



8 September 2023

Mr. Scott Sokolowski
Remedial Project Manager
Naval Facilities Engineering Systems Command, Mid-Atlantic
9324 Virginia Avenue, Building Z-144
Norfolk, VA 23511-3095

**Subject: August 2023 Monthly Operating Report
Full Scale Liquid-Phase Granular Activated Carbon Treatment System
Liberty New York Water, Seamans Neck Road Water Plant
NWIRP Bethpage, New York
Contract No. N40085-16-D-2288, Task Order N4008518F5125**

Dear Mr. Sokolowski,

The Full Scale Liquid-Phase Granulated Activated Carbon (GAC) Treatment System is located at the Liberty New York Water (LNYW) Seamans Neck Road Water Plant in Levittown, NY. The GAC System was installed at the effluent of the potable water plant and consists of six GAC vessels operating in parallel to remove low levels of trichloroethene (TCE) from Well No. 3S and Well No. 4S. After processing through the GAC units, the water is treated with sodium hypochlorite and sodium tripolyphosphate before distribution. Startup of the GAC Treatment System occurred on 8 January 2015 by CH2MHill. KOMAN Government Solutions, LLC (KGS) began operation and maintenance (O&M) activities in March 2015.

In May 2018, production Well No. 3S was decommissioned and has been replaced with a new production well designated as Well No. 3A. Well No. 4S is normally in operation during the entire month, while well No. 3A is operated infrequently, typically during the periods of higher water demand.

On 30 January 2023, the plant was taken off-line by Liberty Utilities to support rehabilitation of the iron filtration plant. The plant remained off-line until 4 May 2023, at which time the plant resumed normal operation.

This report documents the routine operation and maintenance of the GAC System performed during the month of August 2023. **Attachment 1** presents the field logs detailing system operating data as recorded during the month. These readings include flow rate and total flows of the overall GAC System and each GAC unit, pressures across the GAC System, effluent chlorine residual and pH values, chemical usage levels of sodium hypochlorite and sodium tripolyphosphate for each chemical tank, and chemical metering pump settings and pressures.

A summary of the system operating data recorded in August 2023 is presented below in **Table 1**.

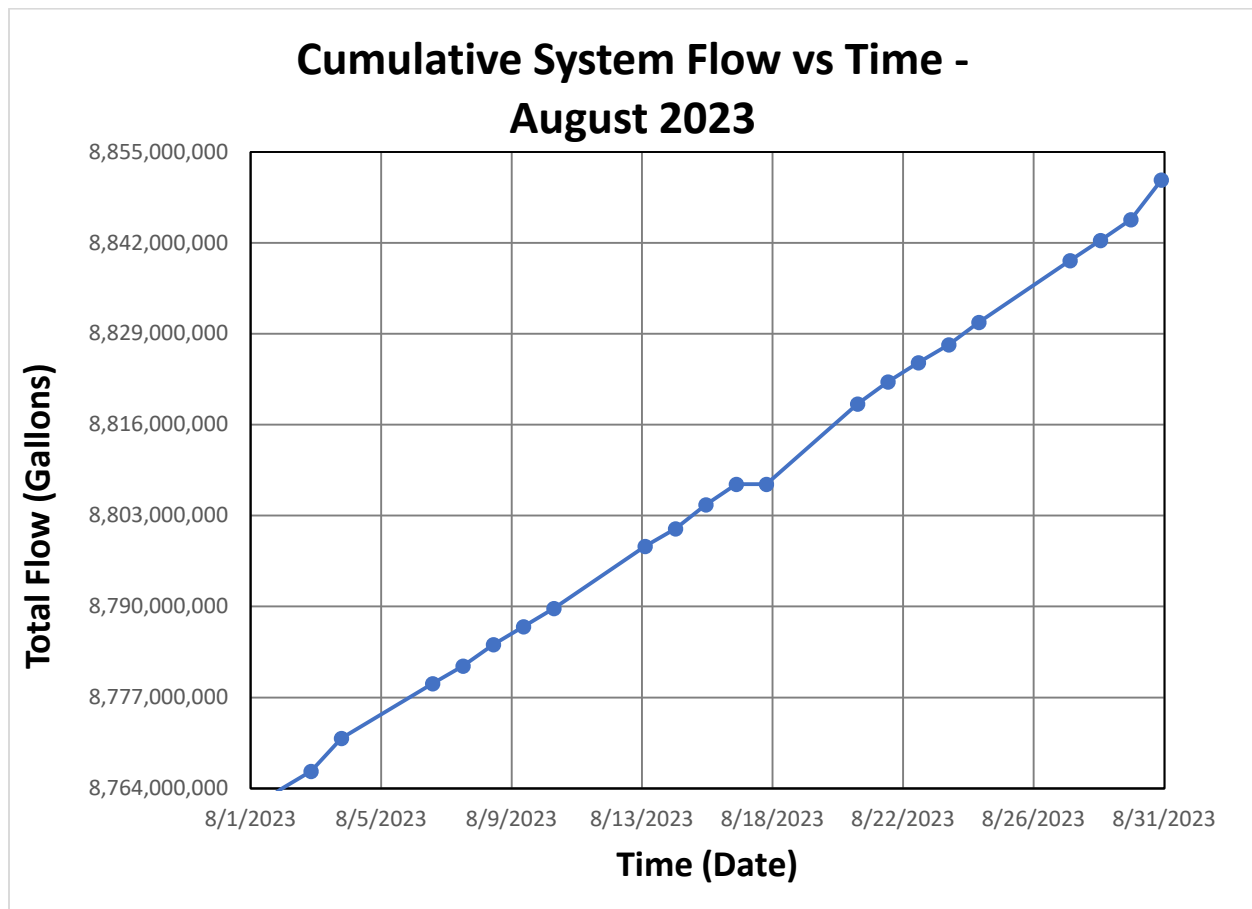
Table 1 - System Operating Data for August 2023

