JUN 0 5 2023

CITY OF ALCOA

PUBLIC WORKS AND ENGINEERING DEPARTMENT
Engineering - Fleet - Landfill - Purchasing - Sanitation
Streets & Stormwater - Water & Wastewater - Water Quality

725 Universal Street, Alcoa, Tennessee 37701 (865) 380-4800 FAX (865) 380-4803

CERTIFIED, RETURN RECEIPT REQUESTED

June 1, 2023

Ms. Jenna Williams
Knoxville Environmental Field Office
Division of Water Resources
3711 Middlebrook Pike
Knoxville, Tennessee 37921-6538

Re: Monthly Operation Report
City of Alcoa Water Treatment Plant
Blount County
PWSID 0000007

Dear Ms. Williams:

Enclosed is the Monthly Operation Report for the month of May 2023 for the City of Alcoa Water Treatment Plant. Please call me at (865) 380-4921 if you need additional information.

Sincerely,

Tyrel J. Emory
Supervisor, Alcoa Water Treatment Plant

TJE/kh

Enclosure: Monthly Operation Report

Cc: Mr. Shane Snoderly, Director Engineering and Public Works, City of Alcoa (w/encls.)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES, COMPLIANCE AND ENFORCMENT UNIT

JUN 0 5 2023

INTERIM ENHANCED SURFACE WATER TREATMENT RULE
FILTER PERFORMANCE REPORT [1]

PUBLIC WATER SYSTEM NAME AND ADDRESS

City of Alcoa Water Plant
223 Associates Blvd.
Alcoa, TN 37701

PWSID #	ENTRY POINT	SAMPLE PERIOD START DATE	SAMPLE PERIOD END DATE	TOTAL HOURS PLANT OPERATED THIS MONTH	LABORATORY ID
0000007		050123	053123	719	00015

REPORTABLE SAMPLES [2] REQUIRED	REPORTABLE SAMPLES [2] TAKEN	NUMBER OF REPORTABLE SAMPLES LESS THAN OR EQUAL TO THE LOWER NTU STANDARD [3]	PERCENT OF REPORTABLE SAMPLES LESS THAN OR EQUAL TO THE LOWER NTU STANDARD	NUMBER OF REPORTABLE SAMPLES EXCEEDING THE UPPER NTU STANDARD [4] (LIST DATES ON BACK)	HIGHEST FINISHED WATER TURBIDITY THIS MONTH
184	184	184	100.01	000	00.02 2

Notes:
(1) This form applies to filtration systems utilizing either a surface water supply or a source that has been designated groundwater under the direct influence of surface water.
(2) Systems utilizing cartridge filtration must at a minimum, measure turbidity once per day while treating water. Systems required to measure and record finished water turbidity every 4 hours that the plant is in operation, shall report the highest value measured during each 4-hour period. Systems utilizing continuous monitoring turbidimeters shall report the highest recorded value for every 4 hour period.
(3) NTU standards vary depending on the type of filtration treatment provided, and include a lower limit that must be met in 95% of the reportable samples, and an upper limit that cannot be exceeded without receiving a treatment technique violation. Use the lower NTU standard applicable to this facility for this calculation.
(4) Indicate the number of reportable samples that exceeded the upper NTU standard. On the back of this form, indicate the dates when a sample exceeded the upper NTU standard, and the date the state was notified of the exceedance.

	Y or N
Did this facility meet the CT requirements for each day it was in operation?	Y

A. FOR ALL FILTERS AT THIS FACILITY

	Y or N
1. Was turbidity monitored continuously and the results recorded for each filter effluent line?	Y
2. If the answer to question number 1 is no, was grab sampling conducted for every 4 hours the continuous monitor was out of service?	
3. If the answer to question number 2 is yes, was grab sampling conducted for more than 5 consecutive days on any individual filter?	

