

9 January 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:** December 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 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.

This report documents the routine operation and maintenance of the GAC System performed during the month of December 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 not monitored and recorded using the on-site Leviton Series 2000 Multiple Meter Unit. Summary energy consumption reports are provided separately to the Navy Remedial Project Manager.

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

Table 1 - System Operating Data for December 2022

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) <sup>(1)</sup>
12/1/2022	8,292,594,000	1,850	78	71	6.7	1.66 read 1.71 manual	6.80 read
12/2/2022	8,295,420,000	1,950	74	68	6.6	1.72 read 1.83 manual	7.00 read
12/5/2022	8,303,818,000	1,950	78	68	9.8	1.86 read 1.93 manual	7.15 read
12/6/2022	8,307,002,000	1,900	81	70	9.9	1.78 read 1.84 manual	7.05 read
12/7/2022	8,309,019,000	1,700	58	50	8.0	1.80 read 1.91 manual	6.85 read
12/8/2022	8,311,814,000	1,800	60	50	8.2	1.93 read 2.04 manual	6.95 read
12/9/2022	8,314,387,000	1,850	78	74	4.2	1.60 read 1.71 manual	6.76 read
12/12/2022	8,322,585,000	1,850	72	67	5.7	1.75 read 1.83 manual	6.57 read
12/13/2022	8,332,561,000	1,900	68	64	5.2	1.83 read 1.92 manual	6.67 read
12/14/2022	8,334,915,000	2,050	70	67	4.0	1.47 read 1.52 manual	6.46 read
12/15/2022	8,337,901,000	2,000	74	71	4.0	1.63 read 1.72 manual	6.56 read
12/16/2022	8,340,069,000	2,000	70	66	4.1	1.62 read 1.72 manual	7.05 read
12/19/2022	8,342,413,000	1,850	83	80	3.8	1.65 read 1.74 manual	7.07 read
12/20/2022	8,344,981,000	2,000	75	71	4.1	1.67 read 1.75 manual	
12/21/2022	8,347,804,000	1,950	78	74	4.0	1.73 read 1.79 manual	7.07 read
12/22/2022	8,350,672,000	2,050	63	60	4.7	1.53 read 1.63 manual	6.51 read
12/23/2022	8,353,232,000	1,850	83	78	4.2	1.73 read manual	6.63 read
12/26/2022	8,359,116,000	1,950	79	75	4.6	1.81 read 1.87 manual	6.67 read
12/28/2022	8,366,132,000	2,100	61	55	5.3	1.67 read 1.74 manual	6.65 read
12/30/2022	8,373,148,000	2,100	67	63	5.1	1.74 read 1.81 manual	6.50 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 December 2022. Over 83.2 million gallons of water were

treated in December 2022, bringing the total cumulative volume of water treated since startup to over 8.37 billion gallons.

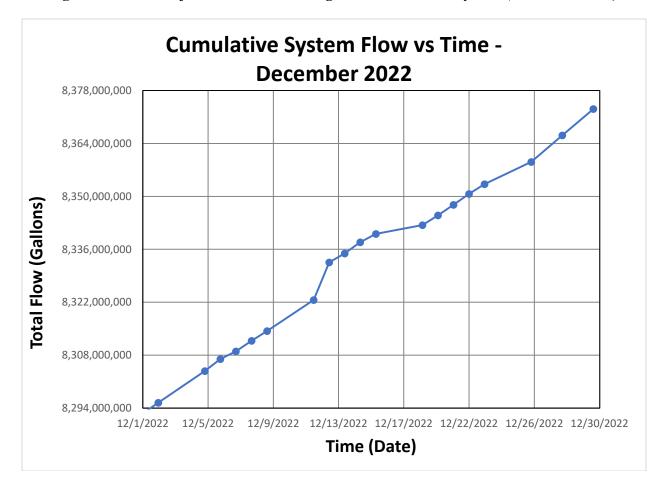


Figure 1 - Volume of Water Treated through Full Scale GAC System (December 2022)

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 January 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 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/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.