Date	Total Flow	Flow Rate	Influent Pressure	Effluent Pressure	Differential Pressure	Effluent Chlorine Residual	Effluent pH
	(Gallons)	(GPM)	(PSI)	(PSI)	(PSI)	(mg/L) ⁽¹⁾	(SU) ⁽¹⁾
8/1/2023	8,760,789,000	1,700	52	48	3.8	2.08 read 2.05 manual	7.22 read
8/2/2023	8,763,895,000	1,700	46	43	3.8	2.04 read 2.07 manual	7.31 read
8/3/2023	8,766,432,000	3,420	67	57	10.4	2.02 read 2.00 manual	7.20 read
8/4/2023	8,771,181,000	1,700	49	45	3.7	1.68 read 1.69 manual	7.24 read
8/7/2023	8,779,003,000	1,700	75	80	4.2	1.75 read 1.75 manual	7.05 read
8/8/2023	8,781,512,000	1,700	75	71	4.1	1.75 read 1.73 manual	7.07 read
8/9/2023	8,784,592,000	1,700	57	52	4.3	1.95 read 1.97 manual	7.11 read
8/10/2023	8,787,158,000	1,650	54	51	3.9	2.01 read 2.00 manual	7.09 read
8/11/2023	8,789,734,000	1,700	62	58	3.8	1.21 read 1.22 manual	7.11 read
8/14/2023	8,798,633,000	2,750	94	85	9.0	1.44 read 1.41 manual	7.12 read
8/15/2023	8,801,131,000	1,700	60	57	3.6	1.87 read 1.85 manual	7.15 read
8/16/2023	8,804,575,000	1,700	65	61	3.9	1.67 read 1.65 manual	7.13 read
8/17/2023	8,807,516,000	1,700	54	50	3.9	1.77 read 1.75 manual	7.12 read
8/18/2023	8,807,516,000	3,200	80	70	9.9	1.64 read 1.65 manual	7.10 read
8/21/2023	8,818,962,000	1,700	43	40	3.9	1.97 read 1.95 manual	7.14 read
8/22/2023	8,822,132,000	1,650	50	47	3.3	1.90 read 1.90 manual	7.14 manual
8/23/2023	8,824,882,000	1,600	45	42	3.3	1.99 read 2.02 manual	7.14 read
8/24/2023	8,827,448,000	3,375	69	60	10.8	1.79 read 1.78 manual	7.09 read
8/25/2023	8,830,673,000	1,650	47	43	3.9	1.59 read 1.60 read	7.08 manual
8/28/2023	8,839,481,000	3,200	85	75	9.8	1.95 read 1.93 manual	7.02 read
8/29/2023	8,842,385,000	1,650	78	74	3.8	1.87 read 1.85 manual	7.05 read
8/30/2023	8,845,349,000	1,750	53	49	3.9	1.94 read 1.92 manual	7.07 read
8/31/2023	8,851,006,000	1,650	79	75	4.1	1.62 read 1.63 manual	7.05 read

- (1) Effluent pH and chlorine residual readings are recorded by the in-line pH meter and chlorine analyzer. Chlorine is also checked with a manual chlorine residual meter for comparison, while manual pH is only checked occasionally. Both in-line and manual readings are presented, if collected, as noted above.