B. FOR ANY FILTER AT THIS FACILITY [5]

Were any 2 consecutive filter effluent measurements taken 15 minutes apart:	Y or N	Filter Numbers (maximum of four filters)
1. Greater than 0.5 NTU after the first 4 hours of operation?	N	
2. Greater than 1.0 NTU?	N	
3. Greater than 1.0 NTU in each of 3 consecutive months?	N	
4. Greater than 2.0 NTU in two consecutive months?	N	

Note:
(5) If this facility answered "Yes" to any question listed in Section B. above, then the system must submit a "Monthly Turbidity Exceedance Report" (CN-1196) for the individual filter that met at least one of the conditions listed.

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

PREPARED BY: Tyrel J. Emory DATE: 6/1/23 PHONE: (865) 380-4921 APPROVED BY: Tyrel J. Emory DATE: 6/1/23 PHONE: (865) 380-4921

(continued on reverse)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES, COMPLIANCE AND ENFORCEMENT UNIT

DISINFECTANT MONITORING REPORT

PWSID # 0 0 0 0 0 0 7

FACILITY ID T P 0 0 1

PUBLIC WATER SYSTEM NAME AND ADDRESS

City of Alcoa Water Plant
223 Associates Blvd.
Alcoa, TN 37701

SAMPLE PERIOD

START DATE (m m d d y y): 0 5 0 1 2 3

END DATE (m m d d y y): 0 5 3 1 2 3

I. SYSTEMS USING CHLORINE OR CHLORAMINES (1)

A. Distribution System Monitoring

Number of Samples Required (1)	Number of Samples Taken	Lowest Residual Measured (mg/L)	Average Residual Measured (mg/L)	Number of Samples below 0.2 mg/L	% of Samples 0.2 mg/L or higher
030	030	1.53	1.93	000	100.0

B. Entry Point Monitoring

Number of Days Residual Measurements Required (2)	Number of Days Residual Measurements Taken	Type of Monitoring Conducted: Grab	Type of Monitoring Conducted: Continuous	Lowest Residual Measured (mg/L)	Was the Continuous Chlorine Analyzer out of service more than 5 consecutive days while this facility was in operation? ("Y" for yes, or "N" for no)
31	31		✓	1.86	N

II. SYSTEMS USING CHLORINE DIOXIDE

A. Entry Point Monitoring

Number of Days Residual Measurements Required	Number of Days Residual Measurements Taken	Highest Residual Measured Entering the D.S. (mg/L)	Number of Days Residual Measured > MRDL	Number of Consecutive Days Residual Measured > MRDL
		. mg/L		

B. Distribution System Monitoring

1. Systems Not Utilizing Disinfection Booster Stations

Date E.P. Sample Exceeded MRDL	Date of Follow-Up Sampling (3)	Time of First Sample / Result (mg/L)	Time of Second Sample / Result (mg/L)	Time of Third Sample / Result (mg/L)
		/ .	/ .	/ .

2. Systems Utilizing Disinfection Booster Stations

Date E.P. Sample Exceeded MRDL	Date Follow-Up Sampling (4)	Sample Results (mg/L) at: Closest Customer	Average Point	Maximum Residence Time
		.	.	.

Notes:
(1) Disinfection residuals must be measured at the same frequency and locations for all total coliform samples that are taken. The number of required samples is the total number of routine and repeat total coliform samples taken during the reporting period.
(2) Each day of operation, Subpart H systems and True Ground Water Systems serving more than 3,330 persons must measure chlorine residuals continuously at the entry point to the distribution system. Grab sampling may be conducted at the rate specified in the regulations for systems serving less than 3,300.
(3) For systems using chlorine dioxide, and not utilizing booster chlorination facilities in the distribution system, if an entry point sample exceeds the MRDL, a three-sample set of measurements must be taken the day after the exceedance at a point closest to the first customer at six-hour intervals. Analysis must be by Ion Chromatography.
(4) For systems using chlorine dioxide, and which utilize booster chlorination facilities in the distribution system, if an entry point sample exceeds the MRDL, a three-sample set of measurements must be taken the day after the exceedance at the following locations: 1) a point closest to the first customer, 2) a point reflecting the average residence time, and, 3) a point reflecting the maximum residence time. Analysis must be by Ion Chromatography.

