

June 2022

OPERATIONS' DEPARTMENT MONTHLY REPORT

PUMPAGE	HIGH LIFT		LOW LIFT		2022 VS 2021
	2021	2022	2021	2022	HL
Total in MG	420.215	393.877	418.595	398.908	-6.27%
Daily Average (MG)	14.007	12.725	13.953	13.297	
Max. Day (MG)	16.195	15.218	16.249	15.090	2022 VS 2020
					HL
Gal/KwH	1,179	1,186	4,880	4,924	7.76%
ELECTRICAL COSTS					
		2021		2022	
		KwH	\$	KwH	\$
A. Pumping:					
High Lift		349,957	\$24,379.90	329,937	\$25,241.34
Low Lift		84,657	\$5,897.66	80,700	\$6,173.83
Wash Pump 1		2,100	\$146.30	1,400	\$107.10
Georgia St. Bstr.		44,700	\$4,672.89	57,000	\$5,593.21
Wilgus Ave. Bstr.		3,300	\$403.76	3,400	\$457.06
EE Pit / Bstr.		5,534	\$643.86	5,655	\$727.45
Erie Ave. Bstr.		0	\$0.00	0	\$0.00
Sub Total		490,248	\$36,144.37	478,092	\$38,299.99
					\$/KwH 8.7%
B. Treat./Fiscal/Misc.					
		KwH	\$	KwH	\$
Office & Maint. Bldg.		11,019	\$1,252.93	8,596	\$1,022.16
Filter Plant / Pump Station / 2nd Service		48,086	\$3,956.19	49,763	\$4,504.29
Sub Total		59,105	\$5,209.12	58,359	\$5,526.45
					\$/KwH 7.4%
C. Distribution:					
		KwH	\$	KwH	\$
Taylor Hill Tank		487	\$74.98	409	\$71.23
Kohler Meter Pit		0	\$0.00	0	\$0.00
EE Tower		230	\$45.43	1,202	\$172.51
Washington (PRV) Pit		353	\$62.74	172	\$43.15
Sub Total		1,070	\$183.15	1,783	\$286.89
					\$/KwH 8.6%
Total Electrical Costs		550,423	\$41,536.64	538,234	\$44,113.33
Electrical Cost / MG			\$98.85		\$111.83
NATURAL GAS COSTS					
		2021		2022	
		CCF Used	Cost	CCF Used	Cost
Production Facility		491	\$427.41		
South Basin		1,049	\$935.40	355	\$394.69
Georgia St. Bstr.		29	\$40.22	29	\$41.84
Erie Ave. Bstr.		51	\$70.06	0	\$29.59
Wilgus Ave. Bstr.		0	\$17.33	0	\$17.33
Office & Maint. Bldg.		588	\$487.05	320	\$262.98
Total Natural Gas Costs		1,688	\$1,977.47	704	\$746.43
					\$/CCF -9.5%
Natural Gas Cost / MG			\$4.71		\$1.89
CHEMICAL COSTS					
		2021		2022	
		Lbs. Used	Cost	Lbs. Used	Cost
Alum		42,576	\$6,024.50	36,988	\$6,713.32
Carbon		0	\$0.00	0	\$0.00
Chlorine		4,143	\$2,858.67	6,832	\$10,111.36
Fluoride		1,814	\$1,971.82	1,960	\$2,724.40
KMnO4		0	\$0.00	0	\$0.00
Cationic Polymer		249	\$385.18	0	\$0.00
Liquid Phosphate		3,528	\$4,664.02	4,762	\$7,514.44
Total Chemical Costs			\$15,904.19		\$27,063.52
					70.2%
Chemical Cost / MG			\$37.85		\$68.61
Grand Total					
		\$59,418.30		\$71,923.28	21.05%
		\$141.40		\$182.33	28.94%

YTD HL 2022 vs 2021	1.08%	YTD HL HIGH DAY PUMPAGE	15.218	June 20, 2022
YTD HL 2022 vs 2020	12.21%	YTD HL LOW DAY PUMPAGE	7.587	January 1, 2022

NOTE:

Electrical costs include an Alliant Energy 8.3% rate increase approved by PSC.
all WPS bills available.

