

April 2023

OPERATIONS' DEPARTMENT MONTHLY REPORT

PUMPAGE	HIGH LIFT		LOW LIFT		2023 VS 2022
	2022	2023	2022	2023	HL
Total in MG	345.623	341.735	350.527	353.722	-1.12%
Daily Average (MG)	11.149	11.409	11.684	11.791	
Max. Day (MG)	13.846	12.949	14.079	13.199	2023 VS 2021
					HL
Gal/KwH	1,189	1,188	5,016	4,897	-1.06%
ELECTRICAL COSTS					
A. Pumping:	2022		2023		
	KwH	\$	KwH	\$	
High Lift	287,338	\$22,507.56	286,901	\$24,614.41	
Low Lift	69,413	\$5,437.21	71,777	\$6,158.04	
Wash Pump 1	2,100	\$164.50	2,800	\$240.22	
Georgia St. Bstr.	54,300	\$5,203.03	51,300	\$5,384.72	
Wilgus Ave. Bstr.	2,900	\$391.70	2,800	\$400.05	
EE Pit / Bstr.	5,706	\$731.54	5,523	\$750.98	
Erie Ave. Bstr.	0	\$0.00	14,400	\$2,935.21	\$/KwH
Sub Total	421,757	\$34,435.54	435,501	\$40,483.63	13.9%
B. Treat./Fiscal/Misc.	2022		2023		
	KwH	\$	KwH	\$	
Office & Maint. Bldg.	3,562	\$402.28	5,689	\$781.52	
Filter Plant / Pump Station / 2nd Service	56,549	\$4,916.61	64,422	\$5,936.13	
Sub Total	60,111	\$5,318.89	70,111	\$6,717.65	\$/KwH 8.3%
C. Distribution:	2022		2023		
	KwH	\$	KwH	\$	
Taylor Hill Tank	1,951	\$265.87	1,626	\$236.77	
Kohler Meter Pit	0	\$0.00	0	\$0.00	
EE Tower	1,615	\$222.96	1,208	\$180.04	
Washington (PRV) Pit	1,118	\$168.00	752	\$124.48	
Sub Total	4,684	\$656.83	3,586	\$541.29	\$/KwH 12.9%
Total Electrical Costs	486,552	\$40,411.26	509,198	\$47,742.57	
Electrical Cost / MG		\$116.92		\$139.48	
NATURAL GAS COSTS					
	2022		2023		
	CCF Used	Cost	CCF Used	Cost	
Production Facility	1,696	\$1,388.91	875	\$481.23	
South Basin	2,360	\$1,940.50	2,122	\$1,280.86	
Georgia St. Bstr.	110	\$91.00	92	\$86.71	
Erie Ave. Bstr.	206	\$193.89	200	\$130.53	
Wilgus Ave. Bstr.	41	\$44.86	26	\$34.48	
Office & Maint. Bldg.	646	\$537.64	970	\$577.90	\$/CCF
Total Natural Gas Costs	5,059	\$4,196.80	4,285	\$2,591.71	-27.1%
Natural Gas Cost / MG		\$12.14		\$7.57	
CHEMICAL COSTS					
	2022		2023		
	Lbs. Used	Cost	Lbs. Used	Cost	
Alum	61,233	\$11,113.79	63,622	\$12,819.83	11.0%
Carbon	0	\$0.00	0	\$0.00	#DIV/0!
Chlorine	7,012	\$10,377.76	6,144	\$12,472.32	37.2%
Fluoride	1,836	\$2,552.04	1,529	\$3,090.87	45.4%
KMnO4	0	\$0.00	0	\$0.00	#DIV/0!
Cationic Polymer	1,497	\$2,320.35	1,287	\$1,994.85	0.0%
Liquid Phosphate	4,214	\$6,649.69	4,154	\$12,707.09	93.9%
Total Chemical Costs		\$33,013.63		\$43,084.96	30.5%
Chemical Cost / MG		\$95.52		\$125.88	
Grand Total		\$77,621.69	\$93,419.24		20.35%
Total Cost / MG		\$224.58	\$272.93		21.53%

