

8 July 2022

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

**Subject:** June 2022 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 Treatment Plant in Levittown, NY. The GAC System was installed at the effluent of the potable water treatment 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.

This report documents the routine operation and maintenance of the GAC System performed during the month of June 2022. **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.

Electricity use is no longer monitored and recorded using the Leviton Series 2000 Multiple Meter Unit. Summary energy consumption reports will be provided separately to the Navy representative.

A summary of the system operating data recorded in June 2022 is presented below in **Table 1**.

Table 1 - System Operating Data for June 2022

| Date      | Total Flow    | Flow Rate | Influent<br>Pressure | Effluent<br>Pressure | Differential<br>Pressure | Effluent<br>Chlorine<br>Residual | Effluent pH         |
|-----------|---------------|-----------|----------------------|----------------------|--------------------------|----------------------------------|---------------------|
|           | (Gallons)     | (GPM)     | (PSI)                | (PSI)                | (PSI)                    | $(mg/L)^{(1)}$                   | (SU) <sup>(1)</sup> |
| 6/1/2022  | 7,681,338,000 | 2,150     | 63                   | 59                   | 3.8                      | 1.70 read<br>1.70 manual         | 6.40 read           |
| 6/2/2022  | 7,684,178,000 | 2,200     | 55                   | 51                   | 4.1                      | 1.67 read<br>1.65 manual         | 6.70 read           |
| 6/3/2022  | 7,686,677,000 | 3,150     | 84                   | 76                   | 8.1                      | 1.66 read<br>1.64 manual         | 6.60 read           |
| 6/6/2022  | 7,697,276,000 | 2,050     | 65                   | 60                   | 4.3                      | 1.68 read                        | 6.50 read           |
| 6/7/2022  | 7,700,391,000 | 2,000     | 65                   | 60                   | 4.9                      | 1.65 manual<br>1.75 read         | 6.40 read           |
| 6/8/2022  | 7,703,532,000 | 3,000     | 89                   | 80                   | 7.9                      | 1.73 manual<br>1.69 read         | 6.40 read           |
| -,-,      | .,,           | 5,555     |                      |                      |                          | 1.67 manual                      |                     |
| 6/9/2022  | 7,707,038,000 | 2,000     | 70                   | 65                   | 4.8                      | 1.89 read<br>1.87 manual         | 6.60 read           |
| 6/10/2022 | 7,709,912,000 | 3,100     | 77                   | 68                   | 8.3                      | 1.69 read<br>1.88 manual         | 6.50 read           |
| 6/13/2022 | 7,720,516,000 | 2,250     | 68                   | 64                   | 3.8                      | 1.76 read<br>1.76 manual         | 6.50 read           |
|           |               |           |                      |                      |                          | 1.82 read                        |                     |
| 6/14/2022 | 7,723,737,000 | 3,250     | 81                   | 72                   | 9.0                      | 1.81 manual                      | 6.40 read           |
| 6/15/2022 | 7,727,695,000 | 2,250     | 55                   | 50                   | 4.0                      | 1.72 read<br>1.70 manual         | 6.50 read           |
| 6/16/2022 | 7,729,999,000 | 2,100     | 57                   | 54                   | 4.1                      | 1.83 read<br>1.80 manual         | 6.60 read           |
| 6/17/2022 | 7,733,998,000 | 3,300     | 76                   | 66                   | 9.8                      | 1.66 read<br>1.64 manual         | 6.50 read           |
| 6/20/2022 | 7,745,802,000 | 2,250     | 55                   | 50                   | 4.9                      | 1.63 read                        | 6.70 read           |
|           |               |           |                      |                      |                          | 1.61 manual<br>1.61 read         |                     |
| 6/21/2022 | 7,750,109,000 | 3,250     | 82                   | 71                   | 9.7                      | 1.59 manual                      | 6.70 read           |
| 6/22/2022 | 7,753,139,000 | 2,050     | 67                   | 62                   | 4.8                      | 1.91 read<br>1.90 manual         | 6.80 read           |
| 6/23/2022 | 7,756,242,000 | 2,050     | 65                   | 60                   | 4.8                      | 1.85 read<br>1.83 manual         | 6.90 read           |
| 6/24/2022 | 7,759,275,000 | 3,500     | 70                   | 59                   | 11.4                     | 1.41 read<br>1.40 manual         | 6.90 read           |
| 6/27/2022 | 7,771,053,000 | 3,175     | 82                   | 71                   | 10.8                     | 1.85 read<br>1.83 manual         | 6.80 read           |
| 6/28/2022 | 7,774,473,000 | 2,500     | 96                   | 90                   | 7.2                      | 1.41 read<br>1.39 manual         | 6.80 read           |
| 6/29/2022 | 7,779,175,000 | 3,250     | 88                   | 76                   | 11.0                     | 1.68 read<br>1.66 manual         | 6.90 read           |
| 6/30/2022 | 7,782,412,000 | 3,350     | 78                   | 67                   | 11.0                     | 1.84 read<br>1.82 manual         | 6.90 read           |

<sup>(1)</sup> 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**, below, illustrates the volume of water treated by the GAC System since system startup, with the increment for the month of June 2022. Over 101 million gallons of water were treated in June 2022, bringing the total cumulative volume of water treated since startup to over 7.78 billion gallons.