Not

	YTD HL Ave Day
2022	12.020
2021	12.020
2020	10.764

COMPARATIVE SUMMARY OF PLANT OPERATIONS

June 2021

vs

June 2022

Pumping Record

High Lift

Low Lift

	2021	2022	Diff.		2021	2022	Diff.
Tot. Water in MG	420.215	393.877	-6.27%	Tot. Water in MG	418.595	398.908	-4.70%
Daily Average	14.007	12.725	-9.15%	Daily Average	13.953	13.297	-4.70%
Maximum Day	16.195	15.218	-6.03%	Maximum Day	16.249	15.090	-7.13%
Minimum Day	10.887	10.063	-7.57%	Minimum Day	10.996	10.507	-4.45%
By Natural Gas	7.577	3.256	-57.03%	By Natural Gas	5.488	1.575	-71.30%
Power in KWH	349,957	329,937	-5.72%	Power in KWH	84,657	80,700	-4.67%
Gals. per KWH	1,179	1,186	0.57%	Gals. per KWH	4,880	4,924	0.90%
Power \$ / KWH	\$0.06967	\$0.07650	9.81%	Power \$ / KWH	----	----	----
Power \$ / MG	\$58.02	\$63.99	\$5.97	Power \$ / MG	\$14.09	\$15.48	\$1.39
Tot. Power \$/MG	\$98.94	\$112.22	\$13.28	Tot. Power \$/MG	----	----	----

Treatment Chem.

Lbs. Used

Total Lbs.	2021	2022	Diff.
Alum	42,576	36,988	#DIV/0!
Carbon			#DIV/0!
Chlorine	4,143	6,832	64.90%
KMnO4	0		#DIV/0!
Polymer	249		-100.00%
Liquid Phosphate	3,528	4,762	34.98%
Lb/ MG:			
Alum	0.0	92.7	#DIV/0!
Carbon	0.0	0.0	#DIV/0!
Chlorine	9.9	17.1	73.04%
KMnO4	0.0	0.0	#DIV/0!
Liquid Phosphate	8.4	11.9	41.64%

Cost

Total Cost	2021	2022	Diff.
Alum	\$6,024.50	\$6,713.32	\$688.82
Carbon	\$0.00	\$0.00	\$0.00
Chlorine	\$2,858.67	\$10,111.36	\$7,252.69
KMnO4	\$0.00	\$0.00	\$0.00
Polymer	\$385.18	\$0.00	(\$385.18)
Liquid Phosphate	\$4,664.02	\$7,514.44	\$2,850.42
Cost / MG:			
Alum	#DIV/0!	\$16.83	#DIV/0!
Carbon	#DIV/0!	#DIV/0!	#DIV/0!
Chlorine	\$6.83	\$25.35	\$18.52
KMnO4	#DIV/0!	#DIV/0!	#DIV/0!
Liquid Phosphate	\$11.14	\$18.84	\$7.70

Fluoride:	2021	2022	
Total Lbs.	1,814	1,960	8.05%
mg/l applied as F	0.72	0.72	
Av. Res. Plt. Tap	0.71	0.70	

Fluoride:	2021	2022	
Cost	\$1,971.82	\$2,724.40	\$752.58
Cost/MG	\$4.70	\$6.92	\$2.22

Water Quality:

Raw

	2021	2022
Turbidity	1.30	0.90
pH	8.31	8.34
Alkalinity	107.6	108.8
MF (E-Coli)	0.2	0.2
Temperature	47.9	43.8
Wash-H2O % /LL	1.77	1.70
Av. Flt. Run/hrs	117.7	130.6
Av. ROF / MG	1.45	1.38

TAP

	2021	2022
Turbidity	0.030	0.065
pH	7.72	7.77
Alkalinity	101.6	103.1
Plate Count	0.00	0.00
Colilert	0	0
Temp.	50.4	46.1
Cl Res.	0.86	0.88

Natural Gas:

	2021	2022		2021	2022	Diff.
Nat. Gas Heating	1,893	-1,135	Plant & South Basin	\$959.01	#DIV/0!	#DIV/0!
Nat. Gas Pumping	585	1,490		\$463.44	#DIV/0!	#DIV/0!