Figure 1 illustrates the volume of water treated by the GAC System since system startup, with the increment for the month of August 2023. Over 90.2 million gallons of water were treated in July 2023, bringing the total cumulative volume of water treated since startup to over 8.85 billion gallons.

Figure 1 - Volume of Water Treated through Full Scale GAC System (August 2023)



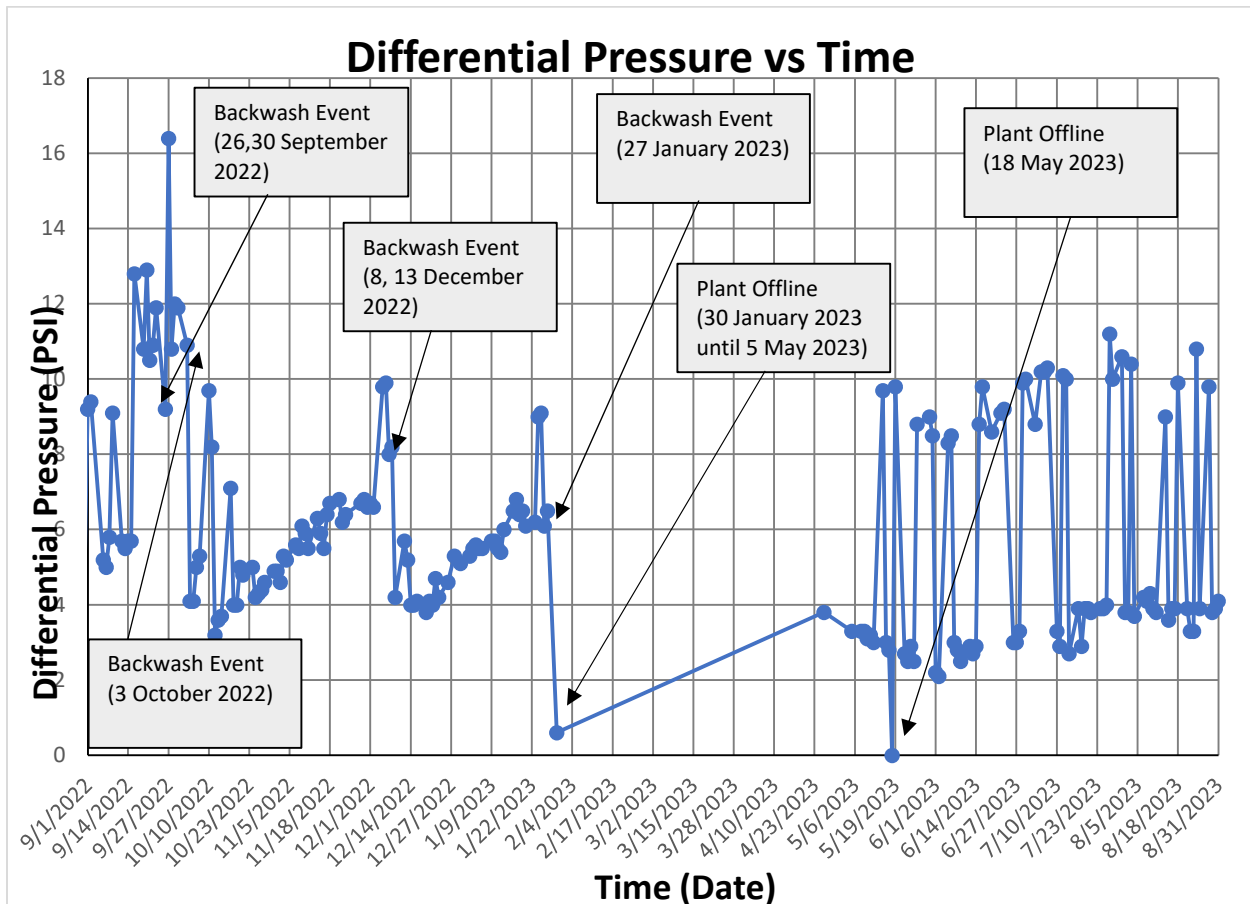
In general, differential pressure increases as the system continues to operate, and decreases after a backwashing event. The increasing trend then continues until the next backwashing event is performed. Also, lower differential pressures are observed during times of low water demand (e.g., typically over the winter months). **Figure 2**, below, depicts the pressure loss across the GAC System and subsequent backwashing dates, from September 2022 through the current reporting period.

