

August 2023

OPERATIONS' DEPARTMENT MONTHLY REPORT

PUMPAGE	HIGH LIFT		LOW LIFT		2023 VS 2022
	2022	2023	2022	2023	HL
Total in MG	438.453	430.818	448.768	442.555	-1.74%
Daily Average (MG)	14.144	13.912	14.476	14.276	
Max. Day (MG)	16.582	15.499	16.685	15.603	2023 VS 2021
					HL
Gal/KwH	1,146	1,186	4,769	5,055	6.18%
<b>ELECTRICAL COSTS</b>					
A. Pumping:	2022		2023		
	KwH	\$	KwH	\$	
High Lift	379,910	\$28,484.87	358,248	\$29,872.03	
Low Lift	93,684	\$7,024.23	86,234	\$7,190.52	
Wash Pump 1	2,800	\$209.94	2,100	\$175.11	
Georgia St. Bstr.	65,700	\$6,503.12	68,400	\$7,146.87	
Wilgus Ave. Bstr.	3,400	\$456.94	3,400	\$483.29	
EE Pit / Bstr.	5,535	\$712.45	5,683	\$774.85	
Erie Ave. Bstr.	16,000	\$2,429.23	16,800	\$2,718.93	\$/KwH
Sub Total	567,029	\$45,820.78	540,865	\$48,361.59	10.7%
B. Treat./Fiscal/Misc.	2022		2023		
	KwH	\$	KwH	\$	
Office & Maint. Bldg.	11,658	\$1,477.14	11,032	\$1,490.49	
Filter Plant / Pump Station / 2nd Service	49,206	\$4,200.80	56,218	\$5,218.74	
Sub Total	60,864	\$5,677.94	67,250	\$6,709.23	\$/KwH
					6.9%
C. Distribution:	2022		2023		
	KwH	\$	KwH	\$	
Taylor Hill Tank	456	\$77.23	405	\$73.95	
Kohler Meter Pit	0	\$0.00	0	\$0.00	
EE Tower	1,202	\$172.51	1,168	\$177.49	
Washington (PRV) Pit	296	\$59.83	297	\$62.47	
Sub Total	1,954	\$309.57	1,870	\$313.91	\$/KwH
Total Electrical Costs	629,847	\$51,808.29	609,985	\$55,384.73	10.4%
Electrical Cost / MG		\$118.16		\$128.42	
<b>NATURAL GAS COSTS</b>					
	2022		2023		
	CCF Used	Cost	CCF Used	Cost	
Production Facility	148	\$210.14	940	\$505.92	
South Basin	7	\$156.08	4	\$145.16	
Georgia St. Bstr.	25	\$38.97			
Erie Ave. Bstr.	16	\$49.75			
Wilgus Ave. Bstr.	1	\$18.85	1	\$19.54	
Office & Maint. Bldg.	388	\$510.25	313	\$188.91	
Total Natural Gas Costs	585	\$984.04	1,258	\$859.53	\$/CCF
Natural Gas Cost / MG		\$2.24		\$1.99	-59.4%
<b>CHEMICAL COSTS</b>					
	2022		2023		
	Lbs. Used	Cost	Lbs. Used	Cost	
Alum	50,042	\$9,082.62	50,466	\$10,168.90	11.0%
Carbon	0	\$0.00	0	\$0.00	#DIV/0!
Chlorine	9,615	\$14,230.20	9,832	\$19,958.96	37.2%
Fluoride	2,462	\$3,422.18	2,078	\$4,200.68	45.4%
KMnO4	281	\$1,024.52	288	\$1,051.20	0.1%
Cationic Polymer	635	\$984.25	0	\$0.00	#DIV/0!
Liquid Phosphate	5,388	\$8,502.26	5,250	\$16,059.75	93.9%
Total Chemical Costs		\$37,246.03		\$51,439.49	38.1%
Chemical Cost / MG		\$84.95		\$119.27	
	Grand Total		\$107,683.75		19.60%
	Total Cost / MG		\$205.35		21.58%

YTD HL 2023 vs 2022	-1.20%	YTD HL HIGH DAY PUMPAGE	15.876	June 21, 2023
YTD HL 2023 vs 2021	-0.88%	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	12.413
2022	12.474
2021	12.529