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

PREPARED BY Tyrel J. Emory DATE 6/1/23 APPROVED BY Tyrel J. Emory DATE 6/1/23

JUN 0 5 2023

CITY OF ALCOA

PUBLIC WORKS AND ENGINEERING DEPARTMENT

Engineering - Fleet - Landfill - Purchasing - Sanitation
Streets & Stormwater - Water & Wastewater - Water Quality

725 Universal Street, Alcoa, Tennessee 37701 (865) 380-4800 FAX (865) 380-4803

CERTIFIED, RETURN RECEIPT REQUESTED
CONFIRMING FAX

June 1, 2023

Mr. Jeff Bagwell
Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass Tennessee Tower
312 Rosa Parks Avenue, 11th Floor
Nashville, Tennessee 37243

Re: Microbiological Monitoring Report – Filter Performance Report –
Disinfectant Monitoring Report -
Bacteriological Analysis Report- TUD
City of Alcoa Water Treatment Plant - Blount County
PWSID 0000007

Dear Mr. Bagwell:

Enclosed are the Microbiological Monitoring Report, Filter Performance Report, Disinfectant Monitoring Report, and the Bacteriological Analysis Report for Tuckaleechee Utility District, for the month of May 2023 for the City of Alcoa Water Treatment Plant. Please contact me at (865) 380-4921 if additional information is needed.

Sincerely,

Tyrel J. Emory
Supervisor, Alcoa Water Treatment Plant

TJE: kh

Enclosures:
1. Microbiological Monitoring Report
2. Filter Performance Report
3. Disinfectant Monitoring Report
4. Bacteriological Analysis Report - TUD

cc: Shane Snoderly, Public Works Director, City of Alcoa (w/encls.)
Jenna Williams, Knoxville Environmental Field Office (w/encls.)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES, COMPLIANCE AND ENFORCEMENT UNIT

William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

MONTHLY MICROBIOLOGICAL and DISINFECTANT MONITORING REPORT

Public Water System Name: City of Alcoa Water Plant
Phone: 865-380-4921
Address: 223 Associates Blvd. Alcoa, TN 37701
County: Blount

Bacteriological Monitoring (1)

PWSID	Contaminant ID	Analysis Method	Sample Period Begin	Sample Period End
0000007	3100	9223	050123	053123

Total Number Of Routine Distribution Samples Analyzed	Total Number Of Positive Samples Analyzed (2)	Total Number Of Repeat Samples Analyzed (2)	Laboratory ID	Laboratory Name
030	000	000	03002	Alcoa Water Plant

Date of First Sample	Date of Last Sample
050123	051723

Disinfectant Residual Monitoring (3)

Lowest Residual Measured (mg/L)	Average Residual Measured (mg/L)	Number of Samples below 0.2 mg/L	% of Samples 0.2 mg/L or higher
1.53	1.93	000	100.0

Notes

(1) This form is to be submitted for systems reporting 10 or more bacteriological compliance samples during the reporting period.

(2) All positive and repeat samples must be reported on Form CN-0800, Bacteriological Analysis Detail.

(3) Systems supplying chlorinated water must monitor disinfectant residuals at the same locations and frequencies as total coliform sampling is required.

Administrative Information

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Responsible Official: Tyrel L. Evans Phone: (865) 380-4921

Program Contact: _____ Phone: ( )

Technical Contact _____ Phone: ( )

Return to: Tennessee Division of Water Resources, Compliance and Enforcement Unit, William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243-1102