Backwashing events during the summer and fall are performed more often because of the higher demand during that time of year. The exchange of carbon in each of the six GAC vessels with virgin coconut shell carbon was most recently completed in August 2020 and the Seamans Neck Road facility is able to operate at full capacity. In support of the 2020 Fourth Quarter

microbiological (MIC) sampling conducted in December 2020, it was identified that each vessel required additional backwashing and/or flushing prior to returning to service to address a colored water issue attributable to the remobilization of iron-impacted materials released when flow through the vessels was stopped for a mandatory 12-hour period prior to bacteria sampling, per Nassau County Department of Health (NCDH) requirements. The additional backwashing and flushing events were incorporated into the standard process for bacteria sampling. However, with the recently completed rehabilitation of the Liberty Utilities iron filtration plant, it is anticipated that additional backwashing will be limited or no longer required.

The facility is operating at full design capacity and pressure loss across the overall GAC System is monitored regularly, and it is expected that backwashing events will occur on a periodic basis as needed. In addition, it is expected that backwashing of each vessel will be conducted following each quarterly bacteria sampling event to address potential colored water issues and to ensure the timely return to service for each vessel.

Figure 2 - System Differential Pressure vs. Time



System Maintenance

Routine maintenance of the GAC System during this reporting period consisted of:

- General monitoring of the system flow rates, totalized flows, influent and effluent pressures, differential pressure, chlorine residual, and pH readings.
- Changing paper for the chlorine/pH chart recorder and flow/differential pressure chart recorder on a weekly basis.
- Calibration of the pH meter on a weekly basis.
- Periodic operation of Well 3A in place of or concurrently with Well 4S occurs on an irregular schedule; Well 3A operated concurrently with Well 4S on 3 August, 14 August, 18 August, 24 August, and 28 August. Well 3A ran in place of Well 4S on 15 August.

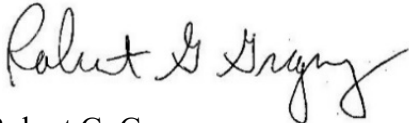
In addition, the following non-routine activities or operation issues occurred during the August 2023 reporting period:

- On 6 August, the smoke alarm in the treatment room activated. No apparent issue; alarm was reset and has been operating correctly.

Please contact me at 610-400-0636 or rgregory@komangs.com with any questions or concerns regarding this report.

Sincerely,

KOMAN Government Solutions, LLC



Robert G. Gregory
Project Manager

Cc: C. Shukis - NAVFAC
V. Varricchio - NWIRP Bethpage Facilities Management
R. Kern - LNYW
N. Niola - LNYW
J. Palmer - LNYW
P. Schauble - KGS
R. Hoffmaster - KGS
D. Brayack - Tetra Tech
R. Moore - Tetra Tech
J. Pelton - NYSDEC
K. Granzen - NYSDEC
M. Travis - NYSDEC