YTD HL 2023 vs 2022	-3.82%	YTD HL HIGH DAY PUMPAGE	13.403	January 30, 2023
YTD HL 2023 vs 2021	-2.14%	YTD HL LOW DAY PUMPAGE	9.294	January 1, 2023

NOTE:

2023 Electrical costs include an Alliant Energy 8.3% rate increase approved by PSC.

	YTD HL Ave Day
2023	11.439
2022	11.815
2021	11.692

COMPARATIVE SUMMARY OF PLANT OPERATIONS

April 2022

vs

April 2023

Pumping Record

High Lift

Low Lift

	2022	2023	Diff.		2022	2023	Diff.
Tot. Water in MG	345.623	341.735	-1.12%	Tot. Water in MG	350.527	353.722	0.91%
Daily Average	11.149	11.409	2.33%	Daily Average	11.684	11.791	0.92%
Maximum Day	13.846	12.949	-6.48%	Maximum Day	14.079	13.199	-6.25%
Minimum Day	9.042	9.260	2.41%	Minimum Day	9.046	9.358	3.45%
By Natural Gas	4.000	1.486	-62.85%	By Natural Gas	2.378	2.245	-5.59%
Power in KWH	287,338	286,901	-0.15%	Power in KWH	69,413	71,777	3.41%
Gals. per KWH	1,189	1,188	-0.10%	Gals. per KWH	5,016	4,897	-2.38%
Power \$ / KWH	\$0.07833	\$0.08579	9.53%	Power \$ / KWH	----	----	----
Power \$ / MG	\$65.12	\$71.91	\$6.79	Power \$ / MG	\$15.51	\$17.41	\$1.90
Tot. Power \$/MG	\$117.92	\$140.28	\$22.36	Tot. Power \$/MG	----	----	----

Treatment Chem.

Lbs. Used

Cost

Total Lbs.	2022	2023	Diff.	Total Cost	2022	2023	Diff.
Alum	61,233	63,622	3.90%	Alum	\$11,113.79	\$12,819.83	\$1,706.04
Carbon			#DIV/0!	Carbon	\$0.00	\$0.00	\$0.00
Chlorine	7,012	6,144	-12.38%	Chlorine	\$10,377.76	\$12,472.32	\$2,094.56
KMnO4	0	0	#DIV/0!	KMnO4	\$0.00	\$0.00	\$0.00
Polymer	1,497	1,287	-14.03%	Polymer	\$2,320.35	\$1,994.85	(\$325.50)
Liquid Phosphate	4,214	4,154	-1.42%	Liquid Phosphate	\$6,649.69	\$12,707.09	\$6,057.40
Lb/ MG:				Cost / MG:			
Alum	174.7	179.9	2.96%	Alum	\$31.71	\$36.24	\$4.54
Carbon	0.0	0.0	#DIV/0!	Carbon	#DIV/0!	#DIV/0!	#DIV/0!
Chlorine	20.0	17.4	-13.17%	Chlorine	\$29.61	\$35.26	\$5.65
KMnO4	0.0	0.0	#DIV/0!	KMnO4	#DIV/0!	#DIV/0!	#DIV/0!
Liquid Phosphate	12.0	11.7	-2.31%	Liquid Phosphate	\$18.97	\$35.92	\$16.95

Fluoride:	2022	2023		Fluoride:	2022	2023	
Total Lbs.	1,836	1,529	-16.72%	Cost	\$2,552.04	\$3,090.87	\$538.83
mg/l applied as F	0.72	0.71		Cost/MG	\$7.40	\$9.04	\$1.64
Av. Res. Plt. Tap	0.70	0.71					

Water Quality:

Raw

TAP

	2022	2023
Turbidity	4.70	7.00
pH	8.25	8.25
Alkalinity	117.0	116.1
MF (E-Coli)	2.1	5.6
Temperature	39.0	40.5
Wash-H2O % /LL	1.73	2.15
Av. Flt. Run/hrs	146.1	96.2
Av. ROF / MG	1.33	1.36

	2022	2023
Turbidity	0.067	0.037
pH	7.59	7.58
Alkalinity	107.0	105.8
Plate Count	0.00	0.00
Colilert	0	0
Temp.	40.3	42.5
Cl Res.	0.83	0.84

Natural Gas:

