



# Monthly Operating Report

September:2023

So. Sangamon  
Water Commission  
October 16th, 2023

# SSWC

9199 Buckhart Rd Rochester IL 62563

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## EXECUTIVE SUMMARY

**Safety.** Safety is the number one priority at South Sangamon. We have instituted a monthly safety meeting for operations staff at the plant. There were no lost time accidents in the month of September 2023.

**Compliance.** The finished water quality was within regulatory limits and all reporting and sampling requirements were met for the month. A copy of the Operations Report submitted to the Illinois Environmental Protection Agency is available at [www.sswc.us](http://www.sswc.us)

During the month of September 2023, the plant pumped 49.371 million gallons from the well field and 44.449 million gallons of finished water. This is 4.25 million gallons more than September 2022.

The SSWC plant has been removed from Critical Review status.

**Operations.** There was 0 emergency call-outs for the month. There were numerous customer inquiry for the month.

**Maintenance and Repair.** For the month of September 2023, there were 30 inspections, 3 preventative and multiple corrective maintenance activity completed. There was 4 repair activities performed .

**Budget.** Passed at April 17<sup>th</sup> 2023 meeting.

### Capital Planning.

Chatham emergency interconnect

Onsite fuel storage tanks

Detention Tank

Well #11

# 1. SAFETY

## 1.1 SAFETY TRAINING

At South Sangamon we strive to provide a safe working environment for all employees. This is accomplished with daily safety meetings and open communication.

## 1.2 LOST TIME ACCIDENTS

There were 0 lost time accidents in the month of September 2023.

## 1.3 SAFETY AUDIT

No safety audits to date.

## 1.4 MISCELLANEOUS SAFETY

No notable safety issues

## 2. COMPLIANCE, FLOWS AND LOADINGS

### 2.1 COMPLIANCE

The finished water quality was within regulatory limits and all Bacteriological testing was completed for the month of September. A copy of the Operations Report to the Illinois Environmental Protection Agency (IEPA) is available on the SSWC website.

### 2.2 INFLUENT FLOWS AND LOADINGS

The total gallons pumped from the well field were 49.371 MG. The influent parameters were all within the normal range.

The influent flow and loadings are summarized below in Table 2.2

Table 2.2 Influent Concentrations and Flow								
	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Well Flow Gals (MGD).
Max.	7.3	16.4	1.46	.216	-	365	320	1.955
Min.	7.1	14.2	.19	.125	-	340	118	1.356
Avg.	7.2	15.1	.54	.178	-	354	308	1.646
Total	-	-	-	-	-	-	-	49.371

### 2.3 EFFLUENT CONCENTRATIONS

The facility filtered 44.449 MG during the month with a daily average of 1.482 MG and a min/max 1.124/ 2.003 MG.

Table 2.3 Finished Water Quality										
	Free CL2	Total CL2	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Phosphate
Max.	2.88	4.46	7.9		0.02	0.044	.99	240	358	2.39
Min.	0.05	3.19	7.6		0.01	0.006	0.60	100	310	1.67
Avg.	0.25	3.58	7.7		0.01	0.018	0.81	129	319	1.96
MCL	-	-	-	-	1.00	-	4.00	-	-	-
SMCL	-	-	-	-	0.30	0.050	2.00	-	-	-

## Finished Water Flow Comparison for FY 2022-23

Time Period	22-23	21-22	20-21
Oct 2022- Sept-2023	426,359,500	412,316,376	418,888,785
Increase for the same period last year		14 MG	-.6 MG

FINISHED WATER PUMPING HISTORY						
	2022-23	2021-22	2020-21	2019-20	2018-19	2017-18
Oct	29,576,287	34,918,955	34,597,739	30,769,238	30,353,482	33,506,605
Nov	35,563,717	31,181,005	32,325,040	30,877,400	30,464,000	28,617,333
Dec	30,450,255	31,391,459	31,582,311	29,703,954	31,930,000	28,808,037
Jan	37,721,005	32,322,270	31,456,987	30,073,516	28,823,375	30,556,824
Feb	33,481,076	32,451,653	30,638,842	28,797,693	28,625,431	25,617,914
Mar	36,781,261	33,909,417	33,633,244	30,339,298	31,237,000	28,217,699
Apr	36,832,617	31,991,050	33,214,211	31,542,650	28,418,249	27,110,578
May	43,484,155	37,459,417	35,932,776	34,673,848	33,045,927	33,304,196
June	22,455,176	38,496,145	37,616,256	17,414,377	33,460,303	34,040,000
July	41,565,811	38,861,790	39,001,640	44,237,066	23,742,374	41,178,722
Aug	39,770,720	36,977,913	39,953,900	39,638,063	25,018,633	35,176,238
Sept	38,677,420	32,355,302	38,935,839	38,674,095	34,234,782	34,754,000
	-----	-----	-----	-----	-----	-----
Totals	426,359,500	412,316,376	418,888,785	386,741,198	359,353,556	380,888,146
Avg	1.17 MGD	1.13 MGD	1.15 MGD	1.06 MGD	.982 MGD	1.04 MGD



