.020	5.49	PASS	0.022	4.25	PASS	0.023	4.31	PASS	0.026	5.58	PASS	0.022		
2/26/2024	4.22	PASS	0.020	5.52	PASS	0.023	5.04	PASS	0.020	4.33	PASS	0.021	5.47	PASS	0.021	4.24	PASS	0.024	4.29	PASS	0.027	5.60	PASS	0.022		
2/27/2024	4.23	PASS	0.020	5.49	PASS	0.023	5.05	PASS	0.020	4.27	PASS	0.020	5.49	PASS	0.022	4.26	PASS	0.024	4.31	PASS	0.027	5.58	PASS	0.022		
2/28/2024	4.25	PASS	0.020	5.51	PASS	0.023	5.06	PASS	0.020	4.28	PASS	0.020	5.51	PASS	0.021	4.24	PASS	0.024	4.29	PASS	0.026	5.61	PASS	0.022		
2/29/2024	4.26	PASS	0.020	5.55	PASS	0.023	5.10	PASS	0.019	4.29	PASS	0.020	5.51	PASS	0.021	4.25	PASS	0.023	4.29	PASS	0.026	5.62	PASS	0.022		
Avg	4.25		0.020	5.48		0.023	4.98		0.020	4.31		0.020	5.51		0.021	4.24		0.023	4.32		0.026	5.32		0.022		
Min	4.15		0.019	5.40		0.023	4.76		0.019	4.26		0.020	5.39		0.020	4.19		0.022	4.21		0.026	4.83		0.021		
Max	4.33		0.022	5.58		0.024	5.17		0.022	4.37		0.022	5.60		0.028	4.32		0.024	4.49		0.027	5.64		0.022		

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	8/2015	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
2/1/2024	6.5	0.36	0.34	0.76	1.06	1.00	3.26	3.39	0.09	0.62	0.78
2/2/2024	6.3	0.36	0.32	0.78	1.05	1.00	3.26	3.38	0.09	0.62	0.78
2/3/2024	6.6	0.30	0.30	0.82	1.06	1.00	3.26	3.38	0.09	0.62	0.79
2/4/2024	6.5	0.23	0.27	0.86	1.06	1.00	3.26	3.38	0.09	0.62	0.78
2/5/2024	6.9	0.37	0.27	0.84	1.07	1.01	3.26	3.40	0.08	0.62	0.78
2/6/2024	7.0	0.36	0.28	0.84	1.08	1.02	3.26	3.44	0.08	0.62	0.79
2/7/2024	6.2	0.34	0.28	0.86	1.06	1.01	3.26	3.44	0.09	0.62	0.79
2/8/2024	6.0	0.37	0.28	0.82	1.07	1.01	3.26	3.43	0.09	0.62	0.79
2/9/2024	6.0	0.33	0.26	0.86	1.08	1.01	3.26	3.42	0.09	0.62	0.78
2/10/2024	7.0	0.39	0.28	0.86	1.09	1.03	3.26	3.42	0.09	0.62	0.79
2/11/2024	6.6	0.41	0.31	0.82	1.09	1.03	3.26	3.43	0.09	0.62	0.80
2/12/2024	6.4	0.42	0.33	0.80	1.08	1.03	3.26	3.42	0.09	0.62	0.80
2/13/2024	6.2	0.40	0.33	0.79	1.07	1.02	3.26	3.43	0.09	0.62	0.80
2/14/2024	6.4	0.41	0.33	0.80	1.07	1.02	3.26	3.42	0.09	0.62	0.80
2/15/2024	6.2	0.41	0.33	0.80	1.06	1.02	3.26	3.42	0.09	0.62	0.80
2/16/2024	6.1	0.40	0.33	0.80	1.07	1.01	3.26	3.43	0.09	0.62	0.80
2/17/2024	6.2	0.42	0.33	0.80	1.06	1.01	3.25	3.42	0.09	0.62	0.80
2/18/2024	6.1	0.44	0.34	0.80	1.07	1.01	3.24	3.39	0.09	0.61	0.80
2/19/2024	6.4	0.42	0.35	0.80	1.08	1.02	3.24	3.39	0.09	0.60	0.79
2/20/2024	6.5	0.42	0.36	0.77	1.05	1.03	3.24	3.39	0.09	0.60	0.78
2/21/2024	6.4	0.41	0.38	0.80	1.05	1.02	3.24	3.39	0.09	0.60	0.79
2/22/2024	6.1	0.41	0.37	0.80	1.07	1.04	3.24	3.38	0.09	0.60	0.77
2/23/2024	6.1	0.44	0.38	0.80	1.07	1.03	3.24	3.38	0.09	0.61	0.78
2/24/2024	6.7	0.42	0.38	0.78	1.06	1.02	3.24	3.38	0.09	0.61	0.79