	2022	2023		2022	2023	Diff.
Nat. Gas Heating	1,770	2,628	Plant & South Basin	\$5,208.32	\$1,559.37	(\$3,648.95)
Nat. Gas Pumping	590	369		\$51.98	\$202.72	\$150.74

	CCF	Cost	Natural Gas Cost	Natural Gas CCF
#3 Gas Pump	127.1	\$69.90	\$1,762.09	2,997
#4 Gas Pump	13.5	\$7.42		
#7 Gas Pump	100.0	\$55.00		
Electric Generator	128.0	\$70.40		
Pumping totals	368.6	\$202.72		

April 2023

% Run

60.7%
3.44%
0.6%
0.0%
98.9%
1.1%

Elapsed Time:

	5/1/2023	4/1/2023	
No. 6 Pump	71,870.6	71,433.3	437.3
Wash Pump Meter	5,719.22	5,694.43	24.79
No. 7 Pump	803.4	799.4	4.0
No. 8 Pump	59,540.3	59,540.3	0.0
No. 9 Pump	27,616.0	26,904.0	712.0
Wash Pump 2	109	101	8
No. 1 Prime Pump	1,050.5	1,049.7	0.8
No. 2 Prime Pump	1,128.5	1,127.2	1.3

Kw/Hr run

112.9
56.4
#DIV/0!
72.4
125.4
534.0
239.6
292.8
#DIV/0!
479.7

Wattour Meters:

Wash Pump 1	1310.1	1306.1	2,800
No. 9 Pump	5995.31	5955.17	40,137
No. 8 Pump	6837.1	6837.1	0
No. 6 Pump	1742.2	1629.2	31,640
Wash Pump 2	11.437	10.601	1,003
No. 1 Pump	9459.545	9443.776	15,769
No. 2 Pump	4924.914	4874.751	50,163
No. 3 Pump	723.133	699.804	23,329
No. 4 Pump			0
No. 5 Pump	11,610.912	11,413.272	197,640

Garage (MWatt/Hrs.)	1,094.24	1,089.30	4,940
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Power Co. (Step #3)	40,324	39,969	426,000
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Left Meter - OUTSIDE

Volume Used:

Nat. Gas (Correct)	45,817,701	45,742,605	94,396
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Elapsed Time:

Emer. Generator	1,083.7	1,077.3	6.4
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Elapsed Time:

No. 1 Pump	17,542.1	17,512.5	29.5
No. 2 Pump	21,009.52	20,800.16	209.36
No. 3 Elec. Pump	2,473.2	2,393.5	79.7
No. 3 Nat. Gas Pump	572.3	568.2	4.1
No. 4 Elec. Pump	0.00	0.00	0.0
No. 4 Nat. Gas Pump	72.4	72.1	0.3
No. 5. Pump	24,277.120	23,865.090	412.030
UV Building Generator	143.4	142.4	1

% Run
4.1%
29.1%
11.1%
0.6%
0.0%
0.0%
57.2%
0.1%

5/1/2023 4/1/2023

SLUDGE No. 1 Hour Meter

SYSTEM No. 2 Mag Meter

Recycle Meter (Reset to zero each month)

Power Cost

Init. Chg.

Kohler Pit

Horizon

Taylor

ALT. 72 Park

Geo. Ave.

Wilgus Ave.

EE Pit

EE Tower

Washington

Office

Erie Ave.