NAME OF THE WATER UTILITY City of Alcoa

NAME OF THE WATER TREATMENT PLANT Alcoa Membrane WTP

COUNTY Blount PWSID# 0000007

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Water Supply

COMPREHENSIVE MONTHLY OPERATION REPORT

May-2023

Date	Log Removal Values						Filter Operation Data (NOTE: ALL TMP VALUES ARE NEGATIVE)								Disinfection and CT Values										Microbiological Examinations Plant & Distibution									
															First DisInfection Sequence					Second Disinfection Sequence															
	Train 1	Train 2	Train 3	Train 4	Train 5	Train 6	Plant Hours	Train 1 - TMP, psi	Train 2 - TMP, psi	Train 3 - TMP, psi	Train 4 - TMP, psi	Train 5 - TMP, psi	Train 6 - TMP, psi	Reject Gallons (x 1000)	C, Free Cl2 - End of Sequence	T, Contact Time in Minutes	PH - End of Seqence	CT - Calculated	CT - Required	C, Free Cl2 - End of Sequence	T, Contact Time in Minutes	PH - End of Seqence	CT - Calculated	CT - Required	Total Inactivation Ratio CT Calc / CT Req		Dist Sample 1 CFU	Dist Sample 2 CFU	Dist Sample 3 CFU	Free Cl_2 mg/L Sample site #1	Sample site # 1	Free Cl2 mg/L Sample site #2	Sample site # 2	Free Cl2 mg/L Sample Site #3	Sample site #3
1	4.58	4.65	4.58	4.57	4.48	4.43	24	1.54	1.28	1.64	1.72	1.93	1.94	824						2.00	126	8.0	251.3	20	12.6		Neg	Neg	Neg	2.16	460 Defoe Cir.	1.92	1102 Grant St.	2.08	1450 Dalton St.
2	4.57	4.63	4.57	4.55	4.47	4.44	20	1.60	1.30	1.75	1.78	2.01	2.48	714						2.00	126	8.0	251.3	20	12.6		Neg	Neg	Neg	1.65	218 Amy Dr.	1.93	1047 Brighton Dr.	1.97	547 Wedgewood Dr.
3	4.58	4.64	4.57	4.56	4.38	4.44	24	1.57	1.95	1.75	2.10	2.34	2.40	889						2.10	126	8.0	263.9	20	13.2		Neg	Neg	Neg	2.19	3636 Chambers Rd.	1.65	6280 Sierra Cir.	2.00	1217 Applecreek Dr.
4	4.58	4.64	4.56	4.55	4.46	4.43	24	1.53	1.21	1.76	1.78	2.01	2.05	779						2.10	126	8.0	263.9	20	13.2		Neg	Neg	Neg	2.31	4074 Glenmore Dr.	2.25	1722 Maplecrest Dr.	2.24	2048 Stonybrook Rd.
5	4.65	4.65	4.64	4.63	4.60	4.65	24	1.48	1.27	1.66	1.64	1.89	1.89	849						2.00	130	8.0	260.6	20	13.0					1.76	220 Associates Blvd.				
6	4.62	4.65	4.62	4.63	4.51	4.50	24	1.52	1.18	1.67	1.69	1.95	1.95	887						2.10	126	8.0	263.9	20	13.2										
7	4.60	4.65	4.60	4.60	4.51	4.48	24	1.50	1.18	1.65	1.73	1.93	1.95	843						2.00	126	7.8	251.3	20	12.6										
8	4.59	4.65	4.60	4.60	4.49	4.49	24	1.48	1.21	1.61	1.89	1.91	1.91	867						2.00	112	7.9	223.4	20	11.2		Neg	Neg	Neg	2.05	4612 Airport Hwy.	2.13	4209 W. Lakeview Cir.	2.20	162 Cusick Rd.
9	4.60	4.65	4.59	4.59	4.50	4.47	21	1.47	1.10	1.53	1.55	1.78	2.23	742						2.00	112	7.8	223.4	20	11.2					2.23	3568 Chambers				
10	4.58	4.65	4.60	4.60	4.51	4.48	24	1.41	1.11	1.55	1.54	1.80	1.83	684						1.90	126	7.8	238.8	20	11.9		Neg	Neg	Neg	2.03	4472 Deer Run Dr.	2.03	4077 Glenmore Dr.	2.04	3568 Chambers Rd.
11	4.60	4.65	4.58	4.58	4.51	4.47	24	1.15	1.36	1.48	1.55	1.69	1.74	850						1.90	126	7.8	238.8	15	15.9		Neg	Neg	Neg	1.83	110 Tyson Blvd. Suite 200	1.54	2810 Airport Hwy.	1.57	2020 N. Wright Rd.
12	4.57	4.65	4.58	4.56	4.49	4.47	24	1.43	1.21	1.52	1.59	1.75	1.85	925						2.10	112	7.7	234.6	15	15.6					1.63	959 Vera Dr.				
