

January 2023

OPERATIONS' DEPARTMENT MONTHLY REPORT

PUMPAGE	HIGH LIFT		LOW LIFT		2023 VS 2022
	2022	2023	2022	2023	HL
Total in MG	364.389	350.367	366.514	361.303	-3.85%
Daily Average (MG)	11.754	11.320	11.823	11.655	
Max. Day (MG)	13.233	13.403	13.372	13.614	2023 VS 2021
					HL
Gal/KwH	1,187	1,201	4,938	4,941	-2.18%
ELECTRICAL COSTS					
		2022		2023	
A. Pumping:		KwH	\$	KwH	\$
High Lift		306,937	\$25,158.14	292,078	\$24,984.26
Low Lift		74,230	\$6,084.27	73,129	\$6,255.43
Wash Pump 1		2,800	\$229.50	3,500	\$299.39
Georgia St. Bstr.		44,400	\$5,017.26	48,300	\$5,271.05
Wilgus Ave. Bstr.		3,200	\$426.76	3,000	\$425.75
EE Pit / Bstr.		5,581	\$712.00	5,741	\$776.37
Erie Ave. Bstr.		0	\$0.00	14,000	\$2,272.72
Sub Total		437,148	\$37,627.93	439,748	\$40,284.97
					\$/KwH 6.4%
B. Treat./Fiscal/Misc.		KwH	\$	KwH	\$
Office & Maint. Bldg.		4,718	\$550.94	5,674	\$772.10
Filter Plant / Pump Station / 2nd Service		64,433	\$5,724.92	74,093	\$7,000.73
Sub Total		69,151	\$6,275.86	79,767	\$7,772.83
					\$/KwH 7.4%
C. Distribution:		KwH	\$	KwH	\$
Taylor Hill Tank		2,433	\$323.90	3,042	\$422.87
Kohler Meter Pit		0	\$0.00	0	\$0.00
EE Tower		1,974	\$267.71	1,400	\$206.14
Washington (PRV) Pit		1,365	\$200.68	826	\$135.57
Sub Total		5,772	\$792.29	5,268	\$764.58
					\$/KwH 6.6%
Total Electrical Costs		512,071	\$44,696.08	524,783	\$48,822.37
Electrical Cost / MG			\$122.66		\$139.13
NATURAL GAS COSTS					
		2022		2023	
		CCF Used	Cost	CCF Used	Cost
Production Facility		2,999	\$2,292.63	1,534	\$1,603.41
South Basin		3,930	\$2,967.67	3,188	\$3,352.19
Georgia St. Bstr.		238	\$193.62		
Erie Ave. Bstr.		483	\$391.91	419	\$456.78
Wilgus Ave. Bstr.		80	\$76.77		
Office & Maint. Bldg.		1,485	\$1,131.29	1,464	\$1,555.36
Total Natural Gas Costs		9,215	\$7,053.89	6,605	\$6,967.74
					\$/CCF 37.8%
Natural Gas Cost / MG			\$19.36		\$19.86
CHEMICAL COSTS					
		2022		2023	
		Lbs. Used	Cost	Lbs. Used	Cost
Alum		71,755	\$13,023.53	59,955	\$12,080.93
Carbon		0	\$0.00	0	\$0.00
Chlorine		5,768	\$8,536.64	5,804	\$11,782.12
Fluoride		1,467	\$2,039.13	1,626	\$3,286.96
KMnO4		0	\$0.00	0	\$0.00
Cationic Polymer		809	\$1,253.95	0	\$0.00
Liquid Phosphate		3,089	\$4,874.44	4,089	\$12,508.25
Total Chemical Costs			\$29,727.69		\$39,658.26
					33.4%
Chemical Cost / MG			\$81.58		\$113.01
Grand Total			\$81,477.66		\$95,448.38
Total Cost / MG			\$223.60		\$272.00
					17.15%
					21.64%

YTD HL 2023 vs 2022	-3.69%	YTD HL HIGH DAY PUMPAGE	13.403	January 30, 2023
YTD HL 2023 vs 2021	-2.00%	YTD HL LOW DAY PUMPAGE	9.294	January 1, 2023

NOTE:

Electrical costs include an Alliant Energy 9.1% rate increase approved by PSC.
all WPS bills available.