ATTACHMENT 1
O&M LOGS – AUGUST 2023

Daily Readings
Granular Activated Carbon Treatment System

Description	Date	7-25-2023	7-26-2023	7-27-2023	7-28-2023	7-31-2023	8-1-2023
System Flow Rate	GPM	1950	2050	3550	3100	3175	1700
Total System Flow	Gallons	8822749	8825557	8828355	8831888	8841555	
Well 3 Status	ON OR OFF	ON	OFF	ON	ON	ON	OFF
Well 4 Status	ON OR OFF	OFF	ON	ON	ON	ON	ON
Tank 100 Flow Rate	GPM	300	300	550	500	500	250
Tank 200 Flow Rate	GPM	300	300	500	500	500	250
Tank 300 Flow Rate	GPM	325	350	600	500	500	250
Tank 400 Flow Rate	GPM	300	325	600	450	450	300
Tank 500 Flow Rate	GPM	325	350	650	600	500	350
Tank 600 Flow Rate	GPM	250	250	500	450	450	225
Tank 100 Total Flow	Gallons	04,775,000	05,290,000	05,753,000	06,337,000	07,907,000	08,425,000
Tank 200 Total Flow	Gallons	58,350,000	58,826,000	59,250,000	59,775,000	61,215,000	61,705,000
Tank 300 Total Flow	Gallons	61,704,000	62,262,000	62,748,000	63,336,000	65,010,000	65,568,000
Tank 400 Total Flow	Gallons	00,688,000	00,933,000	01,373,000	01,991,000	03,414,000	03,914,000
Tank 500 Total Flow	Gallons	01,863,000	02,468,000	02,848,000	03,411,000	04,621,000	05,117,000
Tank 600 Total Flow	Gallons	19,185,000	19,405,000	20,090,000	20,507,000	21,814,000	22,217,000
System Influent Pressure	PSI	52	69	68	87	85	52
System Effluent Pressure	PSI	48	05	56	78	75	48
System Differential Pressure	PSI	39	4.0	11.2	10.0	10.6	3.8
Chlorine Analyzer: Free Chlorine Residual - Inline	PPM	1.65	1.41	1.58	1.55	1.37	2.08
Effluent Water pH - Inline	Units	6.98	7.0	6.97	6.98	7.15	7.22
Manual Chlorine Reading (see Hook #3)	PPM	1.66	1.43	1.55	1.54	1.36	2.05
Manual pH check (see Monitor)	Units						

Daily Readings
Granular Activated Carbon Treatment System

Description	Date	7-25-2023	7-26-2023	7-27-2023	7-28-2023	7-31-2023	8-1-2023
Task 800A Hydrochloric Level Task 800A	Gallons	148	120	155	124	88	148
Task 800B Hydrochloric Level Task 800B	Gallons	153	102	151	139	115	153
Task 800C Hydrochloric Level Task 800C	Gallons	155	155	155	155	97	155
Task 800D Phosphate Level Task 800D	Gallons	64	45	31	14	14	156
Task 800E Phosphate Level Task 800E	Gallons	164	164	164	164	121	161
Motoring Pump 800A: Hydrochloric Control Pressure	PSI						
Motoring Pump 800B: Hydrochloric Control Pressure	PSI						
Motoring Pump 800A: Phosphate Control Pressure	PSI						
Motoring Pump 800B: Phosphate Control Pressure	PSI						
Motoring Pump 800A: Strain/Speed	Units						
Motoring Pump 800B: Strain/Speed	Units						
Motoring Pump 800A: Strain/Speed	Units						
Motoring Pump 800B: Strain/Speed	Units						
Generator Operating Hours	Hours	ok	ok	ok	ok	ok	ok
Main Facility Electric Meter Reading							
Comments (additional tests performed, maintenance needed, contractors on site, etc.)		Contractor on site Coring hole in North-East corner		Well 4 back in service CL Del. changed flow SPD chart			CL Del. Phos. Del.

Daily Readings
Granular Activated Carbon Treatment System

Description	Date	8-2-2023	8-3-2023	8-4-2023	8-7-2023	8-8-2023	8-9-2023
System Flow Rate	GPM	1700	3420	1700	1700	1700	1700
Total System Flow	Gallons	8847767	8850304	8855053	8862875	8865384	8868464
Well 3 Status	ON OR OFF	OFF	ON	OFF	OFF	OFF	OFF
Well 4 Status	ON OR OFF	ON	ON	ON	ON	ON	ON
Tank 100 Flow Rate	GPM	250	500	250	250	250	250
Tank 200 Flow Rate	GPM	250	500	250	250	250	250
Tank 300 Flow Rate	GPM	250	500	250	250	250	250
Tank 400 Flow Rate	GPM	250	550	300	250	250	250
Tank 500 Flow Rate	GPM	350	550	250	300	300	250
Tank 600 Flow Rate	GPM	250	450	225	225	200	250
Tank 100 Total Flow	Gallons	08,889,000	09,243,000	09,741,000	10,814,000	12,341,000	12,587,000
Tank 200 Total Flow	Gallons	62,139,000	63,515,000	63,001,000	64,070,000	64,682,000	65,206,000
Tank 300 Total Flow	Gallons	66,670,000	67,004,000	67,441,000	68,638,000	69,007,000	69,587,000
Tank 400 Total Flow	Gallons	04,361,000	04,711,000	05,255,000	06,686,000	07,107,000	07,545,000
Tank 500 Total Flow	Gallons	95,601,000	96,070,000	96,555,000	98,103,000	98,443,000	99,001,000
Tank 600 Total Flow	Gallons	22,644,000	22,911,000	23,415,000	24,861,000	25,141,000	25,898,000
System Influent Pressure	PSI	46	67	49	75	75	57
System Effluent Pressure	PSI	43	57	45	80	71	52
System Differential Pressure	PSI	38	104	3.7	4.2	4.1	4.3
Chlorine Analyzer: Free Chlorine Residual - Inflow	PPM	2.04	2.02	1.68	1.75	1.75	1.95
Effluent Water pH - Inflow	Units	7.31	7.20	7.24	7.05	7.07	7.11
Manual Chlorine Reading (see Note K0)	PPM	2.07	2.00	1.69	1.75	1.73	1.97
Manual pH check (see Note L)	Units	—	—				