	CCF	Cost	Natural Gas Cost	Natural Gas CCF
#3 Gas Pump	176.7	#DIV/0!	\$394.69	355
#4 Gas Pump	972.0	#DIV/0!		
#7 Gas Pump	167.5	#DIV/0!		
Electric Generator	174.0	#DIV/0!		
Pumping totals	1490.2	#DIV/0!		

June 2022

	7/1/2022	6/1/2022	
% Run	Elapsed Time:		
79.1%	No. 6 Pump	67,461.9	66,892.3 569.6
2.50%	Wash Pump Meter	5,453.42	5,435.45 17.97
0.9%	No. 7 Pump	761.5	754.8 6.7
0.0%	No. 8 Pump	59,535.6	59,535.6 0.0
99.0%	No. 9 Pump	20,376.0	19,663.0 713.0
1.3%	Wash Pump 2	23	14 9
	No. 1 Prime Pump	1,042.2	1,041.2 1.0
	No. 2 Prime Pump	1,113.8	1,112.1 1.7

Kw/Hr run	Watt-hour Meters:		
77.9	Wash Pump 1	1256.1	1254.1 1,400
55.4	No. 9 Pump	5552.75	5513.27 39,484
#DIV/0!	No. 8 Pump	6834.4	6834.4 0
72.4	No. 6 Pump	603.2	456 41,216
129.9	Wash Pump 2	2,454	1,48 1,169
539.1	No. 1 Pump	8858.326	8724.815 133,511
272.9	No. 2 Pump	4760.877	4760.514 363
299.6	No. 3 Pump	9891.855	9851.064 40,791
#DIV/0!	No. 4 Pump		0
479.4	No. 5 Pump	10,059.528	9,904.256 155,272

Garage (MWatt/Hrs.)	1,061.72	1,058.71	3,010
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Power Co. (Step #3)	36,572	36,186	463,200
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Left Meter - OUTSIDE

Volume Used:

Nat. Gas (Correct)	44,772,044	44,680,273	115,356
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% Run	Elapsed Time:		
34.4%	No. 1 Pump	16,427.1	16,179.5 247.7
0.2%	No. 2 Pump	20,318.51	20,317.18 1.33
18.9%	No. 3 Elec. Pump	34,362.6	34,226.4 136.1
0.8%	No. 3 Nat. Gas Pump	535.9	530.2 5.7
0.0%	No. 4 Elec. Pump	0.00	0.00 0.0
3.0%	No. 4 Nat. Gas Pump	29.9	8.3 21.6
45.0%	No. 5. Pump	21,036.120	20,712.220 323,900
0.5%	UV Building Generator	126.3	123 3.3

	7/1/2022	6/1/2022	
SLUDGE No. 1 Hour Meter	0.0	0.0	0
SYSTEM No. 2 Mag Meter	4,919,530	4,542,110	377,420
Recycle Meter (Reset to zero each month)			377,420

Power Cost	\$0.0765035	Bill >>>>	\$38,006.94
	0.421528571	KWH >>>	496,800
Init. Chg.	\$35,436.42		
	\$	KWH	
Kohler Pit			
Horizon	\$153.47	992	
Taylor	\$71.23	409	
ALT. 72 Park	\$590.14	1,400	
Geo. Ave.	\$5,593.21	57,000	
Wilgus Ave.	\$457.06	3,400	
EE Pit	\$727.45	5,655	
EE Tower	\$172.51	1,202	
Washington	\$43.15	172	
Office	\$1,022.16	8,596	
Erie Ave.			
Total	\$44,266.80	542,026	