Not

	2023	YTD HL Ave Day
	2022	11.320
	2021	11.754
		11.554

COMPARATIVE SUMMARY OF PLANT OPERATIONS

January 2022

vs

January 2023

Pumping Record

High Lift

Low Lift

	2022	2023	Diff.		2022	2023	Diff.
Tot. Water in MG	364.389	350.367	-3.85%	Tot. Water in MG	366.514	361.303	-1.42%
Daily Average	11.754	11.320	-3.69%	Daily Average	11.823	11.655	-1.42%
Maximum Day	13.233	13.403	1.28%	Maximum Day	13.372	13.614	1.81%
Minimum Day	7.587	9.294	22.50%	Minimum Day	7.613	9.619	26.35%
By Natural Gas	0.000	0.000	#DIV/0!	By Natural Gas	0.000	0.000	#DIV/0!
Power in KWH	306,937	292,078	-4.84%	Power in KWH	74,230	73,129	-1.48%
Gals. per KWH	1,187	1,201	1.22%	Gals. per KWH	4,938	4,941	0.05%
Power \$ / KWH	\$0.08197	\$0.08554	4.35%	Power \$ / KWH	----	----	----
Power \$ / MG	\$69.04	\$71.20	\$2.16	Power \$ / MG	\$14.46	\$17.31	\$2.85
Tot. Power \$/MG	\$123.77	\$140.22	\$16.45	Tot. Power \$/MG	----	----	----

Treatment Chem.

Lbs. Used

Cost

Total Lbs.	2022	2023	Diff.	Total Cost	2022	2023	Diff.
Alum	71,755	59,955	-16.44%	Alum	\$13,023.53	\$12,080.93	(\$942.60)
Carbon			#DIV/0!	Carbon	\$0.00	\$0.00	\$0.00
Chlorine	5,768	5,804	0.62%	Chlorine	\$8,536.64	\$11,782.12	\$3,245.48
KMnO4	0	0	#DIV/0!	KMnO4	\$0.00	\$0.00	\$0.00
Polymer	809	0	-100.00%	Polymer	\$1,253.95	\$0.00	(\$1,253.95)
Liquid Phosphate	3,089	4,089	32.37%	Liquid Phosphate	\$4,874.44	\$12,508.25	\$7,633.81
Lb/ MG:				Cost / MG:			
Alum	195.8	165.9	-15.24%	Alum	\$35.53	\$33.44	(\$2.10)
Carbon	0.0	0.0	#DIV/0!	Carbon	#DIV/0!	#DIV/0!	#DIV/0!
Chlorine	15.7	16.1	2.08%	Chlorine	\$23.29	\$32.61	\$9.32
KMnO4	0.0	0.0	#DIV/0!	KMnO4	#DIV/0!	#DIV/0!	#DIV/0!
Liquid Phosphate	8.4	11.3	34.28%	Liquid Phosphate	\$13.30	\$34.62	\$21.32
Fluoride:	2022	2023		Fluoride:	2022	2023	
Total Lbs.	1,467	1,626	10.84%	Cost	\$2,039.13	\$3,286.96	\$1,247.83
mg/l applied as F	0.56	0.72		Cost/MG	\$5.61	\$9.38	\$3.77
Av. Res. Plt. Tap	0.70	0.71					

Water Quality:

Raw

TAP

	2022	2023
Turbidity	12.10	7.90
pH	8.25	8.25
Alkalinity	117.0	114.5
MF (E-Coli)	0.2	1.1
Temperature	33.2	34.6
Wash-H2O % /LL	2.03	2.40
Av. Flt. Run/hrs	137.6	86.3
Av. ROF / MG	1.34	1.39