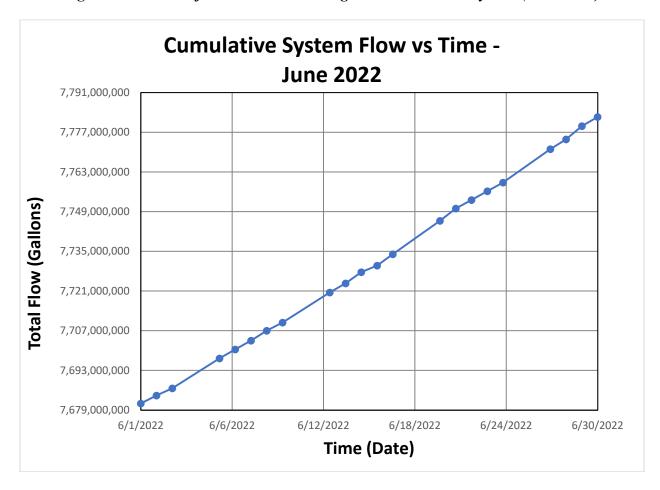


Figure 1 - Volume of Water Treated through Full Scale GAC System (June 2022)

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 July 2021 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 completed in August 2020 and the Seamans Neck Road facility is able to operate at full capacity. In support of the 2020 Fourth Quarter bacteria 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 NCDOH requirements. The additional backwashing/flushing events have been incorporated into the standard process for bacteria sampling.

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.

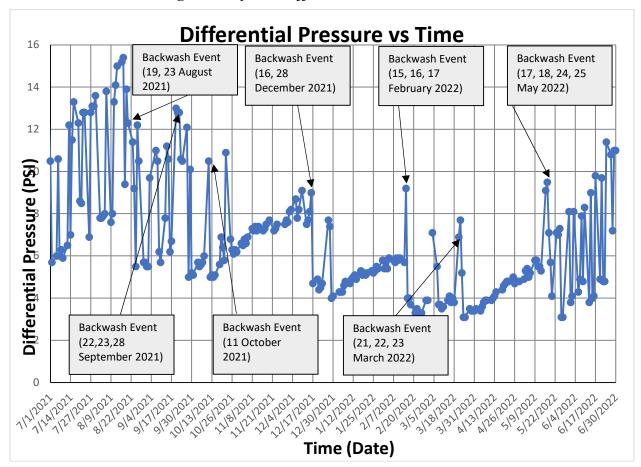


Figure 2 - System Differential Pressure vs. Time

## **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 running of Well 3A in place of or concurrently with Well 4S had previously been initiated by NYAW; Well 3A ran concurrently with Well 4S on 3, 8, 10, 14, 17, 21, 24, 27, 29, and 30 June 2022.

In addition, the following non-routine activities or operation issues occurred during the June 2022 reporting period:

• The operator replaced various nuts/bolts on the GAC vessel hatch clamps.

Please contact me at 610-400-0636 or <u>rgregory@komangs.com</u> 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