**COMPARATIVE SUMMARY OF PLANT OPERATIONS**

**August**

**vs**

**August 2023**

**Pumping Record**

**High Lift**

**Low Lift**

	<b>2022</b>	<b>2023</b>	<b>Diff.</b>		<b>2022</b>	<b>2023</b>	<b>Diff.</b>
Tot. Water in MG	438.453	430.818	-1.74%	Tot. Water in MG	448.768	442.555	-1.38%
Daily Average	14.144	13.912	-1.64%	Daily Average	14.476	14.276	-1.38%
Maximum Day	16.582	15.499	-6.53%	Maximum Day	16.685	15.603	-6.48%
Minimum Day	10.967	11.430	4.22%	Minimum Day	11.361	11.976	5.41%
By Natural Gas	3.037	6.228	105.07%	By Natural Gas	1.968	6.613	236.03%
Power in KWH	379,910	358,248	-5.70%	Power in KWH	93,684	86,234	-7.95%
Gals. per KWH	1,146	1,186	3.53%	Gals. per KWH	4,769	5,055	6.00%
Power \$ / KWH	\$0.07498	\$0.08338	11.21%	Power \$ / KWH	----	----	----
Power \$ / MG	\$64.97	\$69.26	\$4.29	Power \$ / MG	\$15.65	\$16.25	\$0.60
Tot. Power \$/MG	\$118.51	\$128.79	\$10.28	Tot. Power \$/MG	----	----	----

**Treatment Chem.**

**Lbs. Used**

**Cost**

Total Lbs.	<b>2022</b>	<b>2023</b>	<b>Diff.</b>	Total Cost	<b>2022</b>	<b>2023</b>	<b>Diff.</b>
Alum	50,042	50,466	0.85%	Alum	\$9,082.62	\$10,168.90	\$1,086.28
Carbon			#DIV/0!	Carbon	\$0.00	\$0.00	\$0.00
Chlorine	9,615	9,832	2.26%	Chlorine	\$14,230.20	\$19,958.96	\$5,728.76
KMnO4	281	288	2.49%	KMnO4	\$1,024.52	\$1,051.20	\$26.68
Polymer	635	0	-100.00%	Polymer	\$984.25	\$0.00	(\$984.25)
Liquid Phosphate	5,388	5,250	-2.56%	Liquid Phosphate	\$8,502.26	\$16,059.75	\$7,557.49
Lb/ MG:				Cost / MG:			
Alum	111.5	114.0	2.26%	Alum	\$20.24	\$22.98	\$2.74
Carbon	0.0	0.0	#DIV/0!	Carbon	#DIV/0!	#DIV/0!	#DIV/0!
Chlorine	21.4	22.2	3.69%	Chlorine	\$31.71	\$45.10	\$13.39
KMnO4	0.6	0.7	3.93%	KMnO4	\$2.28	\$2.38	\$0.09
Liquid Phosphate	12.0	11.9	-1.19%	Liquid Phosphate	\$18.95	\$36.29	\$17.34

Fluoride:	<b>2022</b>	<b>2023</b>		Fluoride:	<b>2022</b>	<b>2023</b>	
Total Lbs.	2,462	2,078	-15.60%	Cost	\$3,422.18	\$4,200.68	\$778.50
mg/l applied as F	0.67	0.75		Cost/MG	\$7.82	\$9.75	\$1.93
Av. Res. Plt. Tap	0.70	0.75					

**Water Quality:**

**Raw**

**TAP**

	<b>2022</b>	<b>2023</b>			<b>2022</b>	<b>2023</b>
Turbidity	2.00	1.90		Turbidity	0.067	0.056
pH	8.23	8.30		pH	7.69	7.67
Alkalinity	108.1	107.2		Alkalinity	102.1	100.9
MF (E-Coli)	2.2	0.0		Plate Count	0.00	0.00
Temperature	56.9	60.0		Colilert	0	0
Wash-H2O % /LL	2.24	1.99		Temp.	60.1	63.9
Av. Flt. Run/hrs	99.3	93.7		Cl Res.	0.90	0.95
Av. ROF / MG	1.48	1.52				