	2022	2023
Turbidity	0.050	0.039
pH	7.53	7.60
Alkalinity	101.0	104.6
Plate Count	0.00	0.00
Colilert	0	0
Temp.	34.4	35.2
Cl Res.	0.87	0.89

Natural Gas:

	2022	2023		2022	2023	Diff.
Nat. Gas Heating	6,861	4,660	Plant & South Basin	\$5,208.32	\$4,890.79	(\$317.53)
Nat. Gas Pumping	68	62		\$51.98	\$64.81	\$12.83

	CCF	Cost	Natural Gas Cost	Natural Gas CCF
#3 Gas Pump	0.0	\$0.00	\$4,955.60	4,722
#4 Gas Pump	0.0	\$0.00		
#7 Gas Pump	0.0	\$0.00		
Electric Generator	62.0	\$64.81		
Pumping totals	62.0	\$64.81		

January 2023

% Run

46.1%
3.48%
0.0%
0.0%
100.0%
1.3%

Elapsed Time:

	2/1/2023	1/1/2023	
No. 6 Pump	70,716.8	70,373.5	343.3
Wash Pump Meter	5,642.73	5,616.86	25.87
No. 7 Pump	791.1	791.1	0.0
No. 8 Pump	59,540.3	59,540.3	0.0
No. 9 Pump	25,497.0	24,753.0	744.0
Wash Pump 2	85	75	10
No. 1 Prime Pump	1,047.7	1,047.1	0.6
No. 2 Prime Pump	1,123.9	1,122.7	1.2

Kw/Hr run

135.3
64.8
#DIV/0!
72.6
127.1
546.3
239.2
294.8
#DIV/0!
479.4

Watthour Meters:

Wash Pump 1	1286.1	1281.1	3,500
No. 9 Pump	5864.59	5816.38	48,209
No. 8 Pump	6837.1	6837.1	0
No. 6 Pump	1442.2	1353.2	24,920
Wash Pump 2	8.833	7.774	1,271
No. 1 Pump	9314.751	9309.184	5,567
No. 2 Pump	4850.707	4838.949	11,758
No. 3 Pump	502.087	384.038	118,049
No. 4 Pump			0
No. 5 Pump	11,190.251	11,033.547	156,704

Garage (MWatt/Hrs.)	1,083.07	1,079.47	3,600
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Power Co. (Step #3)	39,252	38,882	444,000
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Left Meter - OUTSIDE

Volume Used:

Nat. Gas (Correct)	45,404,886	45,286,145	149,257
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% Run

1.4%
6.6%
53.8%
0.0%
0.0%
0.0%
43.9%
0.0%

Elapsed Time:

Emer. Generator	1,066.5	1,063.4	3.1
No. 1 Pump	17,273.4	17,263.2	10.2
No. 2 Pump	20,699.40	20,650.24	49.16
No. 3 Elec. Pump	1,728.5	1,328.1	400.4
No. 3 Nat. Gas Pump	560.2	560.2	0.0
No. 4 Elec. Pump	0.00	0.00	0.0
No. 4 Nat. Gas Pump	63.7	63.7	0.0
No. 5. Pump	23,400.090	23,073.240	326.850
UV Building Generator	139.8	139.8	0

SLUDGE No. 1 Hour Meter

SYSTEM No. 2 Mag Meter

Recycle Meter (Reset to zero each month)