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P. Schauble - KGS

R. Hoffmaster - KGS

D. Brayack - Tetra Tech

J. Pelton – NYSDEC

K. Granzen – NYSDEC

M. Travis – NYSDEC

## ATTACHMENT 1 O&M LOGS – JUNE 2022

|  |              | Granui      |             | leadings<br>rbon Treatment | System     |             |                       |
|--|--------------|-------------|-------------|----------------------------|------------|-------------|-----------------------|
| Description  | Date         | 5252022     | 5262022     | 5.27.2025                  | 5.31200    | 2 6.1.2028  | 2 6-2 2022            |
| System Flow Rate   | GPM          | 2200        | 2300        | 2300                       | 3200       | 2150        | 2200                  |
| Total System Flow  | Gallons      | 7742784     | 7745553     | 7748866                    | 7761215    | 7765210     |                       |
| Well 3 Status  | ON OR<br>OFF | OFF         | OFF         | OFF                        | 0.0        | OFF         | OFF                   |
| Well 4 Status  | ON OR<br>OFF | ON          | ON          | OW                         | 01         | ON          | Ow                    |
| Tank 100 Flow Rate   | <b>GPM</b>   | 550         | 300         | 300                        | 500        | 300         | 300                   |
| Tank 200 Flow Rate   | <b>GPM</b>   | 500         | <i>d5</i> 0 | 300                        | 450        | 300         | 300                   |
| Tank 300 Flow Rate   | GPM          | 0/4         | 300         | 350                        | 600        | 400         | 400                   |
| Tank 400 Flow Rate   | GPM          | 0/=         | 350         | 400                        | 500        | 400         | 350                   |
| Tank 500 Flow Rate   | GPM          | 550         | 350.        | 300                        | · 550      | 350         | 400                   |
| Tank 600 Flow Rate   | GPM          | 500         | 250         | . 250                      | 500        | 306         | 300                   |
| Tank 100 Total Flow  | Gallons      | 60,938,000  | 61209,000   | 61586,000                  | 64015000   | 64,601,000  | 64974,000             |
| Tank 299 Total Flow  | Gallons      | i 1 7 15    |             | , ,                        | OS 230 000 | 7           |                       |
| Tank 360 Total Flow  | Gallens      | 84844,000   |             | 84 700 000                 | 7          | 88 660 cco  | Operation williams of |
| Tenk 400 Total Flow  | Gallons      | , , ,       | 34,387,000  | 74,789,000                 | 77/23 000  | 77 805 000  | 78 277,000            |
| Tank 500 Total Flow  | Gellens      | 98,607,0009 | 78,947,000  | 99,821,00                  | 02628,000  | 03 366,000  | 03 871 000            |
| Tank 600 Total Flow  | 1            |             | 66,993,000  |                            | . ' ' 1    | 70, 761,000 | 7117600               |
| System Influent Pressure   | PSI          | 59          | 59          | 60                         | 81         | 63          | 55                    |
| System Effluent Pressure   | PSI          | 52          | 56          | 57                         | 74         | 59          | 5-1                   |
| System Differential Pressure   | PSI          | 7.3         | 3.1         | 3.1                        | S-1.       | 3.8         | . 4.1                 |
| Chlorine Analyzer: Free Chlorine<br>Residuel - inline  | PPM          | 1.94        | 1.76        | 1.84                       | 1.40       | 1.70        | 1.67                  |
| Efficent Water pH - Inline   | Units        | C.6         | 6.7         | 6.5                        | 63         | 6.4         | ( )                   |
| Manual Chlorine Reading<br>(ex: Hach IGt)  | PPM          | 1.92        | 1.74        | 1.82                       | 1.42       | 1.70        | 1.65                  |
| Manual pH check<br>(ex: Hence)   | Units        |             |             |                            |            | / ' ' ' '   | 1.6)                  |
| Action to the second se | 1            |             |             |                            |            |             |                       |

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|  |          | Granula                           | Daily Re<br>r Activated Cart |           | System    |  |  |
|--|----------|-----------------------------------|------------------------------|-----------|-----------|--|--|
| Description  | Date     | 5-25-2022                         | 5.26.2022                    | 5-27-2022 | 5.31.2022 | B.1:2022   | 6-2 202  |
| Tank 808A<br>Hypochlorite Level  | Gallons  | 80                                | 70                           | 1411      | 125       | 143  | 112  |
| Tank 8002<br>Hypochlorite Level  | Gallenn  | 133                               | 100                          | 150       | 81        | 141  | 1411   |
| Tank 880C<br>Hypophlorije Level  | Gallons  | 143                               | 143                          | 152       | 10        | 140  | 140  |
| Tank 990A<br>Polyphoephete Level   | Gellons  | 51                                | 150                          | 127       | 661       | 20   | 20   |
| Tunk 9008<br>Polyphosphate Level   | Gations  | 1.30                              | 130                          | 130       | 125       | 125  | 104  |
| Motoring Pump 300A:  | Pel      |                                   |                              |           |           |  | and the second s |
| Matering Pump (1968):<br>pochlarite Output Pressure<br>Biotoring Pump (1964):  | P81      |                                   |                              |           |           |  |  |
| hospitate Output Pressure<br>Metering Pump 1885:<br>'hospitate Output Pressure | PSI      |                                   |                              |           |           |  |  |
| Metering Pump 888A:<br>Stroke/Speed  | Unites   |                                   |                              |           |           | COSTONES CONTRACTOR CO | ATTERNATURE SEE SEE STATE AND ADDRESS OF THE SECOND SECOND SECOND SECOND SECOND SECOND SECOND SECOND SECOND SE   |
| Nictoring Pump 8000:   | Units    |                                   | •                            |           |           |  | glass of the control  |
| Motoring Pump 800A:<br>Stroke/Speed  | Units    |                                   |                              |           |           | and the second s | mid (majorital) (film)   |
| Betering Pump (1999):<br>Struke/Speed  | Unite    |                                   |                              |           |           |  |  |
| Senerator Operating Hours  | Hours    | 176-8                             | 176.8                        | 177.2     | 177.2     | 177.2  | 177.2  |
| Main Facility Electric Motor R   | ooding   |                                   |                              |           |           |  |  |
|  |          | Having trouble                    | Phos. Dela                   | CL Delu.  |           | CL Delu  |  |
|  |          |                                   | 1                            |           |           |  | 4.   |
| Comments<br>iditional tasks performed, mal                                     | rianence | Dickway 7<br>agail Brown<br>water |                              |           |           |  |  |
| needed, contractors on alte,   | 4 444    | P+ 30-16AC                        | 5 .                          |           |           |  | and the second   |
|  |          | back inseru                       | 7                            | C.C.      |           |  |  |
|  |          | <b>∅</b> .                        | . 1                          |           |           |  |  |