13	4.58	4.65	4.59	4.58	4.49	4.47	21	1.40	1.37	1.52	1.79	1.75	1.79	804						2.10	112	7.8	234.6	15	15.6										
14	4.60	4.65	4.59	4.57	4.64	4.55	15	1.45	1.31	1.53	1.57	1.77	1.86	586						2.00	119	7.9	238.5	15	15.9										
15	4.50	4.60	4.52	4.50	4.51	4.57	23	1.60	1.19	1.65	1.77	1.92	2.02	951						1.90	112	7.9	212.2	15	14.1		Neg	Neg	Neg	1.73	273 Joule St.	1.63	771 Louisville Rd.	1.92	124 N. Hall Rd.
16	4.51	4.65	4.58	4.55	4.49	4.54	19	1.62	1.26	1.68	1.74	1.97	2.04	822						2.00	112	7.8	223.4	15	14.9		Neg	Neg	Neg	1.81	220 Associates Blvd.	1.82	3525 Central Park Blvd.	1.83	1921 Topside Rd.
17	4.48	4.65	4.59	4.57	4.27	4.45	24	1.37	1.23	1.66	1.72	1.91	2.00	875						2.10	126	7.9	263.9	15	17.6		Neg	Neg	Neg	1.87	35.800503, -83.887153	1.91	2915 Patrick Ave.	1.53	223 Associates Blvd.
18	4.63	4.65	4.62	4.61	4.53	4.52	24	1.72	1.25	1.68	1.73	1.96		805						2.00	135	7.7	270.7	15	18.0					1.32	2919 Old Knoxville Hwy				
19	4.57	4.65	4.51	4.63	4.55	4.63	24	1.71	1.20	1.75	1.69	1.88	1.56	781						1.90	144	7.9	272.9	15	18.2					2.04	4077 Glenmore Dr.				
20	4.59	4.65	4.59	4.58	4.50	4.65	24	1.25	0.97	1.60	1.41	1.56	1.16	776						2.10	144	7.9	301.6	15	20.1										
21	4.58	4.65	4.59	4.58	4.49	4.62	24	1.26	1.20	1.61	1.64	1.87	1.17	778						2.10	144	8.0	301.6	20	15.1										
22	4.58	4.65	4.58	4.58	4.50	4.63	24	1.32	1.79	1.65	1.73	1.99	1.41	807						2.10	144	8.0	301.6	20	15.1					2.02	444 Link Dr.				
23	4.63	4.65	4.63	4.60	4.59	4.65	24	1.75	1.24	1.64	1.70	1.70	1.50	815						1.90	144	8.1	272.9	18	15.2					2.18	2923 Old Knoxville Hwy.				
24	4.62	4.65	4.49	4.60	4.65	4.57	24	1.60	1.39	1.67	1.74	1.29	1.45	877						2.10	112	8.0	234.6	15	15.6					0.88	247 E. Watt St.				
25	4.56	4.63	4.56	4.53	4.62	4.65	24	1.63	1.28	1.72	1.78	1.58	1.57	927						2.00	112	8.1	223.4	18	12.4					2.23	1700 Louisville Rd.				
26	4.55	4.64	4.57	4.54	4.61	4.59	24	1.47	1.16	1.61	1.64	1.34	1.40	893						1.90	126	8.1	238.8	18	13.3					2.01	2746 E. Broadway Ave.				
27	4.56	4.65	4.56	4.55	4.60	4.58	24	1.46	1.17	1.59	1.63	1.38	1.40	893						2.00	126	8.1	251.3	18	14.0										
28	4.55	4.65	4.58	4.55	4.60	4.58	24	1.46	1.20	1.54	1.79	1.37	1.41	786						1.90	126	8.1	238.8	24	9.9										
29	4.58	4.65	4.57	4.58	4.61	4.61	24	1.58	1.25	1.67	1.38	1.44	1.51	723						1.90	156	8.0	297.1	20	14.9										
30	4.48	4.56	4.55	4.65	4.64	4.65	24	1.57	1.84	1.98		1.76	1.74	841						1.90	126	8.1	238.8	24	9.9										
31	4.59	4.62	4.62	4.59	4.64	4.63	24	1.86	1.38	1.89	1.62	1.74	1.70	961						2.10	112	7.9	234.6	20	11.7					1.99	162 Cusick Rd.				
																														2.18	1722 Maplecrest Dr.				
TOT	141.86	143.91	141.98	141.96	140.44	140.89	719	46.76	40.04	51.21	50.63	55.17	52.91	25555						62.2	3898	246	7816.1	565	437.7					42.10		18.81		19.38	
AVE	4.58	4.64	4.58	4.58	4.53	4.54	23	1.51	1.29	1.65	1.69	1.78	1.76	824						2.01	125.75	7.94	252.13	18.23	14.12					1.91		1.88		1.94	
MAX	4.65	4.65	4.64	4.65	4.65	4.65	24	1.86	1.95	1.98	2.10	2.34	2.48	961						2.1	156	8.1	301.6	24	20.1					2.31		2.25		2.24	
MIN	4.48	4.56	4.49	4.50	4.27	4.43	15	1.15	0.97	1.48	1.38	1.29	1.16	586						1.9	111.7	7.7	212.2	15.0	9.9					0.88		1.54		1.53	