Power Cost \$0.0855397

0.466825

Init. Chg. \$37,979.61

\$ KWH

Kohler Pit

Horizon \$383.79 2,599

Taylor \$422.87 3,042

ALT. 72 Park \$560.19 1,200

Geo. Ave. \$5,271.05 48,300

Wilgus Ave. \$425.75 3,000

EE Pit \$776.37 5,741

EE Tower \$206.14 1,400

Washington \$135.57 826

Office \$772.10 5,674

Erie Ave. \$2,272.72 14,000

Total \$49,206.16 529,782

2/1/2023 1/1/2023

0.0	0.0	0
7,144,639	6,720,960	423,679
		423,679

Bill >>>> \$36,029.31

KWH >>> 421,200

Low L. KWH 73,129

L.L. Cost \$ \$6,255.43

High L. KWH 292,078

H.L. Cost \$ \$24,984.26

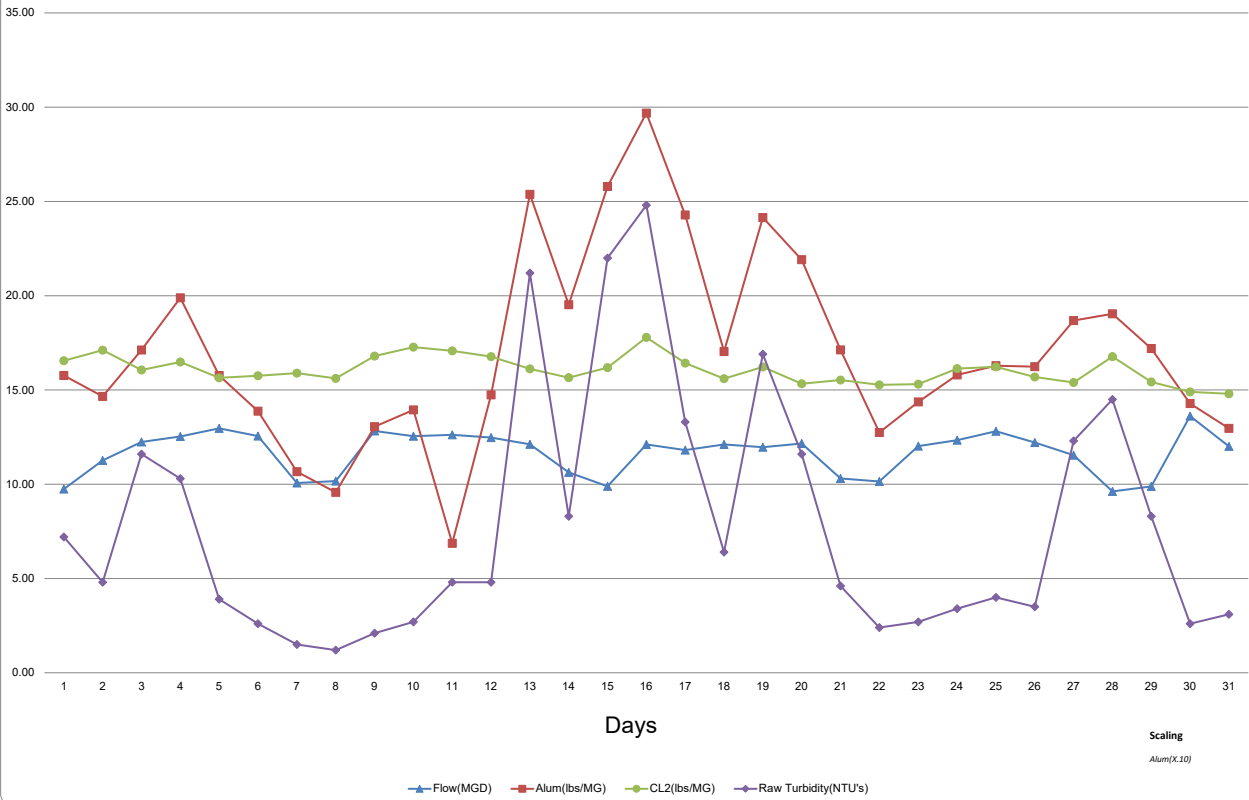
Total Cost \$31,239.69

Plant Costs \$7,000.73

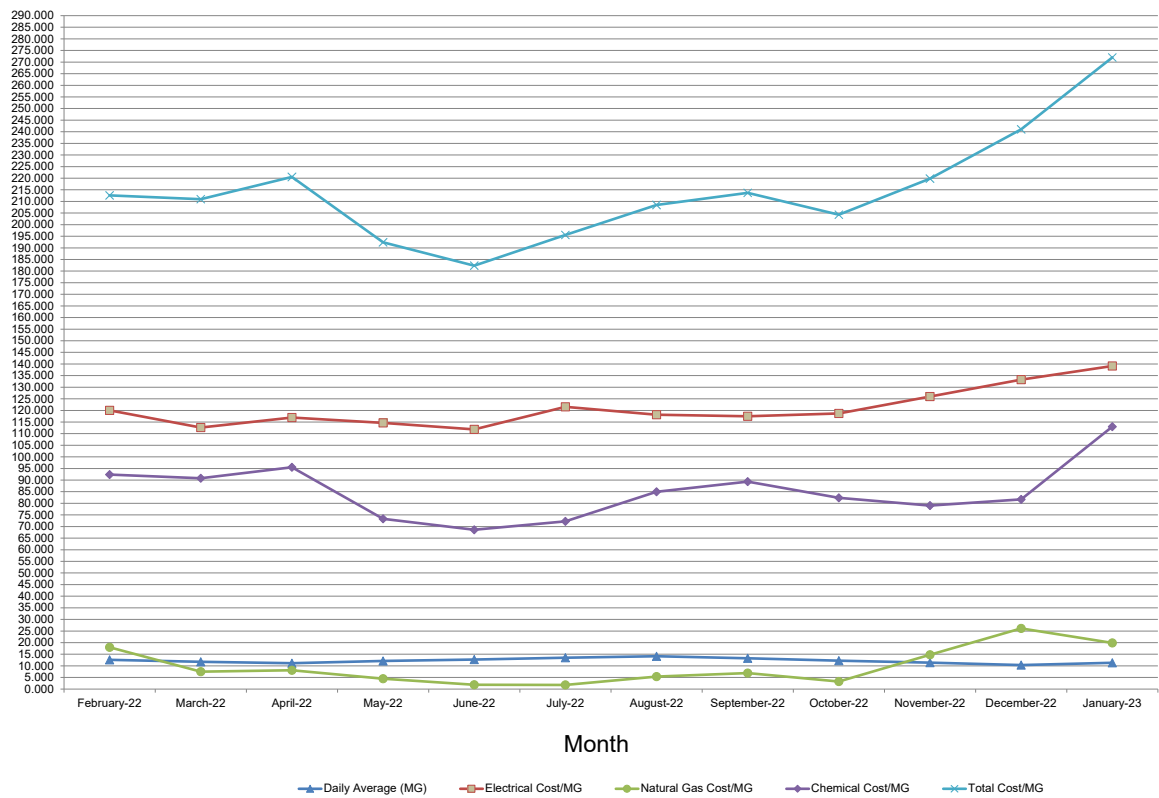
SUMMARY

	HIGH LIFT		LOW LIFT	
	2022	2023	2022	2023
Tot. Pump	364.389	350.916	366.514	361.303
Daily Ave.	11.754	11.320	11.823	11.655
Max. Day	13.233	13.403	13.372	13.614
Min. Day	7.587	9.294	7.613	9.619
By Nat. Gas	0.000	0.000	0.000	0.000
Power KWH	306,937	292,078	74,230	73,129
Gals/KWH	1187	1201	4938	4941
Cost/KWH	\$0.08197	\$0.08554	*****	*****
Cost/MG	\$69.04	\$71.20	\$14.46	\$17.31
Tot. Cost/MG	\$123.77	\$140.22	*****	*****