|   |              | Granul     | Daily R<br>lar Activated Car | eadings<br>bon Treatment | System   |  |            | provide. |
|---|--------------|------------|------------------------------|--------------------------|--|--|------------|----------|
| Description   | Date         | 6-3 2022   | 26.6.2022                    | 6.7-2022                 | 6.82022  | 6-9-2022   | 6.10.22    | roma     |
| System Flow Rute  | GPM          | 3150       | 2050                         | 2000                     | 3000   | 2000   | 3100       | d-steps  |
| Total System Flow   | Cellone      | 7770549    | 7781148                      | 7784263                  | 7787404  | mark and an interpretation of the second section of the secti | 779378     | 1        |
| Well 3 Status   | ON OR<br>OFF | ON:        | OFF                          | OFF                      | 00   | OFF  | ON         | +        |
| Well 4 Status   | ON OR<br>OFF | 00         | ON                           | ON                       | 00   | ON   | ON         | ٦        |
| Tank 100 Flow Rate  | GPM          | - 500      | 300                          | 300                      | 450  | 250  | 500        | 7        |
| Tank 200 Flow Rate  | GFM          | 450        | 300                          | 250                      | 450  | 250  | 450        | ٦        |
| Tank 300 Flow Rate  | QP10         | 550        | 400                          | 350                      | 500  | 300  | 550        | 1        |
| Tank 400 Flow Rate  | @PM          | 500        | 400                          | 350                      | 450  | 350  | 550        | 1        |
| Tank 699 Flow Rate  | QF49         | 550        | 350                          | 350                      | . 550  | 350  | 660        | 1        |
| Tank 609 Flow Rate  | СРМ          | 500        | 300                          | 250                      | 500  | 300  | 500        | 1        |
| Tank 100 Total Flow   | Gallons      | 65 328000  | 66823 000                    | 67,270,000               | 67720.006  | 68213000   | 68 613 000 | 1        |
| Tank 200 Total Flow   | Gallons      | . ,        | 08.096 000                   | ,                        | 08,942,000   | 7  | 39801,000  | 1        |
| Tank 300 Total Flow   | Gallons      | 89591.000  | 91514 000                    | 92.078,000               | Commence of the Commence of th | 93271, com   |            | 1        |
| Tenk 400 Total Flow   | Gellons      | 78 695 coo | 80.477,000                   | _ '                      | 81542,000  | 7  | 82 612 poc | 1        |
| Tenk 598 Total Flow   | Gellons      | 04,29000   | 36 199,000                   | 36,762,000               | 07,333 000   |  | 58417,000  | 1        |
| Tank 600 Total Flow   | Gelions      | 71551,000  | 1 1                          |                          | 74134,000  | 74665.000  | 75 311 000 |          |
| Gystem Influent Pressure  | Par          | 84         | 65                           | 65                       | 89   | 70   | 77         | -        |
| System Effluent Pressure  | Pal          | 76         | 60                           | 60                       | 80   | .65.   | 68         | -        |
| Stystem Differential Pressur  | 0 P8I        | 8.1        | 4.3                          | 4.9 .                    | 7.9.   | 48   | . 3.3      |          |
| Chilerine Anniyzer: Free Chiler<br>Reelduni - Inline  | tro PPM      | 6.66       | 1.68                         | 1.75                     | 1.69   | 1.89   | 1.69       |          |
| Efficent Water pH - Infine  | Unites       | 66         | 6.5                          | 6.4                      | 6.4  | 6.6  | 6.5        |          |
| Menual Chlorine Reading<br>(ex: Hech Kit)   | PPM          | 1-64       | 1,65                         | 1.73                     | 1.67   | 1.87   | 1.568      |          |
| Manual pH absolu<br>(ex: Henna)   | Units        |            |                              |                          |  |  |            |          |
| Barrier and the second |              |            |                              |                          |  |  |            |          |