Low L. KWH	80,700
L.L. Cost \$	\$6,173.83
High L. KWH	329,937
H.L. Cost \$	\$25,241.34
Total Cost	\$31,415.17

Plant Costs	\$4,504.29
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SUMMARY

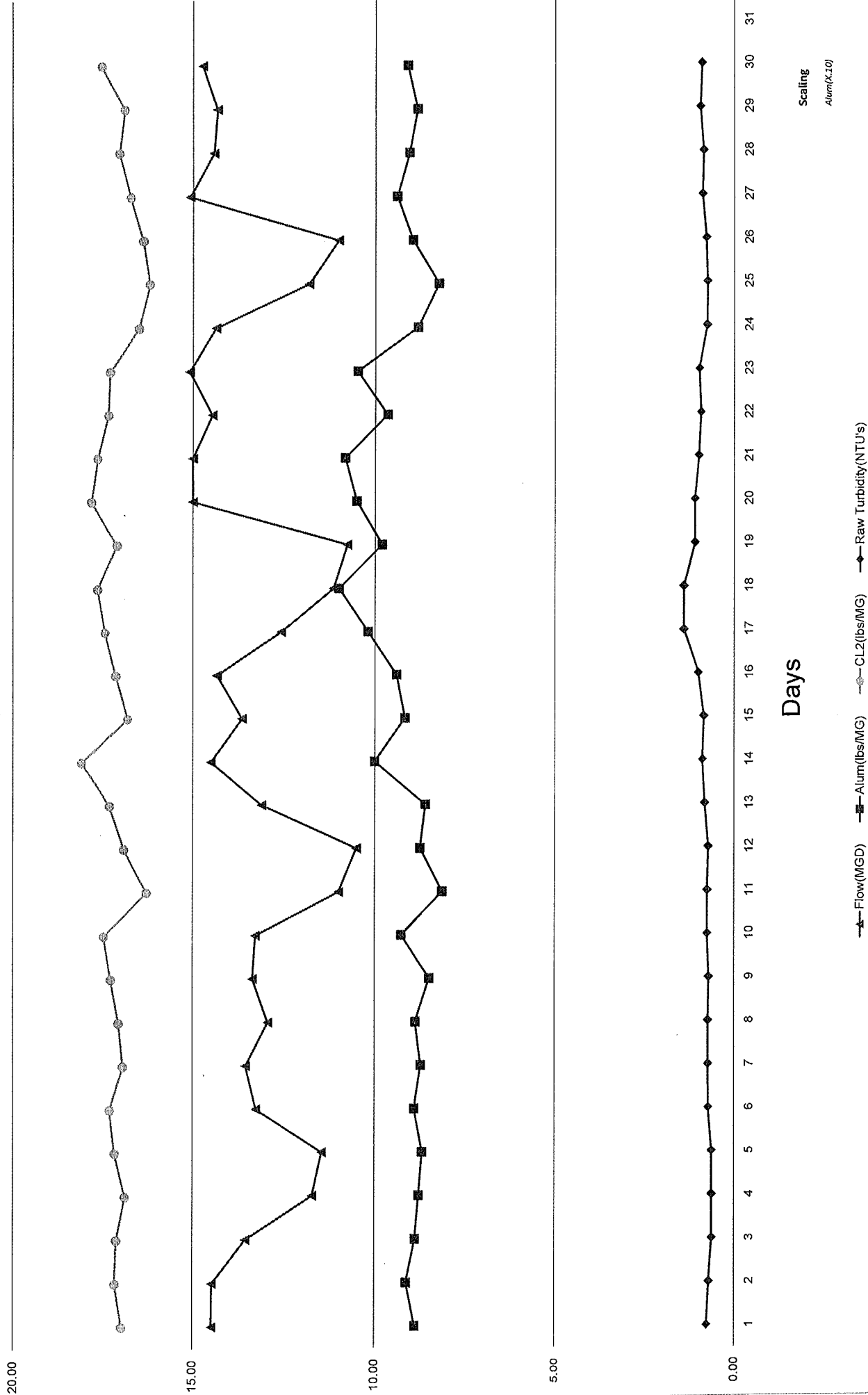
	HIGH LIFT		LOW LIFT	
	2021	2022	2021	2022
Tot. Pump	420.215	394.478	418.595	398.908
Daily Ave.	14.007	12.725	13.953	13.297
Max. Day	16.195	15.218	16.249	15.090
Min. Day	10.887	10.063	10.996	10.507
By Nat. Gas	7.577	3.256	5.488	1.575
Power KWH	349,957	329,937	84,657	80,700
Gals/KWH	1179	1186	4880	4924
Cost/KWH	\$0.06967	\$0.07650	*****	*****
Cost/MG	\$58.02	\$63.99	\$14.09	\$15.48
Tot. Cost/MG	\$98.94	\$112.22	*****	*****