January 2023: Sheboygan Water Utility Plant Operations Summary



Plant Operations: Expense Report



Filter Plant Maintenance Completed For January 2023

Subject	StartDate	EndDate	Description
Observed new years holiday	2-Jan-23		Observed new years holiday
Dakota Supply Group	3-Jan-23		Purchase/order 1/3 horsepower sump pump, 1 1/2 fittings, and sample pump rebuild kits.
Taylor hill	3-Jan-23		Filled reagents at Taylor hill reservoir
Erie reservoir	3-Jan-23		Filled reagents at Erie reservoir and maintenance checks
Georgia Ave.	3-Jan-23		Check reagents, install new heater motor, and verify repair.
Georgia Heater	3-Jan-23		Disassemble old heater fan and reassemble with new motor.
Menards	4-Jan-23		Purchase cabinet latches, large plastic totes, small torch, and misc.
Horizon Tower	4-Jan-23		Check reagents, inspect grounds, and verify heater operation.
Operations Monitor	4-Jan-23		Install new operations monitor and HDMI cables.
Dan Covering Laboratory	4-Jan-23	4-Jan-23	Dan covering laboratory for Eric H.
Laboratory Cabinets	4-Jan-23		Install 8 new magnetic latches.
Heater by 10	5-Jan-23		Check heater operation; batteries bad.
Sodium Thio	5-Jan-23		Change sodium thio barrel.
Filter 3	6-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Pipe Gallery Maintenance	6-Jan-23		Perform pipe gallery maintenance, bleed transmitters, check vacuum pump, etc.
Filter 2	6-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Menards	6-Jan-23		Purchase T.V. monitor bracket and exchange damaged tote lid.
Filter 1	6-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Garbage	6-Jan-23		Throw out plant garbage and recycling.
Filter 4	9-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Electrical boxes to CD Smith	9-Jan-23		Dropped off electrical boxes for Pelper electric to CD Smith trailer
Filter 5	9-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Open Valve 90	9-Jan-23		Open North decant basin to suction well valve (90).
Flushed 8 inch sludge valve	9-Jan-23		Flushed 8 inch sludge line from backwash basin to sludge pit
Front Gate Keypad	9-Jan-23		Diagnose security gate keypad inop, inspect circuit board, and order new unit; found bad solder joints on board.
Completed unavailable pics	9-Jan-23		Josh and Dan completed unavailable pics paperwork
UV Sleeves	9-Jan-23		Unbox quartz sleeves, place on shelf, and final count reactor maintenance parts; 11 sleeves, 8 new bulbs, 4 used bulbs, and 2 sensors.
Menards	10-Jan-23		Purchase 1/2 I.D. hose and squeegee.
UV Reference Numbers	10-Jan-23		Input UV reference check numbers into computer database.
Dakota Supply Group	10-Jan-23		Purchase sample pump repair kit and order 100' of 1/2 i.d. hose.
Filter 7 pressure testing	10-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Filter 3 pressure testing	11-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Filter 4 pressure testing	11-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Filter 9 new sample tap	11-Jan-23		Filter 9 new sample tap drilled, new stainless steel valves and hose installed
Trilling's	11-Jan-23		Purchase 1/2 I.D. hose for filter 9 sample tap.
Filter 8 Tap	12-Jan-23		Tap new sample hose location.
Filter 11 Pressure Testing	12-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Filter 10 Pressure Testing	12-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Filter 8 Pressure Testing	12-Jan-23		Bleed psi gauge, filter wash, and collect pressure data for filter health check.
Filter 10 Gauge	12-Jan-23		Install new pressure gauge and relocated NTU sample pump point.
Filter 11 Gauge	12-Jan-23		Install new pressure gauge and move NTU sample pump point.
Filter 11 Surface Sweep	13-Jan-23		Remove broken surface sweep operating t and bracket.
Filter 11 Surface Sweep T	13-Jan-23		Fabricate new operating handle, T, and bracket.
Filter 11 T	13-Jan-23		Grind fabricated parts, clean, and prime.
Filter 11 Wash	13-Jan-23		Wash filter 11 after surface sweep handle service.
Filter 6	13-Jan-23		Drain filter for next Tuesdays media removal.
Monday Meeting	16-Jan-23		Topics include coverage, filter 6 sampling, Tuesday media removal, winter list, etc.
Filter 7	16-Jan-23		Install new 4" gauge.
Horizon Ave.	16-Jan-23		Inspect grounds, check reagents, adjust heat, etc.