Daily Readings
Granular Activated Carbon Treatment System

Description	Date	8.2.2023	8.3.2023	8.4.2023	8.7.2023	8.8.2023	8.9.2023
Tank 800A Hydrochloric Level	Gallons	91	69	149	155	131	81
Tank 800B Hydrochloric Level	Gallons	134	130	155	155	142	138
Tank 800C Hydrochloric Level	Gallons	155	155	155	156	156	153
Tank 800A Phosphate Level	Gallons	156	156	156	112	87	165
Tank 800B Phosphate Level	Gallons	132	119	105	80	80	164
Motoring Pump 800A: Hydrochloric Output Pressure	PSI						
Motoring Pump 800B: Hydrochloric Output Pressure	PSI						
Motoring Pump 800A: Phosphate Output Pressure	PSI						
Motoring Pump 800B: Phosphate Output Pressure	PSI						
Motoring Pump 800A: Stroke/Speed	Units						
Motoring Pump 800B: Stroke/Speed	Units						
Motoring Pump 800A: Stroke/Speed	Units						
Motoring Pump 800B: Stroke/Speed	Units						
Generator Operating Hours	Hours	OK	OK	OK	OK	OK	OK
Main Facility Electric Meter Reading							
Comments (additional tests performed, maintenance needed, construction on site, etc.)				Monthly sampling CL Delu	Alarm Sunday Aug 6, 2023 CL Delu		Phos. Delu

Daily Readings
Granular Activated Carbon Treatment System

Description	Date	8.10.2023	8.11.2023	8.14.2023	8.15.2023	8.16.2023	8.17.2023
System Flow Rate	GPM	1650	1700	2750	1700	1700	1700
Total System Flow	Gallons	8871030	8873606	8882505	8885003	8888447	8891388
Well 3 Status	ON OR OFF	OFF	OFF	ON	ON	OFF	OFF
Well 4 Status	ON OR OFF	ON	ON	ON	OFF	ON	ON
Tank 100 Flow Rate	GPM	250	250	450	250	250	250
Tank 200 Flow Rate	GPM	250	250	450	250	250	250
Tank 300 Flow Rate	GPM	250	250	500	250	250	250
Tank 400 Flow Rate	GPM	250	300	450	250	250	250
Tank 500 Flow Rate	GPM	250	250	500	300	300	300
Tank 600 Flow Rate	GPM	250	250	400	200	250	250
Tank 100 Total Flow	Gallons	12,811,000	13,124,000	14,420,000	14,947,000	15,365,000	15,874,000
Tank 200 Total Flow	Gallons	65,607,000	65,995,000	67,532,000	67,838,000	68,234,000	68,683,000
Tank 300 Total Flow	Gallons	70,007,000	70,429,000	71,919,000	72,481,000	72,922,000	73,417,000
Tank 400 Total Flow	Gallons	07,950,000	08,311,000	09,788,000	10,318,000	10,743,000	11,220,000
Tank 500 Total Flow	Gallons	79,432,000	79,848,000	01,311,000	01,852,000	02,285,000	02,765,000
Tank 600 Total Flow	Gallons	26,119,000	26,391,000	27,248,000	27,481,000	28,036,000	28,428,000
System Inlet Pressure	PSI	54	62	94	60	65	54
System Effluent Pressure	PSI	51	58	85	57	61	50
System Differential Pressure	PSI	39	38	90	36	39	39
Chlorine Analyzer Free Chlorine Residual - Inline	PPM	2.01	1.21	1.94	1.87	1.67	1.77
Effluent Water pH - Inline	Units	7.09	7.11	7.12	7.15	7.13	7.12
Manual Chlorine Reading (see Hoses)	PPM	2.00	1.22	1.91	1.85	1.65	1.75
Manual pH check (see Hoses)	Units	-	-	-	-	-	-