HIGH LIFT DELIVERY QUARTERLY REPORT 2022				
I. FIRST QUARTER		Jan - Feb - Mar		
		GALLONS	COST \$	\$/MG
	2021	1,055,591,000	\$181,125.65	\$171.59
	2022	1,079,805,000	\$233,346.76	\$216.10
	Percent Difference	2.29%	28.83%	25.94%
II. SECOND QUARTER		Apr - May - Jun		
		GALLONS	COST \$	\$/MG
	2021	1,115,306,000	\$168,613.25	\$151.18
	2022	1,114,560,000	\$220,553.73	\$197.88
	Percent Difference	-0.07%	30.80%	30.89%
III. THIRD QUARTER		Jul - Aug - Sep		
		GALLONS	COST \$	\$/MG
	2021	1,275,383,000	\$191,262.23	\$149.96
	2022	0	\$0.00	#DIV/0!
	Percent Difference	-100.00%	-100.00%	#DIV/0!
IV. FOURTH QUARTER		Oct - Nov - Dec		
		GALLONS	COST \$	\$/MG
	2021	1,076,367,000	\$179,773.03	\$167.02
	2022	0	\$0.00	#DIV/0!
	Percent Difference	-100.00%	-100.00%	#DIV/0!
YEAR TO DATE : 2022				
ELECTRICITY CHEMICALS NATURAL GAS		GALLONS	COST \$	\$/MG
	2021	4,522,647,000	\$720,774.16	\$159.37
	2022	2,194,365,000	\$453,900.49	\$206.85
	Percent Difference	-51.48%	-37.03%	29.79%
YEAR TO DATE : 2022				
SLUDGE DISPOSAL to WWTP		GALLONS	COST \$	
	2021	4,225,349	\$45,410.11	
	2022	2,128,570	\$20,218.53	
	Percent Difference	-49.62%	-55.48%	
STORM WATER CHARGES		2022	NA	\$0.00
HIGH LIFT SYSTEM DELIVERY :				
	Maximum Pumpage Day	15,218,000	June 20, 2022	
	Minimum Pumpage Day	7,587,000	January 1, 2022	