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| <b>b</b>  |  | System                                  | edings<br>oon Treatment S  | Daily Re<br>r Activated Cari   | Granule                     |          |   |
|---|--|---|--|--|-----------------------------|----------|---|
| 92022 610802  | 6.920  | 6.82022                                 | 6.7.2022   | 6.6.2022   | 6-3 2022                    | Date     | Description   |
|   | 143  | 127                                     | 131  | 143  | 138                         | Callento | Tunk 816A<br>Himoshiorika Lavel<br>Tunk 8168  |
| 141 107   | A CONTRACTOR OF THE PARTY OF TH | 70                                      | 104  | 143  | 110                         | Oulteno  | Hypochilarite Level   |
| 141 141   | Annual Control of the Party of  | 141)                                    | 141  | 141  | 80                          | Caliono  | Tank 9090<br>Hypophlarile Level   |
| 64 163  | 164  | 52                                      | 52   | 52   | 52                          | Gallions | Tank MIM Pehakashyin Lovel Tank 2008  |
| 157 133   | 157  | 82                                      | 56   | 7.7  | 114                         | Gettons  | Polaritomistic Lovel  |
|   |  |   |  |  |                             | PEN      | Motoring Pump 988A:   |
|   | The state of the same of the s |   |  |  |                             | POI      | Motoring Pump (1992):<br>reachierite Guinut Pressure  |
|   | ware commented and the comment of the payouse  |   | Der Tilbert für fin der Tilbert Tilbert Schafter, selektigen den synnes bestehn der Schafter Schafter selektig |  |                             | P01      | Modelin Output Pressors  Motering Pump 8988:  Modeling Pump 898A:  Modeling Pump 898A:  Modeling Pump 1888: |
|   |  |   |  | And the same of  | -                           | PM       | Motoring Pump State:<br>housesto Culoud Proposro  |
|   |  |   |  |  |                             | Units    | Motoring Proxy (ASA:<br>Attributions  |
|   | Carlomorphica communication and processor representation and the communication and the c |   |  | And Committee of the Co |                             | Unite    | Managina Daning Military  |
|   | March Commence of the Commence | *************************************** |  |  |                             | Units    | Strukteringd Motorling Purity 688A: Alcuho/Newood Motorling Purity 9868:                                    |
|   | Decretor a Company Common as the way as a gase was   |   |  |  |                             | Unite    | Motoring Pump 9068:<br>Strains/Speed  |
| 772 1794  | 1772   | 177.2                                   | 177.2  | 177-2  | 177.2                       | Hours    | lenerator Operating Hours   |
|   | entrante en  |   |  |  |                             | ading .  | Hein Fasility Electric Meter Re   |
| Delu Finished  S. Delu Putting new nots ) bolts on GRC 5 match clair (GAC' 142) | 21 Delu.<br>Phos. Del  | Phos. Delu, 9                           |  | La Delv.   | change<br>Flow/PH<br>Tharts |          |   |
| match clas  |  |   |  |  |                             | lomentee |   |
|   |  |   |  |  | thanks !                    | lomentee | Comments<br>iditional tasks performed, main<br>needed, contrasters on site, o                               |

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|  | -            | Granu  | Daily i<br>lar Activated Ca | Readings<br>Irbon Treatmen   | rt System                | ,          |  | • |
|--|--------------|--|-----------------------------|--|--------------------------|------------|--|---|
| Description  | Date         | 6-132022   | 6-14201                     | 2 6-15-205   | 12 6.16202               | 26.17.202  | 2 620220   | • |
| System Flow Rate                                     | <b>OPM</b>   | 2250   | 3250                        | 2250   | 2100                     | 3300       | - CONVOARUE  |   |
| Total System Flow                                    | Cations      | 7804388  |                             | ACCORDING TO THE PROPERTY OF THE PERSON OF T |                          | 1 7817876  | 2250   |   |
| Well 3 Status  | ON OR<br>OFF | OFF  | ON                          | OFF  | OFF                      | 02         |  |   |
| Well 4 Status  | ON OR<br>OFF | ON   | ON                          | CN   | OW                       | 00         | OFF  |   |
| Tank 100 Plow Rate                                   | <b>GPM</b>   | 300  | 500                         | 300  | 250                      | 550        |  |   |
| Tank 200 Flow Rate                                   | GPM          | 350  | 500                         | 250  | 250                      |            | 300  |   |
| Tank 300 Flow Rate                                   | <b>GPM</b>   | 357)   | 550                         | 400  | 350                      | 500        | 300  |   |
| Tank 400 Flow Rate                                   | @PM          | 350  | 550                         | 350  | 350                      | 650        | 350  |   |
| Tenk 599 Flow Rate                                   | <b>GP10</b>  | 350  | 530                         | 350  | 330                      | 600        | 400  |   |
| Tank 600 Flow Rate                                   | <b>GPM</b>   | 250  | 450                         | 300.   | 300                      | 650<br>500 | 400  |   |
| Tank 199 Total Flow                                  | Gallens      | 70133000   | 70.593 000                  | 71,161,000   |                          |            | 306  |   |
| Tank 200 Total Flow                                  | Gallons      | 11245000   | 11682,006                   | - Commenter of the Comment of the Co | 1                        | 8          | 73,787,000   |   |
| Tank 300 Total Flow                                  | Gallons      | 95693000   | 96271,000                   | The same of the last of the la | 100                      | 06         | 14,688,000   |   |
| Tenk 400 Total Flow                                  | Gellons      | 34375,000  | Colonia                     | 0 -  | 0 '                      |            | 00,228,000   |   |
| Tank 600 Total Flow                                  | Gallons      | 0410000  | 11 004,000                  | 11,761,000   | 85891,000<br>13, 109,000 |            |  |   |
| Tank 600 Total Flow                                  | Callens (    | 16,727,000)  | 77220,000                   | 77821000   |                          |            | The state of the s |   |
| System Industri Pressure                             | Per          | 68   | 31                          | 55   | 57                       | 78,794,000 |  |   |
| System Efficant Pressure                             | Pat          | 64   | 72                          | 50   |                          | 76         | 55   |   |
| System Differential Pressure                         | P81          | 3.8  | 90                          | 4.0  | 54<br>4.)                | .66        | 50   |   |
| Chlorino Analyzer: Free Chlorine<br>Reakhad - Inline | PPM          | 1.76   | 1.82                        | 172  | 1.83                     | 9.8        | . 4.9  |   |
| Efficient Weier pH - Inline                          | Unite        | 6-5  | 6.4                         | ( )  |                          | 1,66       | 1.63   |   |
| Menual Chlorine Reading                              | PPM          | THE RESERVE THE PROPERTY OF TH |                             | .6.5   | 6.6                      | 6.5        | 6-7  |   |
| (ex: Hech Kit)<br>Manual pH check<br>(ex: Hence)     | Unite        | 1.76   | 1.81                        | 1.70   | 1.80                     | 1.64       | 1.61   |   |