COST OF PRODUCTION	
(a) Cost of Personnel	$78,591
(b) Cost of Chemicals	$9,079
(c) Cost of Energy	$42,083
(d) Insurance & Misc. Cost	$19,651
(e) Total Production Cost	$149,404
(f) Cost per MG Water Treated	$587.37

(a) Type of Filters	Membrane Vacuum
(b) Number of Filter Trains	6
(c) Filter Area - Sq Ft. (each)	76160
(d) Total Area - Sq Ft.	456960
(e) Filter Rate, gfd	35.0
(f) Filter Rate, gfd Total Rated	
(g) Filter Capacity	16,000,000
GPM	1,111

REMARKS: _____

NAME OF THE WATER UTILITY: City of Alcoa

NAME OF THE WATER TREATMENT PLANT: Alcoa Membrane WTP

COUNTY: Blount PWSID# 0000007

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Water Supply
COMPREHENSIVE MONTHLY OPERATION REPORT

JUN 05 2023

Month/Year: May-2023

				PHYSICAL AND CHEMICAL CHARACTERISTICS																		CHEMICALS USED													
					Turbidity NTU							Cl_2 mg/L		Alkalinity mg/L		Hardness mg/L			pH			Fluoride mg/L			Calculated Dosages mg/L							Pounds per 24 Hours						
Date	Raw water treated X 1000 Gallons	Finished water X 1000 Gallons	Permeate water X 1000 Gallons	Raw Water Temperature °C	Raw Turbidity NTU	FINISHED WATER TURBIDITY MUST BE MEASURED EVERY 4 HOURS AND RECORDED AM 12-4	4-8	8-12	PM 12-4	4-8	8-12	Top of Filter	Lowest Plant Effluent	Total Raw	Total Finished	Raw	Finished		Raw	Mixed	Finished	Raw	Finished	Distribution	ACH	Pre Cl_2	Post Cl_2	Fluoride	Caustic Soda			ACH	Pre Cl_2	Post Cl_2	Fluoride	Caustic Soda		
1	8210	7420	7590	16	5	.02	.02	.02	.02	.02	.02		1.95	67	67	66	66		8.0	7.7	7.8	0.10	.60	.64	6		3.00	0.60				411		190	200			
2	7110	6400	6510	16	5	.02	.02	.02	.02	.02	.02		2.02	63	65	64	64		8.1	7.7	7.9		.60	.65	6		3.00	0.60				356		163	171			
3	8840	8000	8130	15	4	.02	.02	.02	.02	.02	.02		2.12	67	65	67	66		8.0	7.7	8.0		.61	.68	6		3.00	0.60				442		203	214			
4	7760	7050	7100	16	4	.02	.02	.02	.02	.02	.01		2.08	67	67	67	68		8.0	7.7	7.9		.61	.65	6		3.00	0.60				388		178	187			
5	8290	7470	7620	16	5	.01	.01	.01	.01	.01	.01		1.99	66	66	66	67		8.0	7.7	7.9		.62	.50	6		3.00	0.60				415		191	201			
6	8840	7990	8120	17	5	.01	.01	.01	.01	.01	.01		2.06	67	66	68	67		7.9	7.7	7.8		.61		6		3.00	0.60				442		203	214			