Daily Readings
Granular Activated Carbon Treatment System

Description	Date	8-10-2023	8-11-2023	8-14-2023	8-15-2023	8-16-2023	8-17-2023
Task 800A Hydrochloric Level	Gallons	55	148	105	148	99	151
Task 800B Hydrochloric Level	Gallons	128	151	120	152	132	153
Task 800C Hydrochloric Level	Gallons	148	155	110	153	153	153
Task 800D Phosphoric Level	Gallons	148	131	73	51	33	32
Task 800E Phosphoric Level	Gallons	164	164	163	163	163	143
Motoring Pump 800A: Hydrochloric Output Pressure	PSI						
Motoring Pump 800B: Hydrochloric Output Pressure	PSI						
Motoring Pump 800C: Phosphoric Output Pressure	PSI						
Motoring Pump 800D: Phosphoric Output Pressure	PSI						
Motoring Pump 800E: Strain/Speed	Units						
Motoring Pump 800F: Strain/Speed	Units						
Motoring Pump 800G: Strain/Speed	Units						
Motoring Pump 800H: Strain/Speed	Units						
Motoring Pump 800I: Strain/Speed	Units						
Generator Operating Hours	Hours	o/k	o/k	o/k	o/k	o/k	o/k
Main Facility Electric Meter Reading							
Comments (additional tasks performed, maintenance needed, construction on site, etc.)			Change PH / flow charts		CL Peter		CL Delv.

**Daily Readings
Granular Activated Carbon Treatment System**

Description	Date	8-18-2023	8-21-2023	8-22-2023	8-23-2023	8-24-2023	8-25-2023
System Flow Rate	GPM	3200	1700	1650	1600	3375	1650
Total System Flow	Gallons	8891388	8902834	8906004	8908754	8911320	8914545
Well 3 Status	ON OR OFF	ON	OFF	OFF	OFF	ON	OFF
Well 4 Status	ON OR OFF	ON	ON	ON	ON	ON	ON
Tank 100 Flow Rate	GPM	500	250	250	225	500	250
Tank 200 Flow Rate	GPM	500	250	250	250	500	250
Tank 300 Flow Rate	GPM	550	250	250	250	600	250
Tank 400 Flow Rate	GPM	550	250	250	250	550	250
Tank 500 Flow Rate	GPM	550	300	250	250	550	250
Tank 600 Flow Rate	GPM	500	225	225	200	500	200
Tank 100 Total Flow	Gallons	16,242,000	17,641,000	18,157,000	18,596,000	19,005,000	19,539,000
Tank 200 Total Flow	Gallons	16,907,000	17,423,000	17,905,000	17,325,000	17,717,000	17,209,000
Tank 300 Total Flow	Gallons	23,850,000	25,320,000	25,962,000	26,325,000	26,757,000	27,305,000
Tank 400 Total Flow	Gallons	11,640,000	13,061,000	13,567,000	14,014,000	14,425,000	14,945,000
Tank 500 Total Flow	Gallons	23,185,000	24,619,000	25,133,000	25,583,000	26,005,000	26,521,000
Tank 600 Total Flow	Gallons	28,771,000	29,925,000	30,345,000	30,707,000	31,038,000	31,461,000
System Influent Pressure	PSI	80	43	50	45	69	47
System Effluent Pressure	PSI	70	40	47	42	60	43
System Differential Pressure	PSI	9.9	3.9	3.3	3.3	10.8	3.9
Chlorine Analyzer Free Chlorine Residual - Inflow	PPM	1.64	1.97	1.90	1.99	1.79	1.59
Effluent Water pH - Inflow	Units	7.10	7.14	7.14	7.14	7.09	7.08
Manual Chlorine Reading (cc: Hana HI)	PPM	1.65	1.95	1.90	2.02	1.78	1.60
Manual pH check (cc: Hanna)	Units	↔					