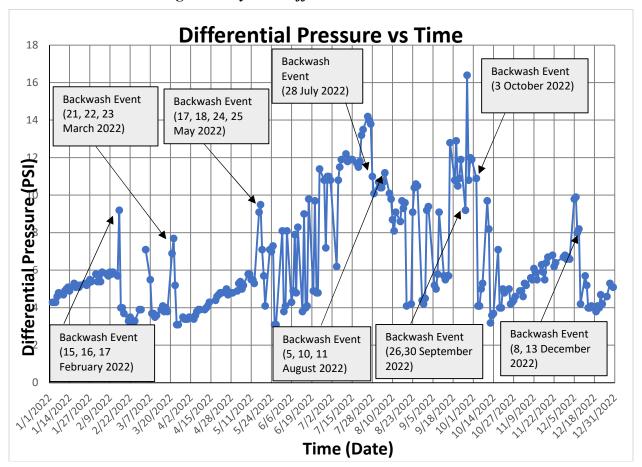


Figure 2 - System Differential Pressure vs. Time

## **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; Well 3A was operated in place of Well 4S on 06-15 December.

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

- On 8 December, GACs #500 and #600 were backwashed following the 2022 Fourth Quarter microbiological (MIC) sampling.
- On 13 December, GACs #300 and #400 were backwashed following the 2022 Fourth Quarter microbiological (MIC)sampling.
- On 19 December an alarm on the backup generator identified a failure of the periodic self-testing process.
- On 20 December, GenServe was onsite to change the backup batteries for the generator.

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

J. Palmer - LNYW

P. Schauble - KGS

R. Hoffmaster – KGS

D. Brayack - Tetra Tech

J. Pelton – NYSDEC

K. Granzen – NYSDEC

M. Travis – NYSDEC

## ATTACHMENT 1 O&M LOGS – DECEMBER 2022

		Granui	Daily ar Activated Co	Readings arbon Treatmer	it System		
Description	Date	11-22-2022	A CONTRACTOR OF THE PARTY OF TH	-	- The same of the	2 11:30:202	2 12.1.2022
System Flow Rule	GPM	1875	1950	1950			
Total System Flow	Callone	8351769	8357945	831822	18371088	1750	1850
Well 3 Chine	ON OR OFF	OFF	OFF	OFF			58376466
Well 4 Status	ON OR OFF	ON	011	ON	OFF	OFF	off
Tenk 100 Plow Rate	GP20	225	250	325		OW	00
Tank 200 Flow Rate	GPM	250	225		225	225	250
Tank 300 Flow Rule	GPM	325	350	250	225	225	250
Tenk 400 Flow Rate	@PM	325	325	350	350	300	300
Tenk 580 Flow Rate	@PM	350	350	350	300	300	350
Tank 600 Flow Rate	GPN -	250	300	750	300	350	350
Tank 100 Total Flow	Callens	45 760 000	46786 000	300		250	300
Tank 200 Total Flow	Gallons	84 932,000			48,197,000	48,521,000	
Tank 300 Total Flow					87,945,000	88,211,000	- The state of the
Tenk 400 Total Flow	Gellons		75 044,000	94,894,000	1 ' '	95,193,000	16,310,000
Tenk 660 Total Flow	Gallons	14,801,000	6,286,000	, .	80,085,000	80,4187,000	81,068,000
Tank 500 Total Flow		6001409	,	17,790,000 62,564,000	18,314,000	18,781,000	( ) · · · · · · · · · · · · · · · · · ·
Gyotem Influent Pressure	Pai	74	75	73		63,189,00h	
System Efficant Pressure	Pat	68	67	67	76 69	95	78
System Differential Pressure	Pai	6.2	6.4		6.8	.79	71
Chilorino Analyzor: Free Chilorino Realdsol - Inline	PPM	1,55	1.65	171		6.6	6.7
Effluent Water pH - Inline	Unite	7.10	2.0	.70	7.4	1.72	1.66
Manual Chlorine Reading (ex: Hech KR)	PPM	1.63	1.75	1.80			6.8
Manual pH check (ex: Henne)	Unite	1.0-	1.//	100	1-74	1.83	1.71