## 2.4 LAGOON DISCHARGE CONCENTRATIONS

The results for the NPDES lagoon discharge permit are summarized below.

**Table 2.4 Weekly Grab Sample Analysis Results**

<b>Lagoon Effluent Results</b>						
<b>Date</b>	<b>Fe (mg/l)</b>	<b>Mn (mg/l)</b>	<b>Chloride (mg/l)</b>	<b>Cl<sup>2</sup> (mg/l)</b>	<b>pH (S.U.)</b>	<b>TSS (mg/l)</b>
September 18th,2023						
Minimum	.31	.02	466.5	.02	7.7	16
Maximum	.31	.02	466.5	.02	7.7	16
Average	.31	.02	466.5	.02	7.7	16
<b>Monthly Avg Limit</b>	<b>2.000</b>	<b>1.000</b>				<b>15</b>
<b>Daily Limit</b>	<b>4.000</b>	<b>2.000</b>	<b>500</b>	<b>0.05</b>	<b>6.0-9.0</b>	<b>30</b>

The Chloride sample for the month, performed by the Springfield Metropolitan Sanitary District, was below 30,000 mg/l for the month of September 2023. The limit for chloride discharge to the sanitary district is 30,000 mg/L.

## 3. OPERATIONS

### 3.1 EVENTS IMPACTING OPERATIONS

**There were over 100 incident that impacted the operation of the plant.**

Backwash low flow alarms

Ion exchange alarm

Westech filters comm loss

Power surge

Power Sag

Power Outages

Ion Exchange Brine Pump

Well comm loss Alarm

### 3.2 EMERGENCY & SERVICE CALLS

#### Service Calls:

- There was 0 emergency call out for the month.

### 3.3 EMERGENCY CALL-OUTS

There was 0 emergency call out for the month.

### 3.4 CUSTOMER INQUIRIE

There were numerous customer inquiries.

#### **OTHER WORK PERFORMED**

Inspected distribution mains

Inspected booster station

Customer service

Air Compressor research

SCADA programming

New Berlin Booster station trouble shooting

Cell Transmitter Installation

Tractor Maintenance

Well #11 Raw main Locate



New compressor has arrived on site





Pressure air tank that arrived last month has been temporarily installed until the rest of the system is installed.





The new air drier for the air control system





## **4. MAINTENANCE AND REPAIR**

### **4.1 PREVENTATIVE AND PREDICTIVE MAINTENANCE**

For the month of September 2023, there were 30 inspections, 3 preventative and multiple corrective maintenance activity completed.

### **4.2 CORRECTIVE REPAIR AND MAINTENANCE**

Pulling and cleaning pre filters on all 3 filter trains on weekly basis

CIP train 1,2 and 3

Purged air control system

Air Compressor service

Raw water line flushing

Detention tank flush

Flushing Air Lines

Maintenance of New Berlin Booster Station

Meter Transmitter Replacement

Unloading New Compressor

Unloading New Air Drier

Air compressor Repair



## 5. PROJECT MANAGEMENT & SUPPORT

### 5.1 STAFFING & TRAINING

- Staff member training has been continuous and ongoing.
- Operator and Asst. Operator have been studying for EPA licensing test.

### 5.2 OPERATIONAL SUPPORT

The following individuals, either on-site or remotely, provided assistance in operation and/or maintenance of the plant during the month of September 2023.

- Kevin Canham
- Stephen Bivin
- Katie Krall
- Dan (SCADAware)
- Joe Lee Electric
- Kevin Garmin (SCADAware)



## 5.3 BUDGET

Table 5.3 Operating Budget

### Table 5.3 Budget Table

Budget Table was removed: see clerks report

## **6. CAPITAL PLANNING**

### **6.1 APPROVED CIP PROJECTS CURRENT STATUS**

Pigging project construction complete. Awaiting first pigging before completely releasing contractor.