**Daily Readings
Granular Activated Carbon Treatment System**

Description	Date	8-18-2023	8-21-2023	8-22-2023	8-23-2023	8-24-2023	8-25-2023
Tank 800A Hemoglobin Level	Gallons	120	71	150	180	121	117
Tank 800B Hemoglobin Level	Gallons	182	109	153	153	150	143
Tank 800C Hemoglobin Level	Gallons	153	81	155	155	155	153
Tank 800A Polysulfide Level	Gallons	32	32	122	121	121	121
Tank 800B Polysulfide Level	Gallons	141	103	120	100	84	66
Motoring Pump 800A: Hemoglobin Output Pressure	PSI						
Motoring Pump 800B: Hemoglobin Output Pressure	PSI						
Motoring Pump 800A: Phosphate Output Pressure	PSI						
Motoring Pump 800B: Phosphate Output Pressure	PSI						
Motoring Pump 800A: Strain/Flowed	Units						
Motoring Pump 800B: Strain/Flowed	Units						
Motoring Pump 800A: Strain/Flowed	Units						
Motoring Pump 800B: Strain/Flowed	Units						
Generator Operating Hours	Hours	OK	OK	OK	OK	OK	OK
Main Facility Electric Meter Reading							
Comments (additional tanks performed, maintenance needed, construction on site, etc.)			Change light bulbs Fix Sensor	OK Delu Phos. Delu			changed flow/pH Charts

Daily Readings
Granular Activated Carbon Treatment System

Description	Date	8-28-2023	8-29-2023	8-30-2023	8-31-2023
System Flow Rate	GPM	3200	1650	1750	1650
Total System Flow	Gallons	892,335.3	892,625.7	892,922.1	
Well 3 Status	ON OR OFF	ON	OFF	OFF	OFF
Well 4 Status	ON OR OFF	ON	ON	ON	ON
Tank 100 Flow Rate	GPM	500	250	250	250
Tank 200 Flow Rate	GPM	500	250	250	250
Tank 300 Flow Rate	GPM	550	250	250	250
Tank 400 Flow Rate	GPM	500	250	300	250
Tank 500 Flow Rate	GPM	550	300	300	300
Tank 600 Flow Rate	GPM	450	300	200	200
Tank 100 Total Flow	Gallons	20,975,000	21,289,000	21,884,000	22,440,000
Tank 200 Total Flow	Gallons	73,558,000	73,910,000	74,391,000	74,911,000
Tank 300 Total Flow	Gallons	78,791,000	78,175,000	79,708,000	80,248,000
Tank 400 Total Flow	Gallons	16,371,000	16,743,000	17,185,000	17,787,000
Tank 500 Total Flow	Gallons	27,939,000	28,482,000	28,878,000	29,360,000
Tank 600 Total Flow	Gallons	32,600,000	32,929,000	33,260,000	33,744,000
System Inlet Pressure	PSI	85	78	53	79
System Effluent Pressure	PSI	75	74	49	95
System Differential Pressure	PSI	9.8	3.8	3.9	4.1
Chlorine Analyzer Free Chlorine Residual - Inlets	PPM	1.95	1.87	1.94	1.62
Effluent Water pH - Inlets	Units	7.02	7.05	7.07	7.05
Manual Chlorine Reading (see Hook ID)	PPM	1.93	1.85	1.92	1.63
Manual pH check (see Manual)	Units	-	-	-	-

Daily Readings
Granular Activated Carbon Treatment System

Description	Date	8/28/2023	8/29/2023	8/30/2023	8/31/2023
Tank 800A Hydrochloric Level	Gallons	28	152	97	156
Tank 800B Hydrochloric Level	Gallons	143	155	155	155
Tank 800C Hydrochloric Level	Gallons	153	153	153	153
Tank 800A Phosphoric Level	Gallons	131	103	145	124
Tank 800B Phosphoric Level	Gallons	36	36	160	160
Motoring Pump 800A: Hydrochloric Output Pressure	PSI				
Motoring Pump 800B: Hydrochloric Output Pressure	PSI				
Motoring Pump 800A: Phosphoric Output Pressure	PSI				
Motoring Pump 800B: Phosphoric Output Pressure	PSI				
Motoring Pump 800A: Strain/Speed	Units				
Motoring Pump 800B: Strain/Speed	Units				
Motoring Pump 800A: Strain/Speed	Units				
Motoring Pump 800B: Strain/Speed	Units				
Generator Operating Hours	Hours	o/c	o/c	o/c	o/c
Main Facility Electric Meter Reading					
Comments (additional tests performed, maintenance needed, construction on site, etc.)		Cl Delu	Phos. Delu	Cl Delu	