**Natural Gas:**

	<b>2022</b>	<b>2023</b>		<b>2022</b>	<b>2023</b>	<b>Diff.</b>
Nat. Gas Heating	1,252	-325	Plant & South Basin	\$1,213.18	(\$32.18)	(\$1,245.36)
Nat. Gas Pumping	690	1,270		\$585.99	\$683.26	\$97.27

	<b>CCF</b>	<b>Cost</b>	<b>Natural Gas Cost</b>	<b>Natural Gas CCF</b>
#3 Gas Pump	139.5	\$75.08	\$651.08	944
#4 Gas Pump	531.0	\$285.79		
#7 Gas Pump	295.0	\$158.77		
Electric Generator	304.0	\$163.62		
<b>Pumping totals</b>	<b>1269.5</b>	<b>\$683.26</b>		

## August 2023

% Run

85.6%  
3.49%  
1.6%  
0.0%  
98.1%  
1.2%

### Elapsed Time:

	9/1/2023	8/1/2023	
No. 6 Pump	74,268.4	73,631.6	636.8
Wash Pump Meter	5,824.82	5,798.84	25.98
No. 7 Pump	840.6	828.8	11.8
No. 8 Pump	59,540.3	59,540.3	0.0
No. 9 Pump	30,537.0	29,807.0	730.0
Wash Pump 2	148	139	9
No. 1 Prime Pump	1,053.7	1,052.8	0.9
No. 2 Prime Pump	1,133.9	1,132.5	1.4

Kw/Hr run

80.8  
59.1  
#DIV/0!  
67.7  
133.1  
540.4  
239.9  
270.6  
#DIV/0!  
473.2

### Watthour Meters:

Wash Pump 1	1313.1	1310.1	2,100
No. 9 Pump	6165.22	6122.11	43,114
No. 8 Pump	6837.1	6837.1	0
No. 6 Pump	2350.2	2196.2	43,120
Wash Pump 2	15.557	14.559	1,198
No. 1 Pump	9847.903	9776.959	70,944
No. 2 Pump	4937.507	4932.928	4,579
No. 3 Pump	897.299	853.451	43,848
No. 4 Pump			0
No. 5 Pump	12,410.227	12,171.350	238,877

Garage (MWatt/Hrs.)	1,104.17	1,102.91	1,260
---------------------	----------	----------	-------

Power Co. (Step #3)	41,943	41,523	504,000
---------------------	--------	--------	---------

Left Meter - OUTSIDE

### Volume Used:

Nat. Gas (Correct)	46,075,936	45,999,606	95,947
--------------------	------------	------------	--------

### Elapsed Time:

Emer. Generator	1,122.7	1,107.5	15.2
-----------------	---------	---------	------

### Elapsed Time:

No. 1 Pump	18,261.3	18,130.1	131.3
No. 2 Pump	21,062.31	21,043.22	19.09
No. 3 Elec. Pump	3,076.1	2,914.1	162.0
No. 3 Nat. Gas Pump	591.0	586.5	4.5
No. 4 Elec. Pump	0.00	0.00	0.0
No. 4 Nat. Gas Pump	109.4	97.6	11.8
No. 5. Pump	25,950.290	25,445.450	504.840
UV Building Generator	151.8	150.2	1.6

% Run

17.6%  
2.6%  
21.8%  
0.6%  
0.0%  
1.6%  
67.9%  
0.2%

9/1/2023 8/1/2023

SLUDGE No. 1 Hour Meter

SYSTEM No. 2 Mag Meter

Recycle Meter (Reset to zero each month)