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|  |                 | Granula    | Daily Roar Activated Car |  | System     | -  |           |
|--|-----------------|------------|--------------------------|--|------------|--|-----------|
| Description  | Date            | 6-13-2022  | 6.14.2022                | Name of the order  | 16.16 2022 | 6-17-2022  | 6 20 2020 |
| Tunk 816A<br>Himoshlorika Lavel  | Galleno         | 109        | 143                      | 124  | 100        | 143  | 143       |
| Tenk 8000<br>Hypochladije Level  | <b>Quitano</b>  | 00         | 140                      | 103  | 85         | 141  | 142       |
| Tank BISC<br>Hypoghlarija Level<br>Tank BISA                               | Gellene         | 107        | 143                      | 143  | 141        | 141  | 143       |
| Pehakasahita Level<br>Tank 1988  | Gelloso         | 163        | 163                      | 163  | 143        | 118  | 41)       |
| Pobahsanhalo Lavel   | Octors          | 68         | 61                       | 163  | 159        | 160  | 163       |
| Motoring Pump Sold:<br>positioning Culput Pressure<br>Motoring Pump Stall: | POI             |            |                          |  |            |  |           |
| coelelestin Outrest Pressure   | PØI             |            |                          |  |            | All and a Marian and a security and an angula a house group and a security and a security and a security and a |           |
| Eletering Pump 566A;<br>teachate Colout Pressure<br>Motoring Pump 5868;    | PBI             |            |                          |  |            |  |           |
| scalesto Culput Proposio   | PM              |            |                          | e de la commentant de l |            |  |           |
| Motorlay Pump 888A:<br>Strainstituted                                      | Unite           |            |                          | ACT CONTROL OF THE PARTY OF THE |            |  |           |
| Elictoring Pump (65%:<br>Elictoring Pump (65%):<br>Elictoring Pump (65%):  | Unite           |            |                          |  |            |  |           |
| Birdinig Fung 6666:  | Units           |            |                          |  |            |  |           |
| Sector Speed   | Unite           |            | •                        | Office the second secon |            |  |           |
| enerator Operating Hours   | Hours           | 179.4      | 180.0                    | 1800   | 1800       | 180.4  | 180.6     |
| lein Fasility Electric Meter Re  | cding           |            |                          | AT ANALOS AND  |            |  |           |
|  |                 | Bolts/Nots | CI Delu.                 | Phos. Delu.  |            | L Delv.  | CL Delu.  |
| Comments<br>Monel tooks performed, main<br>needed, contrasters on site, o  | torance<br>th.) | on clamps  |                          |  |            | ,  |           |
|  |                 |            |                          |  |            |  |           |
|  | 1               | 3.14       |                          |  |            |  |           |

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|   |              | Granu      | Daily l<br>lar Activated Ca | Readings<br>Irbon Treatmen   | it System   |            |                         |
|---|--------------|------------|-----------------------------|--|-------------|------------|-------------------------|
| Description   | Date         | 6-21-2022  |                             |  |             | 6-27-2020  | 26.28.2022              |
| System Flow Rate                                      | gpm          | 3250       | 2050                        | 2050   | 3500        | 3175       | 2500                    |
| Total System Flow                                     | Gallons      | 783398     | 1 7837011                   | The state of the s | 7843147     | 7854925    |                         |
| Well 3 Status   | ON OR        | ON         | OFF                         | OFF  | 90          | 00         | 1858395<br>0FF          |
| Well 4 Status   | ON OR<br>OFF | 00         | 000                         | OW   | Igu         | ou         | 01                      |
| Tank 100 Flow Rate                                    | <b>QPM</b>   | 500        | 300                         | 250  | 500         | 500        |                         |
| Tank 200 Flow Rate                                    | GPH          | 300        | 300                         | 300  | 500         | 500        | 350                     |
| Tank 300 Flow Rate                                    | GPM          | 600        | 350                         | 350  | 650         | 600        | 350                     |
| Tank 400 Flow Rate                                    | <b>GPM</b>   | 600        | 350                         | 350  | 650         | 600        | 450                     |
| Tank 500 Flow Rate                                    | GPM          | 600        | 350                         | 300  | .600        | 550        | 400                     |
| Tank 600 Flow Rate                                    | GPM          | 450        | 250                         | 306  | 550         | 500        | 300                     |
| Tank 100 Total Flow                                   | Gallens      | 74/420,000 | 74870,000                   | 75660,000  | 75730000    |            |                         |
| Tank 200 Total Flow                                   | Gallons      | 15,287,000 |                             | 16 134 000   | 16 555 000  | 18,169000  | 77,954,000              |
| Tank 300 Total Flow                                   | Gallens      | 01009000   |                             | 7 7000   | , ,         | 1.74/21    | 18,640,000              |
| Tenk 400 Total Flow                                   | Gallons      | 89292,000  | 09876 000                   | , ,  | 70 845,000  | 04755,000  |                         |
| Tank 500 Total Flow                                   | Gallons      | 15857 000  | 16,430,000                  | , ,  | 17,5-18 000 | 10 Post    |                         |
| Tank 690 Total Flow                                   | Gallons      | 8/26/000   | - 1 > - 6                   | ,  | , ,         | 84 472 000 | 20,384,000<br>85,000/00 |
| System influent Pressure                              | P81          | 82         | 67                          | C5   | 70          |            |                         |
| System Effluent Pressure                              | PSI          | 71         | 62                          | GO   | 59          | 82         | 96                      |
| System Differential Pressure                          | PSI          | 9.7        | 48                          | 4.8  | 11.4.       | 10.8       | 90                      |
| Chicrine Analyzor: Free Chiorine<br>Residuel - Inline | PPM          | 1.6)       | 1.91                        | 1.85   | 1.41        |            | 7.2                     |
| Efficent Water pH - Inline                            | Units        | 6.7        | 6.8                         | 6.8  | 6.9         | 1.85       | 1.41/                   |
| Manual Chlorine Reading<br>(ex: Hach Kit)             | PPM          | 1.59       | 1.50                        | 1.8-3  | 1.40        | 1-8-3      | 6.8                     |
| Menuel pH check<br>(ex: Henne)                        | Units        |            | 7.70                        |  | 1.70        | 1-0-7      | 1.39                    |