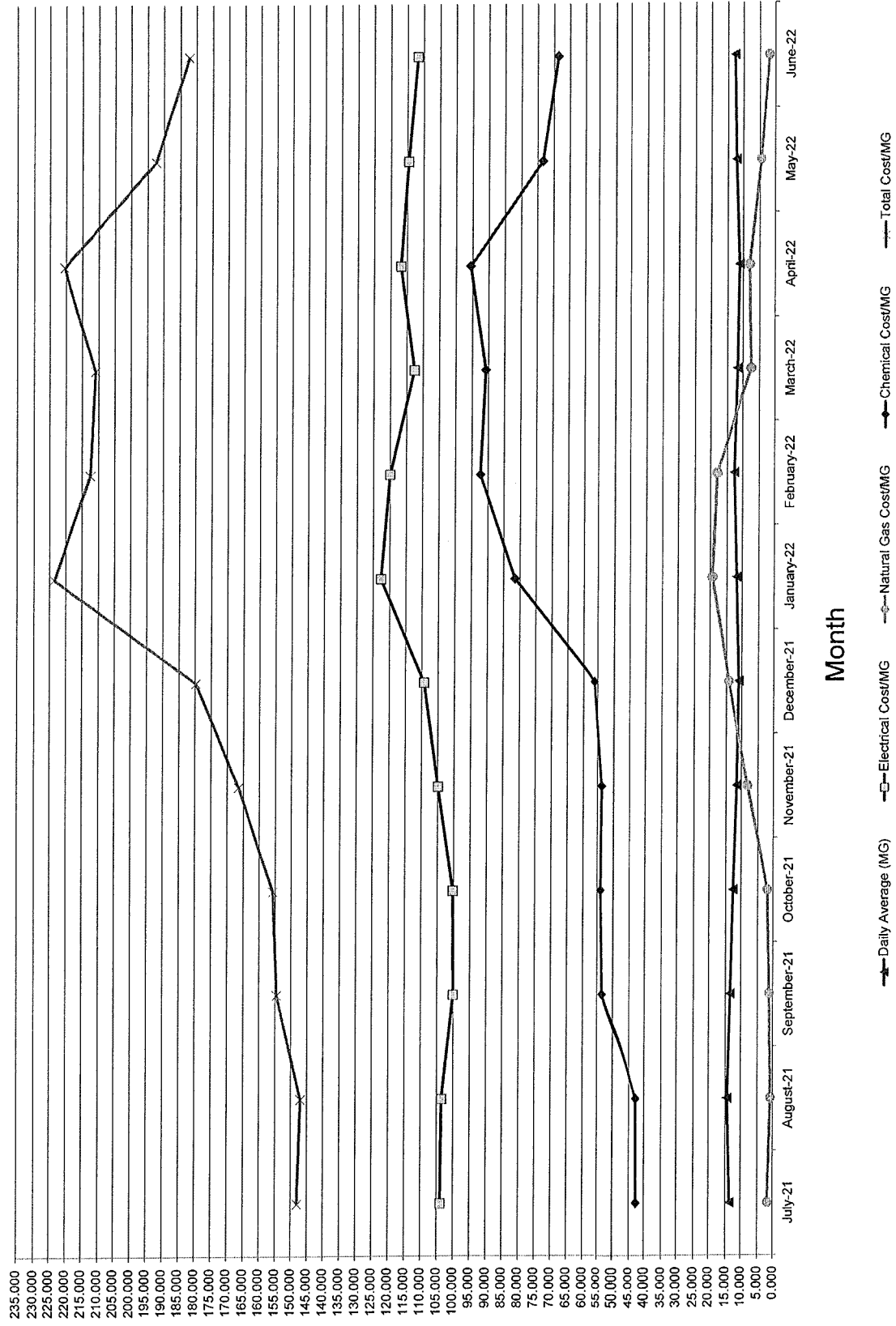
	MG	\$	\$/MG
2021	4,522,647,000	\$720,774.16	\$159.37
2022	2,194,365,000	\$453,900.49	\$206.85

NOTE: Monthly sludge disposal costs do not reflect the current actual monthly sludge discharge total to date.
Filtrate discharges from Spring/Fall sludge disposal operations are included in treatment plant sludge disposal costs.
Spring/Fall basin sludge/residual solids volumes and disposal costs are contract work.
Sludge disposal costs are not included in \$/MG.