Total

Bill >>>>

KWH >>>

Low L. KWH

L.L. Cost \$

High L. KWH

H.L. Cost \$

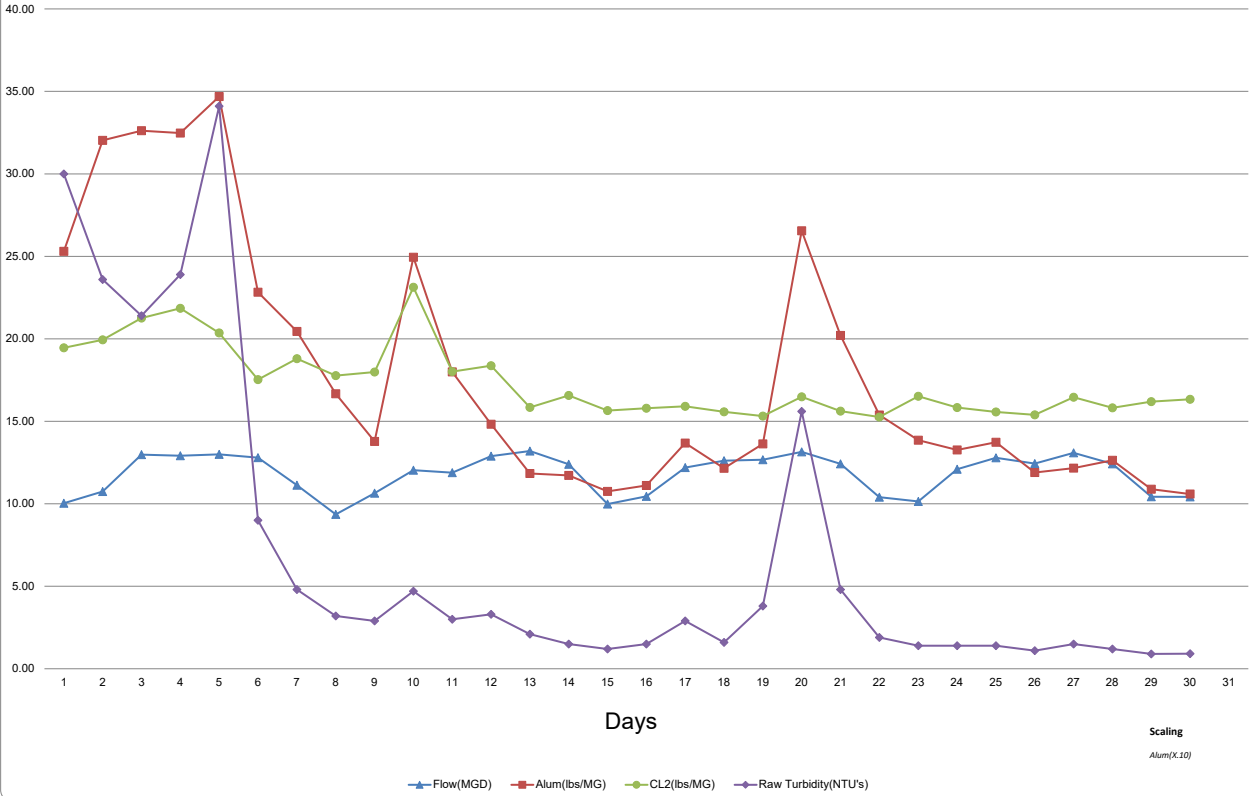
Total Cost

Plant Costs

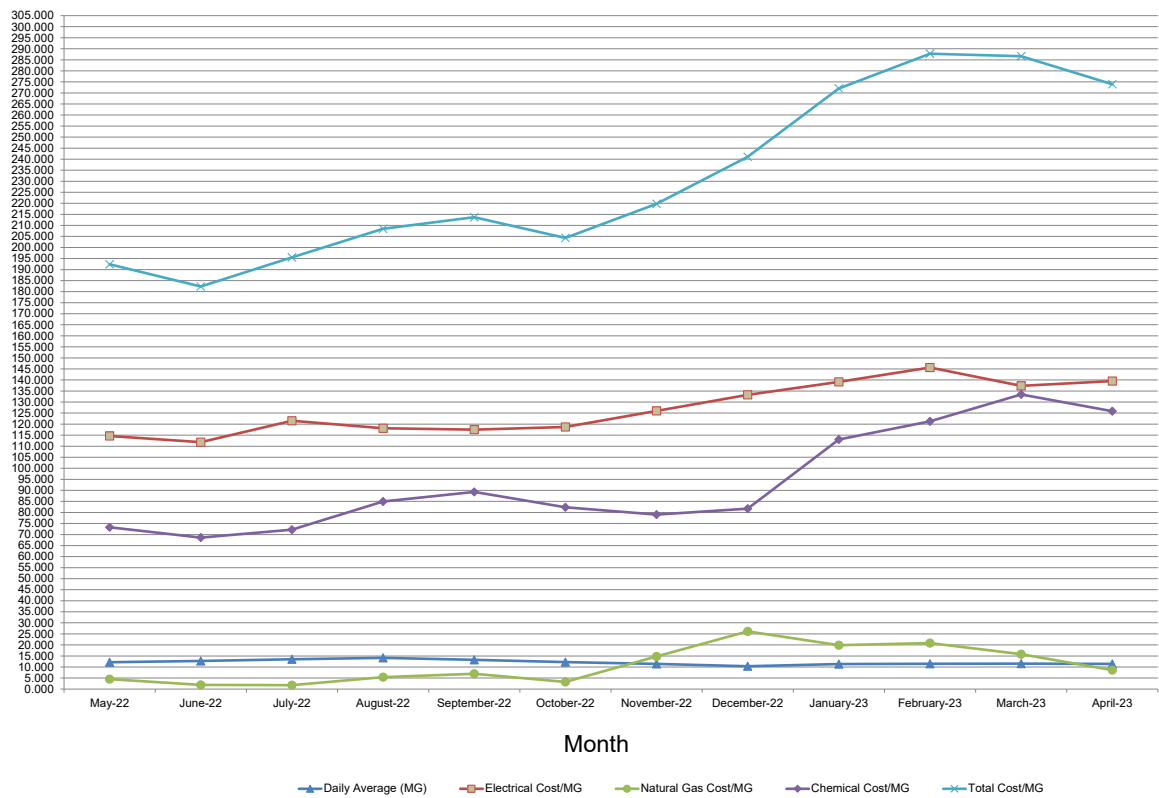
SUMMARY

	HIGH LIFT		LOW LIFT	
	2022	2023	2022	2023
Tot. Pump	345.623	342.280	350.527	353.722
Daily Ave.	11.149	11.409	11.684	11.791
Max. Day	13.846	12.949	14.079	13.199
Min. Day	9.042	9.260	9.046	9.358
By Nat. Gas	4.000	1.486	2.378	2.245
Power KWH	287,338	286,901	69,413	71,777
Gals/KWH	1189	1188	5016	4897
Cost/KWH	\$0.07833	\$0.08579	*****	*****
Cost/MG	\$65.12	\$71.91	\$15.51	\$17.41
Tot. Cost/MG	\$117.92	\$140.28	*****	*****