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|   |         | Granuk  | Daily Re<br>ar Activated Car |            | System    |  |         |
|---|---------|---|------------------------------|------------|-----------|--|---------|
| Duscription   | Date    | 6-21-2022   | 6-22-2022                    | 6.23.2022  | 6 24.2022 | 627.22   | 6.28.20 |
| Tenk 698A<br>Hypochlorite Lovel                     | Galleno | 136   | 130                          | 141        | 140       | 109  | 136     |
| Tenk 990B<br>Hypochlorite Level                     | Gallons | 93  | 155                          | 143        | 81        | 60   | 141     |
| Timik 880C<br>Hypophlorije Level                    | Callens | 1-13  | 138                          | 145        | 145       | 411  | 142     |
| Tunk 900A<br>Polyphosphete Lovel                    | Gallons | 145   | 8-0                          | 134        | 93        | 841  | 61      |
| Tunk 9908<br>Polyahosphate Level                    | Gallons | 163   | 112                          | 152        | 152       | 131  | 128     |
| Motoring Pump 800A:<br>hypochlorite Output Pressure | Pel     |   |                              |            |           |  |         |
| Motoring Pump 8000:<br>hypochlarite Output Pressure | P81     |   |                              |            | j         |  |         |
| Bletering Pump 900A:<br>Phosphate Output Pressure   | P21     |   |                              |            |           |  |         |
| Motoring Pump 9008:<br>Phosphate Output Pressure    | PSI     |   |                              |            |           |  |         |
| Matering Pump 689A:<br>Strokn/Speed                 | Unites  | Name of the Party |                              |            |           | MANAGEMENT CONTRACTOR OF THE STATE OF THE ST |         |
| Metering Pump 8008:<br>Stroke/Speed                 | Unite   |   |                              |            |           |  |         |
| Motoring Pump 988A:<br>Stroke/Speed                 | Units   |   |                              |            |           |  |         |
| Metering Pump (1948:<br>Stroke/Speed                | Units   |   |                              |            |           | -  |         |
| Generator Operating Hours                           | House   | 180.6   | 180,6                        | 180.4      | 181.2     | 181.2  | 181.2   |
| Main Facility Electric Motor Ro                     | poding  |   |                              |            |           |  |         |
|   |         | Phos. Delu.   |                              | Cla Delu   |           |  | I Delu. |
|   |         |   |                              | Phos. Delu |           |  |         |
|   |         |   |                              |            |           |  |         |
| Comments<br>dditional tooks performed, mai          |         |   |                              |            |           |  |         |
| needed, contractors on site,                        | eta.)   |   |                              |            |           |  | -       |
|   |         |   |                              | Webstern   |           | ,  |         |
|   |         |   |                              |            |           | = - 14   |         |