2/25/2024	6.3	0.28	0.34	0.90	1.08	1.00	3.24	3.39	0.09	0.61	0.79
2/26/2024	6.0	0.26	0.27	0.98	1.07	1.00	3.24	3.39	0.09	0.61	0.79
2/27/2024	6.4	0.39	0.27	0.94	1.09	1.00	3.24	3.38	0.09	0.61	0.80
2/28/2024	6.4	0.36	0.30	0.88	1.07	1.01	3.24	3.39	0.09	0.61	0.81
2/29/2024	6.3	0.37	0.31	0.90	1.03	0.99	3.24	3.39	0.09	0.61	0.81
Avg	6.4	0.38	0.32	0.83	1.07	1.01	3.25	3.40	0.09	0.61	0.79
Min	6.0	0.23	0.26	0.76	1.03	0.99	3.24	3.38	0.08	0.60	0.77
Max	7.0	0.44	0.38	0.98	1.09	1.04	3.26	3.44	0.09	0.62	0.81

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
2/1/2024	41.2	3,038	0.36	1103	28.7	26.3	5.8	649	0.96	621	1724	4.9	12.00	Y
2/2/2024	52.5	2,383	0.36	861	28.6	25.5	5.8	639	0.98	629	1491	4.9	12.00	Y
2/3/2024	50.2	2,490	0.30	749	28.7	26.0	6.0	629	0.97	611	1360	5.0	8.00	Y
2/4/2024	49.8	2,513	0.23	582	28.7	24.3	6.0	608	0.94	574	1156	5.7	8.00	Y
2/5/2024	46.2	2,708	0.37	990	28.6	23.6	6.3	570	0.96	546	1536	5.3	8.00	Y
2/6/2024	38.3	3,265	0.36	1191	28.6	23.5	6.2	578	1.01	581	1772	5.3	8.00	Y
2/7/2024	37.3	3,354	0.34	1143	28.7	25.4	5.6	661	0.98	651	1794	5.3	8.00	Y
2/8/2024	37.3	3,352	0.37	1233	28.6	22.1	5.5	627	0.98	617	1850	5.4	8.00	Y
2/9/2024	46.1	2,713	0.33	899	27.8	22.0	5.3	649	0.98	639	1538	5.5	8.00	Y
2/10/2024	51.9	2,410	0.39	937	28.7	24.7	6.4	571	0.98	559	1496	5.4	8.00	Y
2/11/2024	51.1	2,449	0.41	999	28.7	24.4	5.9	618	0.97	600	1599	5.4	8.00	Y
2/12/2024	41.9	2,987	0.42	1242	28.7	25.8	5.7	650	1.01	654	1896	6.6	8.00	Y
2/13/2024	37.0	3,379	0.40	1364	28.7	24.4	5.6	649	0.97	630	1994	7.3	8.00	Y
2/14/2024	39.1	3,199	0.41	1301	28.7	24.6	5.7	643	0.99	637	1939	5.8	8.00	Y
2/15/2024	39.4	3,175	0.41	1316	28.6	25.3	5.5	676	0.96	647	1963	4.8	12.00	Y
2/16/2024	49.7	2,518	0.40	1012	28.7	25.0	5.6	662	0.98	647	1659	4.8	12.00	Y
2/17/2024	51.1	2,449	0.42	1028	28.7	24.6	5.5	662	0.96	639	1667	4.7	12.00	Y
2/18/2024	52.2	2,396	0.44	1054	28.6	26.0	5.4	691	0.99	685	1739	4.6	12.00	Y
2/19/2024	40.5	3,088	0.42	1290	28.7	25.2	5.7	643	0.97	624	1915	3.2	12.00	Y
2/20/2024	39.1	3,201	0.42	1346	28.7	24.6	5.8	633	1.01	641	1986	2.8	12.00	Y
2/21/2024	37.3	3,353	0.41	1388	28.7	26.0	5.8	651	1.01	655	2043	3.2	12.00	Y
2/22/2024	39.2	3,194	0.41	1301	28.6	22.7	5.6	627	1.02	639	1941	3.3	12.00	Y
2/23/2024	52.3	2,392	0.44	1043	28.6	20.4	5.6	600	1.02	611	1654	2.9	12.00	Y
2/24/2024	50.9	2,457	0.42	1042	28.7	19.8	5.7	580	1.00	580	1621	2.8	12.00	Y
2/25/2024	50.8	2,464	0.28	689	28.5	25.8	5.6	663	0.98	648	1337	3.0	12.00	Y
2/26/2024	42.0	2,981	0.26	772	28.5	24.1	5.4	665	0.98	650	1422	2.9	12.00	Y
2/27/2024	36.9	3,390	0.39	1336	28.7	24.3	5.7	636	0.98	622	1958	3.3	12.00	Y