April 2023: Sheboygan Water Utility Plant Operations Summary



Plant Operations: Expense Report



Filter Plant Maintenance Completed For April 2023

Subject	StartDate	EndDate	Description	
Clear Well Sensor	3-Apr-23		Begin diagnosing secondary clear well sensor issue.	
Joshua 2hrs. Sick Time	3-Apr-23		Joshua 2hours of sick time.	
Front Gate	3-Apr-23		Replace, West side, lowest clamp on ram, paint fence, and reset stops.	
Filter 6 Vacuum 6	3-Apr-23		Vacuum out filter 6.	
JSM Remote	3-Apr-23		Contact JSM, communicate low battery issue, and replace remote.	
UV Reference Check	4-Apr-23		Complete UV reference check on East train.	
Georgia Ave.	4-Apr-23		Check grounds, inspect pump station, and replace reagents.	
Poly Feed Pump	4-Apr-23		Remove South feed pump (INOP) and install swing in its place.	
Menards	5-Apr-23		Purchase wood chisels, WD-40, and socket adapters.	
Filter 6	5-Apr-23		Continue tapering grout and scraping gasket material.	
UVT% Meter	6-Apr-23		Calibrate UVT% meter; West was 96.1% East was 98.5%.	
Filter #6 rehab	6-Apr-23		Filter #6 chipping grout and removing caulking material	
Good Friday Holiday	7-Apr-23			
observed utility holiday	7-Apr-23		Observed utility holiday	
Joshua Covering 3rd Shift	10-Apr-23	16-Apr-23	Joshua covering 3rd shift for Glen.	
Filter #6 rehab	10-Apr-23		Filter #6 removing grout and caulking material	
Filter #6 rehab	11-Apr-23		Filter #6 chipping and vacuuming rehab work	
High lift pipe replacement	11-Apr-23		Emergency pipe replacement on high lift #4 pump, pipe failed and emergency work to stop flow and temporarily seal pipe	
Menards parts run	11-Apr-23		New door handle for filter plant	
Trillings parts run	11-Apr-23		Keys made for new door handle	
Filter #6 rehab	12-Apr-23		Finished vacuuming filter #6 underdrain in preparation for cap replacement	
Menards parts run	12-Apr-23		Items for filter plant	
Erie pump station	12-Apr-23		Erie pump station maintenance checks	
Taylor hill reagents	12-Apr-23		Replaced reagents at Taylor hill reservoir and maintenance checks	
Filter plant trash	13-Apr-23		Removed filter plant trash and cardboard	
Filter plant paperwork	13-Apr-23		Purchase orders and email	
cleaned filter plant floors	13-Apr-23		Cleaned filter plant floors in filter hall	
Cleaned maintenance shop	13-Apr-23		Cleaned maintenance shop and tools	
Cleaned Filter #6 work area	13-Apr-23		Cleaned up project area and tools around #6 filter job	
filter plant cleaning	14-Apr-23		Cleaned floors throughout filter plant	
Link up energenics	14-Apr-23		Link up with energenics for clearwell level sensor information and measurements	
Joshua Off for Coverage	17-Apr-23		Joshua off for covering 3rd shift.	
Lab samples	17-Apr-23		Collected distribution lab samples	
Ortho transfer to bulk tank	19-Apr-23		Set up pump to transfer ortho back to bulk tank from ortho blow off drum	
High lift piping plan	19-Apr-23		Linked up with Josh M to go over high lift piping plan	
Spare Poly Feed Pump	19-Apr-23		Continue diagnosing pump operation issue.	
Trilling's	19-Apr-23		Attempt to purchase brushes for inop polymer pump; the required size wasn't available.	
3/4" Feed Line	19-Apr-23		Remove obsolete ¾. copper feed line by 4 and install new ball valve; suspect it was used for hydraulic valve actuator.	
East Alum Pump	20-Apr-23		Replace broken tube, flush line, clean area, and pre-fab another replacement hose.	
Menards	20-Apr-23		Purchase LED light bulbs for H.L., plumbers tape, and pipe cutters.	
Dan Covering Laboratory	20-Apr-23	21-Apr-23	Dan covering laboratory for Eric.	
Wilgus Ave.	20-Apr-23		Walk grounds and collect lab sample.	
H.L Balcony and Steps	21-Apr-23		First round vacuuming high lift balcony and plant steps.	

Yellow indicates days operating or running labs

H.L. LED NW	21-Apr-23		Install new LED light into NW fixture.
H.L. LED NE	21-Apr-23		Install new LED light bulbs into NE fixture.
Filter Sand	21-Apr-23		Remove new bags from truck into outside storage area.
South Alum Feed Hose	21-Apr-23		Finish cleaning area after replacement, flush lines, and run eyewash station.
West Alum Feed Hose	21-Apr-23		Replace West alum feed pump hose.
High lift piping repair	24-Apr-23		New pipe installed for #4 high lift effluent side
#4 high lift prep	24-Apr-23		#4 high lift pipe repair planning and staging equipment
#4 High lift cleanup	25-Apr-23		Job clean up and removal of old piping from high lift
High lift cleaning	25-Apr-23		Cleaning floor and #4 gas engine in high lift
Menards	25-Apr-23		Menards for filter plant maintenance items
Fluoride bulk tank repair	25-Apr-23		Repairs on fluoride bulk tank suction line, waiting for PVC to dry and install next day
New light high lift	25-Apr-23		Installed new lightbulbs in high lift switch gear area
Fluoride suction line installed	26-Apr-23		New fluoride suction line installed on bulk tank
Sodium thio barrel changed	26-Apr-23		Installed new sodium thio barrel
#10 Generator maintenance	26-Apr-23		Oil filled and maintenance checks on #10 generator
Filter 6 Surface Sweep	26-Apr-23		Install new 4. valve on surface sweep line.
Wilgus Ave.	27-Apr-23		Check grounds, heater, and assist RPZ check.
Filter Rehab Project	27-Apr-23		Attend Filter Rehab Project meeting.
Filter 3	27-Apr-23		Perform pressure test.
Filter 11	27-Apr-23		Perform pressure test.
Filter 10	27-Apr-23		Perform pressure test.
Wash Pump 1	27-Apr-23		Access feed lines and check water flow; cleaned lines and bled.