June 2022: Sheboygan Water Utility Plant Operations Summary



Plant Operations: Expense Report



Filter Plant Maintenance Completed For June 2022

Subject	Start Date	End Date	Description	Yellow indicates days operating or running labs
Backwash Basin	1-Jun-22		Ensure overflow valve is open, use backwash water to being cleaning sludge pit, bring hoses, safety gear, etc. out to work area.	
Filter 11	1-Jun-22		Wash filter, double check operations, and use backwash water to begin backwash cleaning.	
Filter 11	1-Jun-22		Disassemble used valve actuator, remove button display, and reassemble; parts and operational details used to repair filter 11 wash valve actuator.	
Filter 11	1-Jun-22		Install used button/display and remove manual gear set for lubrication.	
Joshua Operating 1st Shift	2-Jun-22	2-Jun-22	Joshua Covering 1st shift for Glen.	
Backwash Basin	2-Jun-22		Place valves in proper positions, return hoses to South Basin, and install hatch cover.	
Backwash Basin	2-Jun-22		Clean backwash basin.	
Dan covering 3rd shift	2-Jun-22		Dan covering 3rd shift operations for Tyler	
Wilgus Ave.	3-Jun-22	5-Jun-22	Collect laboratory sample, inspect grounds, etc.	
UV Reference Sensor Check	3-Jun-22		Perform UV reference sensor check; might have issue with ¼ reference sensor wiring.	
Dan off for coverage	6-Jun-22	7-Jun-22	Dan off for coverage	
Rate of Flow	6-Jun-22		Contact Rick at Energetics for price on Rosemount rate of flow meter.	
Generator Room Light	6-Jun-22		Install new L.E.D. light in generator room.	
NEOGOV Training	6-Jun-22		Complete NEOGOV and utility training.	
Monday Meeting	6-Jun-22		Raw water improvement, graduation, coverage, utility lock for construction gate, NEOGOV, training, etc.	
Filter 11	6-Jun-22		Wash filter 11 and double check valve operation.	
Wilgus Ave.	7-Jun-22		Check pump station interior, walk grounds, and clear PLC alarms.	
Taylor Hill	7-Jun-22		Fill reagents, walk grounds, inspect inside, empty dehumidifier, etc.	
Georgia Ave.	7-Jun-22		Reset breaker #3 (de-humidifier inop), installed new 9volt battery in carbon monoxide detector, walked grounds, and checked reagents (1/3 left).	
Horizon and EE Tower	7-Jun-22		Checked reagents, walked grounds, and inspected internals.	
Erie Ave.	7-Jun-22		Ran generator, walked grounds, swept floor, and replaced reagents.	
High Lift Discharge Valve #36	7-Jun-22		Closed valve 25 turns.	
West UV Reactor	8-Jun-22		Shutdown East reactor and startup West reactor.	
West UV Reference Check	8-Jun-22		Perform West UV reference check, both sensors passed.	
Chemical Panel UPS	8-Jun-22		Install new UPS in chemical panel.	
NEOGOV Training	8-Jun-22		Participate in Utility/NEOGOV online training.	
Menards	8-Jun-22		Purchase hall clock, Ziplock bags, and aluminum foil.	
Joshua Operating	9-Jun-22	9-Jun-22	Joshua operating 1st shift for Mark.	
Joshua Covering 3rd Shift	10-Jun-22	12-Jun-22	Joshua covering 3rd shift for Glen.	
Joshua Off for Coverage	13-Jun-22	14-Jun-22	Joshua off for 3rd shift coverage.	
Dan Covering Laboratory	13-Jun-22	17-Jun-22	Dan covering laboratory for Eric H.	
South Basin Maintenance	15-Jun-22		Clean NTU meter, flush alum lines, service hypo meters, etc.	
South Basin Flocs	15-Jun-22		Grease and inspect south basin flocs.	
Joshua Operating 1st shift	15-Jun-22	15-Jun-22	Joshua covering 1st shift for Jeffery B.	
Rapid Mix	15-Jun-22		Inspect roof top vents, clean alum injector, flush water heater, clean floors, etc.	
South Basin Bathroom	16-Jun-22		Clean south basin bathroom.	
Filter 10 and 11	16-Jun-22		Place filter 11 in service and wash filter 10.	
Filter Plant Floor	16-Jun-22		Sweep and scrub filter hall floor.	
Generator Issue	16-Jun-22		Continue diagnosing generator cooling water RPZ issue.	
Dan Operating 1st	16-Jun-22	16-Jun-22	Dan covering first shift for Wayne.	
South Basin Bathroom	16-Jun-22		Repair toilet flushing mechanism; wouldn't shut off.	
Generator Part	17-Jun-22		Clean up generator room, put unused parts away, organize shop, etc.	
Plant Generator	17-Jun-22		Continue diagnosing generator cooling water issue; both Gould solenoids failed.	
Dakota Supply Group	17-Jun-22		Order two Gould valve solenoids.	
Filter 11	20-Jun-22		Wash filter for Tyler; make space in clear well for high lift shutdown.	
Pressure Washer	20-Jun-22		Setup and operate pressure washer for Jeff SMART goal.	
High Lift Shutdown	20-Jun-22		Shutdown high lift and check pressure drop at RPZ feed in generator room; 16 psi when off, 55 psi needed.	
Dakota Supply Group	20-Jun-22		Purchase battery charger and check prices on 2" actuator/valves.	
Dakota Supply Group	20-Jun-22		Purchase 1-100 psi gauge, sump pump, and ¼ coupling.	