2/28/2024	39.0	3,209	0.36	1171	28.7	24.3	5.8	626	0.98	616	1787	3.4	12.00	Y
2/29/2024	44.5	2,810	0.38	1055	28.7	24.5	5.7	643	0.98	633	1688	2.8	12.00	Y
Avg	44.3	2,873	0.38	1084	28.6	24.3	5.7	635	0.98	624	1708	4.5	10.34	NA
Min	36.9	2,383	0.23	582	27.8	19.8	5.3	570	0.94	546	1156	2.8	8.00	NA
Max	52.5	3,390	0.44	1388	28.7	26.3	6.4	691	1.02	685	2043	7.3	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 ₂)																									
WSSN:	0072	0390				0400			0470							0485					0517	0518		2180	
	Akron	Bangor Twp.				Bangor Monitor Dist.			Bay City							Bay County					Beaver Rd	Beaver Twp		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	
2/1/2024						0.88	0.91		0.88	0.52	0.67	0.83	0.57	0.94	0.71										
2/2/2024																									
2/3/2024																									
2/4/2024																									
2/5/2024																									0.83
2/6/2024	0.37	0.64	0.50	0.56	0.82											0.80	0.73	0.73	0.77	0.66		0.46			
2/7/2024									0.86	0.59	0.61	0.84	0.52	0.96	0.64							0.78			
2/8/2024								0.96																	
2/9/2024																									
2/10/2024																									
2/11/2024																									
2/12/2024																									1.03
2/13/2024				0.87	0.95				0.84	0.54	0.61	0.82	0.49	0.97	0.69	0.66	0.59	0.77	0.64	0.65			0.58		
2/14/2024																									
2/15/2024									0.84	0.59	0.63	0.84	0.43	0.96	0.70										
2/16/2024																									
2/17/2024																									
2/18/2024																									
2/19/2024																									
2/20/2024		0.63	0.43	0.56	0.91																				0.93
2/21/2024									0.91	0.62	0.79	0.89	0.51	0.96	0.73										
2/22/2024																									
2/23/2024																									
2/24/2024																									
2/25/2024																									
2/26/2024																									0.92
2/27/2024																									
2/28/2024																									
2/29/2024									0.88	0.64	0.77	0.93	0.47	0.98	0.74										
Average	0.37	0.69				0.92			0.74							0.70					0.78	0.52		0.93	
Min	0.37	0.43				0.88			0.43							0.59					0.78	0.46		0.83	
Max	0.37	0.95				0.96			0.98							0.80					0.78	0.58		1.03	

MONITORING STATION ADDRESSES

- | | | |
|--|---|---|
| 1. Sample station at corner of 5758 M-25 & R | 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 Cl2)																												
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	
2/1/2024		0.83	0.73	0.43	0.56	0.55	0.88	0.72		0.69		0.64					0.69	0.55		0.62		0.78						
2/2/2024																												
2/3/2024																												
2/4/2024																												
2/5/2024																												