7	8400	7610	7710	17	5	.01	.01	.01	.01	.01	.01		1.96	68	68	68	68		7.9	7.7	7.8		.60		6		3.00	0.60				420		193	203			
8	8650	7810	7860	18	6	.01	.01	.02	.02	.02	.02		1.99	67	67	68	69		7.8	7.6	7.8	0.00	.60	.70	6		3.10	0.60				433		203	207			
9	7390	6660	6810	19	7	.02	.02	.01	.01	.01	.01		2.04	65	66	67	68		7.8	7.6	7.7		.59	.62	6		3.10	0.60				370		176	179			
10	6800	6180	6200	21	7	.01	.01	.01	.01	.01	.01		1.87	64	63	65	66		7.7	7.6	7.7		.58	.62	6		3.20	0.60	1.0			340		165	163	207		
11	8470	7650	7840	21	6	.01	.01	.01	.01	.01	.01		1.94	65	65	67	67		7.7	7.5	7.7		.58	.63	6		3.20	0.60	1.0			424		209	206	262		
12	9220	8290	8380	21	5	.01	.01	.01	.01	.01	.01		2.06	66	65	68	68		7.7	7.5	7.7		.59	.57	6		3.20	0.60	1.1			461		224	221	308		
13	8010	7220	6980	21	6	.01	.01	.01	.01	.01	.01		2.12	77	75	76	74		7.7	7.6	7.7		.59		6		3.10	0.60	1.1			401		180	184	256		
14	5780	5210	5670	22	5	OFF	OFF	.01	.01	.01	.01		1.96	77	74	77	74		7.6	7.5	7.8		.62		6		3.20	0.60	1.1			289		151	149	208		
15	9490	8600	8740	22	6	.01	.01	.02	.02	.01	.01		1.92	75	77	74	74		7.5	7.5	7.8	0.03	.61	.58	6		3.20	0.60	1.1			475		233	230	321		
16	8190	7400	7450	22	7	.01	.02	.02	.02	.02	.01		1.95	74	75	71	73		7.5	7.5	7.8		.59	.69	6		3.40	0.60	1.1			410		211	196	273		
17	8720	7790	7940	22	11	.01	.01	.02	.01	.01	.01		2.06	61	67	58	67		7.4	7.4	7.8		.58	.65	6		3.40	0.60	1.1			436		225	209	291		
18	8020	7150	7250	21	12	.01	.01	.01	.01	.01	.02		2.01	46	52	52	52		7.3	7.3	7.6		.54	.61	7		3.30	0.60	1.2			468		200	191	290		
19	7780	7000	7080	20	9	.01	.01	.01	.01	.01	.01		1.91	46	46	48	46		7.6	7.4	7.7		.59	.66	6		3.30	0.60	1.2			389		195	186	283		
20	7730	7000	7080	20	8	.01	.01	.01	.01	.01	.01		2.09	49	48	47	46		7.6	7.5	7.9		.67		6		3.30	0.60	1.2			387		195	186	283		
21	7750	7000	7070	20	7	.01	.01	.01	.01	.01	.01		2.09	52	50	51	51		7.6	7.6	7.9		.70		6		3.30	0.60	1.2			388		195	186	283		
22	8040	7000	7110	20	7	.01	.01	.01	.01	.01	.01		2.10	52	54	52	53		7.6	7.6	8.0	0.00	.65	.51	6		3.30	0.60	1.1			402		196	187	261		
23	8120	7000	7110	21	6	.02	.01	.01	.01	.01	.01		1.86	56	55	55	55		7.7	7.6	7.9		.61	.59	6		3.30	0.60	1.0			406		196	187	237		