Monday Meeting	20-Jun-22	Generator discussion, coverage, Alliant Energy interruptible power SOP, raw water project, etc.
Batteries plus	21-Jun-22	Batteries to drop off old batteries
Menzor	21-Jun-22	Menzor for truck fuses and power washer fuel filter
Garbage	21-Jun-22	Removed filter plant garbage and cardboard
Lab water bath repair	21-Jun-22	Temporary Water bath repair
Trouble shoot power washer	21-Jun-22	Trouble shooting power washer starting issues. Washer working
Flipse order	21-Jun-22	Received and put away flipse order
RPZ trouble shooting	21-Jun-22	Trouble shooting emergency generator room RPZ pressure issue.
Maintenance paperwork	21-Jun-22	Purchase orders and looking up parts from vendors
Trilling	21-Jun-22	Trillings for lab water bath bearings
Joshua Covering 2nd Shift	22-Jun-22	Joshua Covering 2nd shift for Mark.
Gas Engines maintenance	22-Jun-22	Checked and filled oil and coolant levels on all plant backup generators
Generator startup/shutdown	22-Jun-22	Assisted operator with running generators and monitored #10 generator for solenoids opens and closing water flow
Swan Hypo analyzers	22-Jun-22	Cleaned and maintenance on plant hypo analyzers
Cleaned turbidity meters	22-Jun-22	Cleaned basin turbidity meters
Dan on Vacation	24-Jun-22	Dan on Vacation
Joshua Covering 1st Shift	25-Jun-22	Joshua covering 1st shift for Glen.
Trillings	27-Jun-22	Trillings for plant emergency keys
Monday morning operations meeting	27-Jun-22	Monday morning operations meeting
Dakota Supply Group	27-Jun-22	Purchase 24" pipe wrench and pickup new 2" valves for generator.
Generator 2" Valves	27-Jun-22	Install and wire in new 2" ASCO N.C. valves.
Generator	27-Jun-22	Install new bracket mount bolts, leak check, run engine, and over bore heat exchange water return plate.
Jar Tester	28-Jun-22	Clean lines and jars for tour/inspection.
2" Bypass for Generator	28-Jun-22	Assist crew installing temporary 2" bypass for emergency generator water pressure.
Eyewash Stations	28-Jun-22	Flush and record on eyewash stations.
Filter Hall	28-Jun-22	Mop and Zamboni plant floors.
Operators Office and Laboratory	28-Jun-22	Clean the operators office and laboratory for tour/inspection.
Engine 3	29-Jun-22	Clean cooling water screen, bleed water system, and exercise valves.
Joshua Off For Coverage	30-Jun-22	Remove filter covers, clean, install new gaskets, etc.
		Joshua off for 1st shift coverage.