Power Cost

0.359191667

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 \$

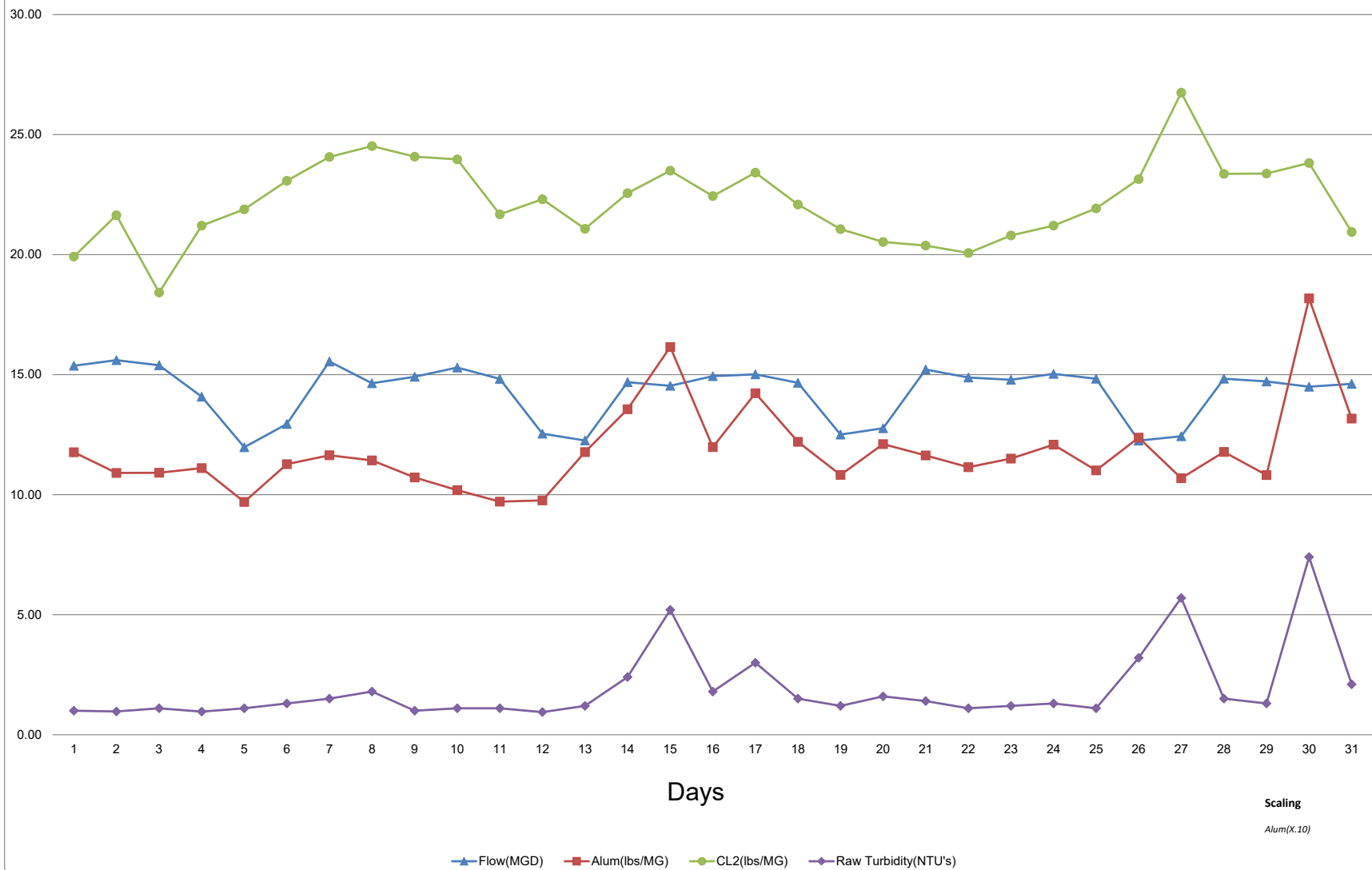
Total Cost

Plant Costs

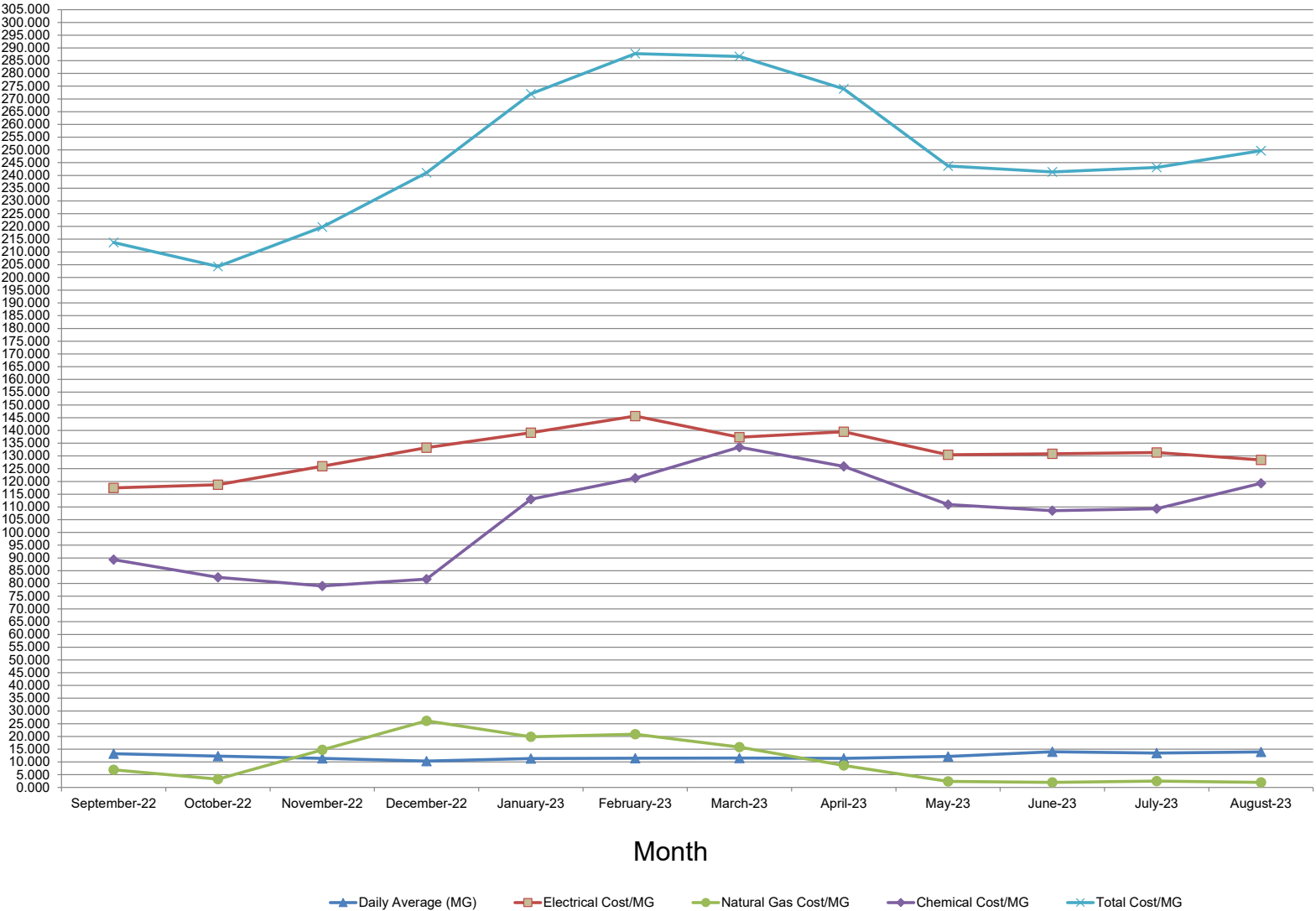
### SUMMARY

	HIGH LIFT		LOW LIFT	
	2022	2023	2022	2023
Tot. Pump	438.453	431.287	448.768	442.555
Daily Ave.	14.144	13.912	14.476	14.276
Max. Day	16.582	15.499	16.685	15.603
Min. Day	10.967	11.430	11.361	11.976
By Nat. Gas	3.037	6.228	1.968	6.613
Power KWH	379,910	358,248	93,684	86,234
Gals/KWH	1146	1186	4769	5055
Cost/KWH	\$0.07498	\$0.08338	*****	*****
Cost/MG	\$64.97	\$69.26	\$15.65	\$16.25
Tot. Cost/MG	\$118.51	\$128.79	*****	*****