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		Granule	Dally R r Activated Car	endings bon Treatment :	System		
Doestpilen	Date	1122.2022	11:25.2022	11.28.2022	11-29-2022	11.30.2022	12.1202
Tank SteA Himzelderija Level	Galleno	141	130	145	105	75	150
Tenk 8108 Himoshlorile Level Tenk 8180	Ochsno	143	50	143	1.30	125	147
Tenk 8080 Hypoghlerije Level Tunk 800A	Saliene	150	90	197	147	145	145
Pohehooghtto Level	Calless	79	80	40	100	89	66
Tamk 6000 Polasikasakato Lovel	Gellens	160	110	105	85	64	60
Metering Pemp 995A: Passochierite Cutput Pressure	Per						
Motoring Pump (1968): Amochiorito Quiput Preceuro	Per						pringer, where the first special party or section for the
Bletering Pump 866A: Phosphate Colout Pressure	POS						
Motoring Pump 9868: Phosphoto Culput Presure	PM						
Motoring Pump BBSA: Otrobolitations	Unite						
Matering Pump (600): Stroler@red (Solering Pump (600):	Unite		•				
Obrette/Stated	Unite						
(fetering Pump (446): Strobutfipsed	Walts						
Generator Operating Hours	Hours	185.9	185.9	186.4	186.4	186.4	186.4
Main Facility Electric Mater Re	oding	3	*				
	<u> </u>	of Delva		Cl Delv.	Eacl - Contro		A
					Eagla Control Riplaca PHI meter		
	- A - 32.0 -		e e		PHI meter		14.A
Comments  dditional tasks performed, mai  needed, contrasters on site.	Marianto cts.)						
- Approximate the second secon							
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		2.0					

		Granu	Dally R lar Activated Ca	leadings rbon Treatment	System		
Description	Date	12:02:22	18.05.22	-		12.08204	2 1209-202
System Flow Rate	GP24	1950	1950	1900	1700	1800	1850
Total System Flow	Gallono	8379898	8387690	8390874	8392891	The same of the sa	6398259
Well 3 Status	ON OR OFF ON OR	OFF	OFF	0.0	00	00	ON
Well 4 Status	ON OR OFF	OU	00	OFF	OFF	OFF	OFF
Tank 109 Flow Ruse	GFM	250	OLL	450	450	450	300
Tank 200 Flow Rate	GPM	250	0/4	400	400	450	300
Tank 300 Flow Rule	<b>OPM</b>	350	450	550	450	500	250
Tank 400 Flow Rate	GP20	350	500	550	450	450	250
Tenk 598 Flow Rato	opas	350	500.	als	·ok	ok	400
Tank 600 Flow Reto	GP98	300	400	o/c.	; olc	ok	350
Tank 100 Total Flow	Gallens	49270,000	49982 000	50 117,000	50 896 000	51 38/2000.	
Tunk 200 Total Floor	Gations	38 690,000	1 , ,	,	89936.0a	90.411,000	01 2
Tent: 300 Total Flow		96 801,000	, ,	, , ,	99,681,000	00,310,000	7 2 1
Tenk 400 Tetal Flow	1	81,575,000	1000	8362).000	1		65 706 000
Tenk 500 Total Flow	Gallens	19 798,000	21569,000	, ,	22 114,000	22/14/000	12 11000
Tank 600 Total Flow	Gallons	64.808,000			66 206 pm	6620,000	Col 449,000
System Influent Procure	Per	70	78	81	58	60	78
System Ethuant Pressure	P8I	68	68	20	50	50	74
System Differential Pressure	Pal	6.6	9-8	9.9	8.0.	82	. 42
hierino Analyzor: Free Chierino Realdual - Inline	PPM	1.72	1.86	1.78	1.80	1.93	1.60
Effluent Water pH - Inline	Units	7.0	7.15	705	6.85	6.95	6.76
Menual Chlorine Reading (ex: Hach Kit)	PPM	1.83	1.93	1.84	1.51	2.04	1-7/
iliemsel pH check (ex: Heree)	Units					7,5/	
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		Granule	Daily Re a Activated Carl	-	hatam .		
Description	Date	12022022	1205202	appropriate the second	12.07.2012	12.08202	12.09.25
Tenk 800A Hyposhlerite Level	Callena	120	120	145	115	80	55
Tenk (1993) (threeshierite Level Tank 808C	Outleno	130	100	147	140	1.30	130
Tank 9000 Hyposhiarita Lavel	College	145	20	150	150	150	150
Tunk 800A Poharksaubyla Level Tunk 8008	Quillens	56	162	138	138	123	162
Tunk 2009 Pohaheashulo Lovel	Outlana	35	159	160	140	1451	181
Motorbig Purap 868A:	Pel						
sepalderika Output Prosesso Betering Pump BOSE: mooblerite Output Pressure	PO						
Motoring Pump 000A: Pasphate Cultud Presence Metering Pump 9000:	P81	A STANDARD AND A STAN					
Motoring Pump 9090: Thousant Output Pressure	PBI						
Statering Pump 686A: Strains/Streed	Umitio		***************************************	and the second s			
Motoring Pump 6908: Morette/Spread	Unite		According to the Accord		-	CONTRACTOR OF THE PROPERTY OF	
Matering Pump 000A: Girche/Speed	Unite	C-MIN				- STATE OF THE STA	
Helering Fump 986B: Stroke/Speed	Unites						
Senerator Operating Hours	House	186.8	1867	1860	186.8	186.8	1871
Main Facility Module Maior R	leading						
-			Monully	Turned off	Samplad	Bockwashy	GACÎ
					SAC	696,7	506
			2.4	506	5+10-1	506	
Comments Milland tests performed, wa	Intenence		SAC'SIDA	To Sample	well -1	306	Brck in
needed, contrasters on site			Well 3	1207202			Serve
			Wells	10010			and the same