24	8740	7800	7990	20	6	.02	.01	.02	.01	.01	.01		2.08	58	58	55	55		7.7	7.7	8.0		.60	.62	6		3.20	0.60	1.0			437		213	210	267		
25	9250	8290	8330	20	7	.02	.02	.02	.02	.02	.02		2.02	60	61	63	65		7.7	7.7	8.0		.59	.58	6		3.10	0.60	1.0			463		215	219	278		
26	8900	8000	8090	21	6	.02	.02	.02	.01	.01	.01		1.89	62	61	62	63		7.7	7.7	8.0		.60	.61	6		3.10	0.60	1.0			445		209	213	270		
27	8900	8000	8080	21	7	.01	.01	.02	.02	.02	.02		2.02	61	62	63	64		7.8	7.7	8.0		.62		6		3.10	0.60	1.0			445		209	213	270		
28	7830	7050	7050	20	6	.02	.02	.02	.02	.02	.02		1.94	63	65	64	65		7.8	7.7	8.0		.65		6		3.10	0.60	1.0			392		182	186	235		
29	7200	6500	6590	18	7	.02	.02	.02	.02	.02	.02		1.92	69	67	68	66		7.8	7.7	8.0	0.00	.62		6		3.30	0.60	1.0			360		181	174	220		
30	8350	7480	7640	20	6	.02	.02	.02	.02	.02	.02		1.91	71	69	67	67		7.8	7.7	8.0		.60	.57	6		3.40	0.60	1.0			418		217	201	255		
31	9580	8530	8700	21	6	.02	.02	.02	.02	.02	.02		2.13	69	68	69	68		7.7	7.8	7.8		.64	.64	6		3.20	0.60				479		232	229			
TOT	254360	228550	231820	602	200	0.43	0.42	0.47	0.44	0.43	0.42		62.06	1971	1972	1973	1980		239.6	235.9	243.0	.13	18.84	13.57	187		98.4	18.60	22.5			12795		6134	6105	5558		
AVE	8205	7373	7478	19	6	0.01	0.01	0.02	0.01	0.01	0.01		2.00	64	64	64	64		7.7	7.6	7.8	0.03	0.61	0.62	6		3.17	0.60	1.1			413		198	197	265		
MAX	9580	8600	8740	22	12	0.02	0.02	0.02	0.02	0.02	0.02		2.13	77	77	77	74		8.1	7.8	8.0	0.10	0.70	0.70	7		3.40	0.60	1.2			479		233	230	321		
MIN	5780	5210	5670	15	4	0.01	0.01	0.01	0.01	0.01	0.01		1.86	46	46	47	46		7.3	7.3	7.6	0.00	0.54	0.50	6		3.00	0.60	1.0			289		151	149	207		

CHEMICALS USED	BRAND	ANALYSIS	POUNDS USED	COSTS per lb	COSTS per month
ACH	USALCO - DelPAC XG	100%	12795	$0.38500	$4,926.10
Chlorine	CORECHEM, Inc.	100%	6134	$0.3425	$2,100.87
Fluoride	UNIVAR	24%	6105	$0.20300	$1,239.40
Caustic Soda (25%)	UNIVAR	25%	5558	$0.58500	$812.79
				TOTAL	$9,079.16

I certify that the data provided accurately represents the water quality, quantity, treatment, operational practices, and other activities for the reporting period specified herein.

Certified Operator Name: Tyrel J. Emory

Certified Operator Signature: Tyrel J. Emory