## August 2023: Sheboygan Water Utility Plant Operations Summary



Plant Operations: Expense Report



### Filter Plant Maintenance Completed For August 2023

Subject	StartDate	EndDate	Description	
				Yellow indicates days operating or running labs
Dan Covering Laboratory	1-Aug-23	1-Aug-23	Dan covering laboratory for Eric.	
Indiana Ave. Samples	1-Aug-23		Collect Colilert samples for Indiana Ave. project.	
Dakota Supply Group	1-Aug-23		Purchase seal tight connectors, 15 amp light switches, and tool storage items.	
Vendor Update	1-Aug-23		Submit vendor and PO information for Servo Industry Company.	
South Basin Exhaust Fan	1-Aug-23		Begin assembling new exhaust fan motors for south basin.	
South Basin Fan Motor	1-Aug-23		Order new motor pulley after attempted removal; old pulley seized onto rotating shaft.	
Garbage	2-Aug-23		Throw away plant and Georgia Ave. garbage.	
Georgia Ave.	2-Aug-23		1st coat of paint on motor room floor, bypass dusk/dawn sensor in front light assembly, and water grass.	
Indiana Ave. Samples	2-Aug-23		Collect Colilert samples for Indiana Ave. project.	
Lead and Copper	2-Aug-23		Collect lead and copper sample.	
Shipping Mill	2-Aug-23		Deliver/ship lead and copper sample.	
Georgia Ave.	2-Aug-23		Return with filled hypo reagents and place additional in cabinet.	
Indiana Ave., Erie, Wilgus, and Horizon	2-Aug-23		Walk grounds, inspect reagents where applicable, and collect laboratory samples.	
Joshua off for Coverage	3-Aug-23	4-Aug-23	Joshua off for covering 1st shift.	
Dan covering lab operations	3-Aug-23	3-Aug-23	Collected distribution samples and ran daily lab work	
Dan Vacation	4-Aug-23	4-Aug-23	Dan on Vacation	
Josh 1st shift for Tyler	7-Aug-23	10-Aug-23	Josh covering 1st shift operations for Tyler	
garbage and cardboard	7-Aug-23		Garbage and cardboard from plant	
south basin analyzers	7-Aug-23		Cleaned and flushed south basin swan chlorine analyzers	
Cleaned east/west analyzers	7-Aug-23		Cleaned east and west swan chlorine analyzers	
L.E.D light install rapid mix	8-Aug-23		New L.E.D light fixture installed in old rapid mix area	
UV primary battery backup	8-Aug-23		UV system 3 phase battery backup cabinet troubleshooting, work order placed with customer service	
Dakota supply group	8-Aug-23		Dokota supply group for new L.E.D light fixture under warranty	
Plant maintenance excel sheet	8-Aug-23		Sent filter plant maintenance completed excel sheet to supervisor	
Menards	9-Aug-23		Float switch for sewage pump ordered and plant maintenance items	
Dakota supply group	9-Aug-23		Dropped off L.E.D light and picked up maintenance items	
Georgia pump station paint	9-Aug-23		Painted pump 3 and 2nd coat on floor	
Dropped off samples	9-Aug-23		Dropped off samples at shipping mill	
cleaned up paint tools	9-Aug-23		Cleaned up painting equipment maintenance shop	
Dan on vacation	11-Aug-23	11-Aug-23	Dan on vacation	
Shipping Mill	14-Aug-23		Attempt to ship broken scanner at Shipping Mill and contact Ontech with labeling conflict.	
South Basin Exhaust	14-Aug-23		Finish assembling new motors for ventilation system.	
Dan Covering Laboratory	14-Aug-23	18-Aug-23	Dan covering laboratory for Eric.	
Dr5000	14-Aug-23		Clean unit, install new bulb, and place in upstairs storage.	
Ortho Feed System	14-Aug-23		Begin designing new feed, fill, and vent piping.	
Ortho Bulk Tanks	14-Aug-23		Move two new orthophosphate bulk tanks into ortho feed room.	
South Basin Vent	15-Aug-23		Begin installing new motor, belt, wiring, and switch on S.W. vent.	
South Basin Vent	15-Aug-23		Replace belt on N.W. vent motor.	
Horizon Tower	15-Aug-23		Collect sample, replace reagents, and re-stock reagent set.	
Taylor Hill	15-Aug-23		Re-stock reagents.	
Taylor hill alarm	16-Aug-23		Went to Taylor hill to check cold temp alarm, ordered new PLC thermostats	
Collected distribution samples	16-Aug-23		Collected distribution samples	
Dakota supply	16-Aug-23		Dakota supply for PLC thermostats	