|   |              | Granu      |            | <b>leadings<br/>rbon Treatment</b> | System            | •                                       |   |
|---|--------------|------------|------------|------------------------------------|-------------------|---|---|
| Description   | Date         | 6292022    |            |                                    |                   |   |   |
| System Flow Rate                                      | GPM          | 3250       | 3350       |                                    |                   |   |   |
| Total System Flow                                     | Gations      | 78630317   |            |                                    |                   |   |   |
| Well 3 Status   | ON OR        | 00         | 0.0        |                                    |                   |   | 1                                       |
| Well 4 Status   | ON OR<br>OFF | OW         | 0.0        |                                    |                   |   |   |
| Tank 100 Flow Rate                                    | GPM          | 500        | 500        |                                    |                   |   | N. Stage                                |
| Tank 200 Flow Rate                                    | GPM          | 550        | 500        |                                    |                   |   |   |
| Tank 300 Flow Rate                                    | GPM          | G50        | 650        |                                    |                   |   |   |
| Tank 490 Flow Rate                                    | GPM          | 600        | 650        |                                    |                   |   | 21.1                                    |
| Tank 508 Flow Rate                                    | <b>QPM</b>   | 650        | 650        |                                    | ٠,                |   |   |
| Tank 508 Flow Rute                                    | <b>OPM</b>   | 550        | 600        |                                    |                   |   |   |
| Tank 100 Total Flow                                   | Gallons      | 78,444,000 | 78963000   |                                    |                   |   |   |
| Tank 200 Total Flow                                   | Gallons      | 19,127000  | 19592,000  |                                    | a Parsa           |   |   |
| Tank 360 Total Flow                                   | Gallens      | 05919.000  | 06 591,000 | · · · · · ·                        | The second second |   |   |
| Tenk 460 Total Flow                                   | Gallens      | 93928000   | 94523 000  |                                    |                   |   | 2000                                    |
| Tank 500 Total Flow                                   | Geliens      | 20941 000  | 21 669,000 |                                    |                   |   | A 1/A                                   |
| Tank 600 Total Flow                                   | Gallons      | 85,71,000  | 86,038,000 |                                    |                   |   |   |
| System Influent Pressure                              | P81          | 88         | 78         |                                    |                   |   |   |
| System Effluent Pressure                              | PSI          | 76         | 67         |                                    |                   |   |   |
| System Differential Pressure                          | PSI .        | 17.0       | 11.0       |                                    |                   | ν                                       | *************************************** |
| Chlorine Ansiyzer: Free Chlorine<br>Residuel - inline | PPM          | 1.68       | 1.84       |                                    |                   |   |   |
| Effluent Water pH - inline                            | Units        | 6.9        | 6.9        |                                    |                   | en er var jagen ere                     |   |
| Manual Chlorine Reading<br>(ex: Hach KR)              | PPM          | 1:66       | 1.82       | -                                  |                   | *************************************** |   |
| Manual pH check<br>(ex: Henna)                        | Units        |            |            | -                                  |                   |   |   |

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|   |              | Granula  | Daily Re<br>r Activated Carb | The second secon | System |      | and the second s |
|---|--------------|----------|------------------------------|--|--------|------|--|
| Doseription   | Date         | 6-292022 | 6302022                      |  |        |      |  |
| Tank 808A<br>Hyposhiorite Lavel   | Gallons      | .68      | 120                          |  |        |      |  |
| Tenk 8002<br>Hypochicrite Level   | Gallens      | 123      | 102                          |  |        |      |  |
| Tiank 969C<br>Hypophlorite Level  | Callons      | 142      | 45                           |  |        |      |  |
| Tunk 999A<br>Pohokosoheta Level   | Gellons      | 412      | 141                          |  |        |      |  |
| Tenk 8008<br>Polyphosphate Level  | Gallons      | 125      | 156                          |  |        |      |  |
| Motoring Pump 998A:<br>hypochlorita Output Pressure                         | POI          |          |                              |  |        |      |  |
| Motoring Pump 1998:<br>hosehlarite Outsut Pressure                          | [P8]         |          |                              |  |        |      |  |
| Eletering Pump 100A:<br>Phosphate Output Pressure                           | 281          |          |                              |  |        |      |  |
| Metering Pump 9888:<br>Phosphate Output Pressure                            | PSI          |          |                              | American amino an equilibrican and experience and e |        |      |  |
| Metering Pump 880A:<br>Stroke/Based   | Unite        |          |                              |  |        |      |  |
| Motoring Pump 000%:<br>Stroke/Speed   | Units        |          | ·                            |  |        |      |  |
| Motoring Pump 199A:<br>Stroke/Speed<br>Motoring Pump 1998:                  | Units        |          |                              |  |        |      |  |
| Motoring Pump (1008:<br>Stroke/Speed  | Unites       |          |                              |  |        |      |  |
| Generator Operating Hours   | Hours        | 181.2    | 181.2                        |  |        |      |  |
| Main Facility Electric Noter Re   | pading       |          |                              |  |        |      |  |
|   | Topomento ou |          | Phos. Delu.                  | y pour paramentament in de montre de l'étable de l'étable de l'étable de l'étable de l'étable de l'étable de l   |        |      |  |
|   |              |          |                              |  |        |      | <u>,                                    </u>   |
|   |              |          |                              |  |        | 24 1 |  |
| Comments<br>idditional tasks performed, mai<br>needed, contractors on bits, | Mananco      |          |                              |  |        |      |  |
| Militaring of motors were out more  | - Carriell   |          |                              |  |        |      | and the  |
|   |              |          |                              |  |        |      | Barra T  |
|   | 100          |          | , ]                          |  |        | 1    |  |