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		Granuk	Daily R ar Activated Car		System		
Description	Date	1212.22	12.13.2022	12.14.202	12.15.2022	12.16.2002	12.19.2022
System Flow Rate	GPM	1850	1906	2050	2000	2000	1850
Total System Flow	Gellone	8406457	8436433	8418787	8421773	8423941	8426285
Well 3 Status	ON OR OFF	0.0	ON	0.0	02	OFF	OFF
Well 4 Status	ON OR OFF	OFT	OFF	OFF	OFF	0w	ON
Tenk 100 Flow Rate	opu	350	400	250	250	850	250
Tank 200 Flow Rate	GPW	400	400	250	250	250	250
Tank 300 Flow Rate	QF61	OK	OLL	350	400	350	350
Tank 490 Flow Rate	QPM	OL	ole	400	350	4100	350
Tenk 600 Flow Rate	<b>GP30</b>	500	500	350	. 350	350	300
Tank 600 Flow Rute	GPN1	450	450	250.	250	257	250
Tank 100 Total Flow	Gallens	53495000	53,910,000	53 551000	54 843 au	5135,000	56 158 000
Tent 200 Total Flow	Gattens	92/342 000	92949000	93 319 000	93628,000	93 995,000	9502200
Tank 300 Total Flow	Callens	01,554,000	@1587,000	01918000	02 209,000	03,007,000	04325,000
Tenix 400 Total Flow	Gellons	86 298 000	86,304,000	86 682,000	37 114,000	87 698 000	89 447,000
Tenk 500 Total Flow	Gellens	24321,000	24988000	25 818,000	26,329,000	26 741,000	28 309,000
Tenk 600 Total Flow	Gellons	67,974,09)	69511,000	69, 157,900	69,303,000	69782,000	71,179,00
System Influent Pressure	P61	52	68	70	7-1	70	8-3
System Effluent Pressure	Pat <sub>3</sub>	67	64	67	71	66	80
System Differential Proceure	PSI	5.7	5.2	40.	4.0	4.1	. 3.8
Chiprino Analyzor: Free Chierino Realdsal - Inline	PPM	1.75	1.83	1.47	1.63	1.62	1.65
Efficent Water pH - Inline	Units	657	6.67	6:46	656	7.05	7.07
Manual Chlorine Reading (ex: Hach Kit) Manual pH check	PPM	1,83	1.92	1.52	1.72	1.72	1.74
(ex: Henne)	Unito						