August 2023

South Basin Ventilation	16-Aug-23		Install new S.W. motor, switch , wiring, and belt.
South Basin	16-Aug-23		Install new S.E. fan, switch, belt, and wiring.
UV Generator	17-Aug-23		Replace block heater for outside UV generator assembly.
Filter Hall Floor	18-Aug-23		Clean filter hall floor.
Front Foyer	18-Aug-23		Vacuum and mop.
South Basin Bathroom	18-Aug-23		Clean and mop south basin bathroom.
Wilgus Ave.	18-Aug-23		Check grounds and run generator.
Dan 1st shift for Mark	19-Aug-23	21-Aug-23	Dan covering 1st shift operations for Mark
Dan off for coverage	21-Aug-23	21-Aug-23	Dan off for coverage
UV Hypo Meter	21-Aug-23		Replace reagents
Joshua Operate	21-Aug-23	23-Aug-23	Joshua operating for Mark and Glen.
Dan on vacation	23-Aug-23	23-Aug-23	Dan on vacation
Gas Engines	23-Aug-23		Run pump 4, 7, and generator for economic easing.
Dakota Supply Group	24-Aug-23		Picked up tool storage kit and both temperature senders for Taylor Hill.
Plant Garbage	24-Aug-23		Throw away plant garbage and recycling.
Factory Motor Parts	24-Aug-23		Purchase two new belts for South Basin vent.
Taylor hill	24-Aug-23		Light bulbs replaced in pipe vault
Erie Ave.	24-Aug-23		Check and clear hypo meter alarm.
Georgia painting	24-Aug-23		Georgia pump station painted trim area on floor
Taylor Hill	24-Aug-23		Replace both building temperature sensors.
washed plant truck	24-Aug-23		Washed plant truck
Filter #6 bypass lines	25-Aug-23		Bypassed hydraulic lines on filter #6
back up clear well sensor	25-Aug-23		Installed new back up clear well sensor
Georgia painting	25-Aug-23		Floor and trim painting at Georgia pump station
lab Tap cleaning	25-Aug-23		Cleaned and flushed lab tap turbidity meter
Maintenance shop cleanup	25-Aug-23		Cleaned up maintenance shop for clear well sensor project
Georgia pump station	28-Aug-23		Cleanup at Georgia pump station from painting project
South basin bathroom door	28-Aug-23		Fixed south basin bathroom door latch and cover plate
Maintenance Shop	28-Aug-23		Clean shop, put tools away, and replace shop supplies.
UV reference check	28-Aug-23		East reactor UV reference check
UVT analyzer desiccator	28-Aug-23		Replaced UVT analyzer desiccator
Monday Meeting	28-Aug-23		Topics include raw water improvement, coverage, SCADA upgrade, clear well sensor install, UV reference check, etc.
South basin Bathroom fan	29-Aug-23		Repaired south basin heater
Joshua Operating 1st	29-Aug-23	30-Aug-23	Joshua covering 1st for Mark; 6:30-9:00.
Furnace Thermostat	29-Aug-23		Install new thermostat on furnace by 10+11.
Run Furnaces	29-Aug-23		Run plant furnaces to check operation.
Polished south bathroom rails	29-Aug-23		Cleaned and polished south basin bathroom aluminum rails and put wax coating on.
Dakota Supply	29-Aug-23		Order new bearings for bathroom heater and east floc motors.
Trillings	29-Aug-23		Check for heater bearings.
South Basin Heater	29-Aug-23		Remove and rebuild south basin heater.
South Basin	30-Aug-23		Lubricate flocculator idlers and perform routine maintenance.
Best Buy	30-Aug-23		Purchase new printer for operation office.
Dakota Supply Group	30-Aug-23		Purchase new light for font entry.
Backwash Basin Valve	30-Aug-23		Diagnose and repair 20. drain valve; fuses blown.
Joshua on Vacation	31-Aug-23	4-Sep-23	Joshua on vacation.
Permanganate system maintenance	31-Aug-23		Removed and cleaned permanganate lines, fill tube and effluent valve in day tank room, system is operating normal again