Trilling's	16-Jan-23		Purchase 1 gallon Ziploc bags and parts washing brush.
Filter 6 Media Samples	16-Jan-23		Collect 6 samples for media health check.
Kundinger	17-Jan-23		Purchase 4 clamps and 12' or 1 1/4" hose for filters 10 + 11.
Taylor Hill	17-Jan-23		Check PLC heater installation, grounds, and reagents.
Security Gate Keypad	17-Jan-23		Assemble front keypad, rewire, install, and reprogram.
Shipping Mill	17-Jan-23		Deliver filter 6 media (core samples) for laboratory processing.
Filter 11 T-Handle	17-Jan-23		Install new surface wash valve t-handle and bracket.
Filter 6 Media Removal	17-Jan-23		Assist team removing filter media from 6.
Filter 11 Wash	17-Jan-23		Wash filter 11 after t-handle installation.
Filter 6 Inspection	18-Jan-23		Perform preliminary cap/underdrain inspection.
Filter Hall Floor	18-Jan-23		Sweep and wash filter hall floor and operators office.
Kundinger	18-Jan-23		Purchase 12' of 1 1/4" hose.
Filter 6 Gauge	18-Jan-23		Install new pressure gauge on filter 6.
Filter 11 Wash Hose	18-Jan-23		Install new filter wash hose.
Dan Covering Laboratory	18-Jan-23	18-Jan-23	Dan covering laboratory for Eric H.
Filter Plant Snow Removal	19-Jan-23		Shovel sidewalks and entry.
Filter 6 Post Wash	19-Jan-23		Re-inspect weak points of interest and pull caps for inspection.
Filter 6	19-Jan-23		Pre-wash inspection.
Filter 6 Pressure	19-Jan-23		Perform wash on filter 6, check pressure, and video water entry pattern.
Georgia pump station	20-Jan-23		Georgia pump station for emergency generator alarm. Engine coolant heater not working and cold temp alarm going off, need new heater unit
Engine block heater	20-Jan-23		Researching and finding new engine block heater for Georgia pump station emergency generator
Dan 2 hours comp time	20-Jan-23		Dan 2 hours of comp time
Emergency generators maintenance	23-Jan-23		Maintenance checks on emergency generators in high lift and low lift areas
Chemical feed pump checks	23-Jan-23		Maintenance checks on chemical feed pumps
Dan yearly Eval 8:00 am	24-Jan-23		Dan yearly Eval with Bill 8:00 am
East UVT analyzer bulb	24-Jan-23		Replaced east UVT analyzer bulb and installed new desiccator for humidity
Phosphate analyzer not reading	24-Jan-23		Cleaned lines and primed system, analyzer working
Josh sick time	24-Jan-23		Josh sick time
Georgia coolant heat pump	25-Jan-23		New coolant/engine block heater installed on Georgia pump station emergency generator
Dan 1/4 1st shift coverage	25-Jan-23	26-Jan-23	Dan covering operations 1st shift
Georgia verify generator ops	25-Jan-23		Verified emergency generator block heater was operating properly after weekly 11:00 am run cycle, pump working properly
Joshua Yearly Evaluation 8:00	26-Jan-23		Joshua yearly evaluation with Bill.
Joshua On Vacation	27-Jan-23	6-Feb-23	Joshua on trip to Columbia.
Georgia branches	27-Jan-23		Removed branches from around emergency generator at Georgia pump station
Filter plant garbage	27-Jan-23		Removed garbage and cardboard from filter plant
Cleaning filter plant	27-Jan-23		General cleaning of filter plant common areas
Dan Lab coverage	30-Jan-23	31-Jan-23	Dan Lab coverage
Georgia reagents	30-Jan-23		Filled Hypo reagents at Georgia pump station
Erie reagents	30-Jan-23		Filled reagents at Erie pump station
8 inch sludge valve froze	31-Jan-23		8 inch sludge valve on sludge pit was frozen and buttons were stuck, Filled sludge pit with water, got valve unfrozen and fixed buttons