2/6/2024															0.54									0.41	0.63	0.62	0.58	0.56
2/7/2024																												
2/8/2024	0.56			0.49	0.47	0.61			0.83	0.81							0.87	0.72		0.61		0.69						
2/9/2024																												
2/10/2024																												
2/11/2024																												
2/12/2024															0.52									0.33	0.75	0.58		
2/14/2024																												
2/15/2024				0.54	0.69	0.58																						
2/16/2024																												
2/17/2024																												
2/18/2024																												
2/19/2024																												
2/20/2024																	0.72	0.56										
2/21/2024																												
2/22/2024																												
2/23/2024																												
2/24/2024																												
2/25/2024																												
2/26/2024																												
2/27/2024																												
2/28/2024																												
2/29/2024																												
Average	0.70			0.57					0.81	0.75		0.64		0.53			0.69		0.62		0.74		0.41		0.58		0.56	
Min	0.56			0.43					0.72	0.69		0.64		0.52			0.55		0.61		0.69		0.41		0.33		0.56	
Max	0.83			0.73					0.88	0.81		0.64		0.54			0.87		0.62		0.78		0.41		0.75		0.56	

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	73. Larry Chambers, 407 W. Clara Street
35. Lloyd's Cabinet, 1947 N Huron Rd	45. Kawkawlin Restaurant, 103 S Huron Rd	61. Pinconning Meter Pit, 3005 N Huron Rd	74. Linwood Party and Sporting Goods, 211 W. Center St.
36. Shirt 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			

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			
				February, 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	0.37	1	1	0	0
BAY	Bangor Township	0390	0.69	10	10	0	0
BAY	Bangor-Monitor Dist.	0400	0.92	3	3	0	0
BAY	Bay City	0470	0.74	30	42	0	0
BAY	Bay County (Frankl./Monitor/Portsm.)	0485	0.70	9	10	0	0
BAY	Beaver Road Area	0517	0.78	1	1	0	0
BAY	Beaver Township	0518	0.52	2	2	0	0
BAY	Essexville	2180	0.93	4	4	0	0
BAY	Fraser Township	2465	0.70	2	2	0	0
BAY	Hampton Township	2960	0.57	10	10	0	0
BAY	Kawkawlin Township	3565	0.81	3	3	0	0
BAY	Kawkawlin Metro Dist.	3570	0.75	2	2	0	0
BAY	Linwood Metro Water District	3910	0.64	1	1	0	0
BAY	Merritt Township	4280	0.53	2	2	0	0
BAY	Monitor Township	4440	0.69	6	6	0	0
BAY	City of Pinconning	5330	0.62	2	2	0	0
BAY	Pinconning Township	5335	0.74	2	2	0	0
BAY	Portsmouth Township	5540	0.41	1	1	0	0
BAY	Williams Township	7125	0.58	6	6	0	0
Tuscola	Wisner	7134	0.56	1	1	0	0
Average Free Cl2 Residual of All Distribution Sites			0.66	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%				