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		Granui	Daily R or Activated Car		lystern	нетом и почем поч	
Departmen	Date	121222	12.13-2022	12.14.2022	12-15-2022	12.16.2022	1/2/19.2012
Tank 600A (harpahladha Laral Tank 8008	Gallens	141	105	1<14)	112	70	151
I throughtent in Level	Oullens	110	100	143	140	140	20
Tank 800C Hymechierile Level	Cellons	50	50	,56	156	50	155
Tunk 900A Pohophophyte Level Tunk 9008	Osllom	150	149	160	160	160	ラヤ
Tunic Stress Pobashogahate Level	<b>Getions</b>	83	58	80	62	40	140
Motortog Pump 860A: Hypochlorite Output Program	Pet		N 1. 2				
Hospotionite Output Pressure Biotering Pump (1998): Hospotionite Output Pressure	Per						
Motoring Pump (66A: Phogologic Output Pressure Motoring Pump (888):	Pa	1					
Motoring Pump 9000: Phosphate Outpet Pressure	Per						
Motoring Pump (80A: Strainfilteed	Unite		100000000000000000000000000000000000000				
Motoring Punto (1968:	Unite						
Grainflann d Glatering Pump 600A:	Unite						
Minds Paris 1888: Matering Paris 1888: Strate/Speed	Unite						
Generator Operating Hours	House	1871	187-5	187.5	187.5	1878	187.8
Main Pasitity Electric Mater Re	eding						
Comments (additional tooks performed, main meded, contrasters on sile, o	denance sks.)	Sampled SAC 3041 Baic. Sampled GAC 3041 FNF. Fr	Beckwashy GAC'S 324	CL Delu. Phos. Dolu			Alarm on Gentineter

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		Granul	Dally R ar Activated Car	eadings rbon Treatment	System	and the second second performance before the second performance and the sec	rya mpakytin pianidan ama <sub>ndan</sub> ya, aya ani ayang dalah dalah aya an
Description	Date	62022	12012012	1222020	12.23.2020	12.26.2026	12.28.2022
System Flow Rate	OP4	2000	1950	2050	1850	1950	2100
Total System Flow	Gellone	8428853	38431676	8434544	8437104	8442988	The same of the sa
Wed 3 Status	ON OR OFF	OFF	OFF	OFF	OFF	OFF	OFF
Well 4 Status	ON OR OFF	OW	0.0	OV	05	ON	ON
Tenk 100 Flow Rate	GPM	250	250	250	225	250	250
Tank 200 Flow Rate	GPM	250	250	250	025	250	250
Tank 300 Flow Rate	<b>OPE</b>	350	O25	350	300	350	350
Tank 480 Flow Rate	GPM	400	350	400	350	350	350
Tank 909 Flow Rato	65-69	350	350.	350	. 350	350	350
Tenk 600 Flow Rate	GPNI	250	250	.300.	:300	306	350
Tank 100 Total Flow	Gallens	56 459,000	56767,000	57130,000	57433000	58,077,000	58 898 con
Tank 200 Total Flow	Gations	95 256,000	95639000	96,068,000	96386000	96921000	97.911.000
Tank 300 Total Flow	Gellons	04 795 000	05/11/000	05 796,000	- 4	' '	703 000
Tenk 400 Total Flow	Gallons	90 002 000	90 416 000	91,147,000	91.668,000	92 209 000	93518 000
Tank 600 Total Flow	Gellens	28791,000	29 078,000	29828,000		- 1	1 1
Tenk 660 Tetel Flow	Gellens	71572,000	71,792,600	72,417,000	72,790,000	73,311,000	79 487,000
System Influent Pressure	PBI	75	78	63	83	79	C i
System Effluent Proceure	Pat	71	74	60	78	75	55
System Differential Pressure	Pal	4.1	4.0	4.7.	4.2	c1.6	. 5.3
Chlorino Analyzer: Free Chlorino Realdzel - Izilne	PPM	1.67	1.73	153	1,73	1.81	1.67
Efficent Water pH - Inline	Unite		7.07	.6.51	6.63	6.67	6.65
Manual Chlorine Reading (ex: Hack Kit)	PPM	1.95	1.79	1.63		187	1.74
Menuel pH ebock (ex: Henne)	Units			-	denogradus in the second secon		

		Granula	Daily R r Activated Car	adings bon Treatment :	System		
Occupition	Date	12202027	<del>Language and the same and the </del>	12.22.22		12 26 2022	12.28.202
Tenk 800A Humoshlerite Lavel Tenk 800B	Golleno	133	1/1	153	153	80	153
three diferite Level	Gullens	110	105	1.55	114	150	151
Tunk 800C Wysoshigriig Level	College	40	40	156	156	70	155
Timit 808A Pohjukosaltyja Lovel Tunit 8088	Qallons	135	117	148	130	74	110
Tunk 2003 Petasheeshute Level	Collens	140	140	140	140	140	140
Motortog Pump 866A:	Per				agent belonder and proper sales and the sales		
politorite Culturi Processo Boloring Pump Billi: pochlarite Gulgat Processo	Pel		PROGRAMMENT CONTRACTOR OF THE PROGRAMMENT OF THE PR			2	
	Pes		TO THE RESIDENCE OF THE PARTY O				
heeminate Cutant Pressure Metering Pump 9000: heamhate Cutant Pressure	PBI		AND THE PARTY OF T				
Parker Branch Carle	Units		Ancomorações parços no modernos do constantações				
Eleturing Fump (stilk	Unite		*				
Giroladiscod Gistoring Puntp 6608: Giroladiscod Gistoring Puntp 600A: Giroladiscod	Unite						
(Saturing Party (1902): Strate/Streed	Unites		*				
merator Operating Hours	House	1878	187.8	1878	187.8	187.8	187.8
lain Facility Electric Mater Re	- Alexan		A STATE OF THE PARTY OF THE PAR				
Estate & Company A company of the company of							01001
		Phos. Delu		CLa Delu. Plos Dolu.			CL2 Pelu
		GenServi		Phos. Delv.			Phos Polu.
Comments		, .				4	Thans?
diland tasks performed, well manded, contrastors on ollo.	cononcto	Chansa					Shangr CLIPH Inling
money, territoria ca em,	(Mar.)	out better	., .		•		Inling
	a An Julyan	out Bottom				0.2	
		V		4K-2 02544			

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		Grane	Dail Mar Activeted	ly Readings Carbon Treats	December Character		
Description	Date	12.30.202			realic System		
System Plow Reals	QP-04	2100					
Total Gyatam Plan	Callone	The state of the s				-	4
Wed 3 Charles	CHOR	OFF					
Well 4 Grains	CH OR	ON					
Tent: 100 Plan Ruse	@PE	250					
Tank 200 Flour Rate	GPE	250					
Tent: 300 Flow Rule	<b>OPM</b>	350					
Trank 400 Flow Rate	<u>Orm</u>	350					
Tank 900 Flow Rate	<b>6576</b>	350					
Test 600 Flow Rule	GP NI	300		1.	-	S. C. Chang	7. · · 2. · ·
Tank 100 Total Play	College	59,860,000			· · · · · · · · · · · · · · · · · · ·		
Tank 200 Total Flour	Outlone	8891,000					Month Companies S Companies Services
Tank 500 Total Flow	Gellene	39829000					
Tenk 400 Total Plans	Galleria 7	5586,000	ACCUPATION AND ADDRESS OF THE PARTY OF THE P		-		
Tank 800 Total Play	Cattons	3951,000				2.	
Tank 660 Total Plaw	<b>Gallens</b>	5,728,00					
Gydem Influent Pronume	POI	67					
System Efficant Pressure	Par	63	**************************************			The second second	
System Differential Pressure	Pos .	5.1					
hierino Analyser: Pres Chierino Resident - Inlino	PPM	174					
Eliterat Water pH - Indice	Unites	6.5					
Manuel Chierine Reading (ex: Hack 100)	PPM	1.81				many of the second	
Manual pH abook (es: Hones)	Unite						

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280 y 22 1		Granular A	Daily Readi activated Carbon	ngs Treatment System	1	
Deposition	Date	12 20 2029				
Tank Basis Managabigatha Lawal	Gellano	90				
Translet Manager	Outland	150				
throughpolity Local Track value (hyperhidents) Local	Callano	70				
Hamphieth Land	Ontleas	135				
Palasiacasiaska Latel	<b>Outlans</b>	140				
Material Princip (MA):  specialist Guident Processo  Material Pump (MA):  Material Pump (MA):	Per					
Roberton People (688):	Fee					
Botoring Pump 866A: combute Cottest Presented	Pas	M. Walker				
Material Pump (Day)	POI					
Bulgiday Pany COA:	Unitio					
Hotoring Penny Gills:	Unitto					
Essocial Fromp Code:	Units					
Burging Pump 6864:  Braingliness  Braing Pump 6868:  Braing Pump 6864:  Braing Pump 6864:  Braing Pump 6864:  Braing Pump 6864:  Braing Pump 6866:	Units		•			
espectator Operalikaji Henra	Herero	1878				
Agin Featility (Beats)s Makes	Reading					
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The second of		Changr flow /Ph Chart-				
4 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m		100 /1 N				
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gaoded, accircations on elli	a, ata.)					
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