The Chatham /South Sangamon emergency interconnect is progressing. There was a preconstruction meeting in February. Petersburg Plumbing has pushed back the construction start date.

Meter Project progressing, All meter bases and registers are on site. 17 cell meters have been installed.

Meco Engineering has provided us with initial plans for well #11

### **6.2 DRAFT CAPITAL IMPROVEMENT PLAN**

The CIP is a planning document that includes all projects anticipated to exceed \$5,000 in cost over the next five years. The CIP is an ongoing process and will be refined from time to time as projects are completed and new issues are identified.

1. Second Torray filter train has been installed- completed
2. Onsite fuel storage tanks have arrived on site and pumps have been installed-completed
3. BOP CPU upgrade has been completed-completed
4. Second raw water detention tank
5. SSWC/Chatham interconnect
6. Well #11

South Sangamon Water Commission - IL 1670080  
 September 2023

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Pumping Totals										Chemicals Applied										UF Filters										Softeners									
Time	Raw Well	UF Plant	Plant Water	HS Pumpage	Lagoon Effluent	Sodium Permanganate		Sodium Bisulfite BW		Sodium Hypochlorite		Ammonium Sulfate		Fluorosilicic Acid		Phosphate		Sodium Bisulfite Pond		Hours since previous backwash				Water Softened (Mgal)	Water Bypassed (Mgal)	Regeneration													
						Am't Used	Calc	Am't Used	Calc	Am't Used	Calc	Am't Used	Calc	Am't Used	Calc	Am't Used	Calc	Am't Used	Calc	Am't Used	Calc	1	2				3	4	1	2	3	4							
Date	Meier Ran	Filter (Mgal)	Filtered (Mgal)	Water Pumpage (Mgal)	HS Pumpage (Mgal)	Am't Used (lbs)	Calc (mg/as)	Am't Used (lbs)	Calc (mg/as)	Am't Used (lbs)	Calc (mg/as)	Am't Used (lbs)	Calc (mg/as)	Am't Used (lbs)	Calc (mg/as)	Am't Used (lbs)	Calc (mg/as)	Am't Used (lbs)	Calc (mg/l)	Bank#	1	2	3	4	1	2	3	4											
1	7:00	18.9	1.732	1.551	0.014	1.451	0.089	22	0.30	0.00	482	4.66	77	1.19	44	0.69	34	0.93	0	0.00	0.66	0.66	0.66	0.66	0.070	1.014	26.0	34.0	25.0	47.0	26.0	9124	43400						
2	7:00	20.9	1.901	1.687	0.020	1.631	0.091	25	0.32	0.00	550	4.89	76	1.11	48	0.67	10	0.24	0	0.00	0.66	0.66	0.66	0.66	0.077	1.103	26.0	33.0	28.0	26.0	6843	32550							
3	7:00	21.1	1.917	1.698	0.015	1.564	0.087	21	0.28	0.00	514	4.54	47	0.86	38	0.55	12	0.30	0	0.00	0.66	0.66	0.66	0.66	0.082	1.110	29.0	31.0	31.0	2281	10850								
4	7:00	17.7	1.550	1.392	0.006	1.392	0.066	19	0.29	0.00	422	4.54	60	1.03	39	0.64	14	0.40	0	0.00	0.66	0.66	0.66	0.66	0.056	0.910	29.0	46.2	37.0	29.0	4562	21700							
5	7:00	21.4	1.951	1.718	0.008	1.650	0.106	21	0.26	0.00	429	3.74	61	0.85	41	0.57	16	0.38	0	0.00	0.66	0.66	0.66	0.66	0.087	1.123	27.0	32.0	27.0	26.0	9124	43400							
6	7:00	21.5	1.955	1.749	0.023	1.631	0.090	22	0.27	0.00	500	4.28	61	0.84	43	0.60	20	0.49	0	0.00	0.66	0.66	0.66	0.66	0.080	1.143	27.0	26.0	46.2	21700									
7	7:00	21.4	1.929	1.724	0.015	1.655	0.098	19	0.24	0.00	468	4.07	52	0.72	43	0.59	21	0.50	0	0.00	0.66	0.66	0.66	0.66	0.084	1.127	27.0	37.0	53.0	30.0	6843	32550							
8	7:00	17.9	1.605	1.429	0.014	1.336	0.087	20	0.30	0.00	456	4.78	34	0.57	38	0.65	27	0.80	0	0.00	0.66	0.66	0.66	0.66	0.068	0.934	27.0	43.0	27.0	27.0	9124	43400							
9	7:00	18.3	1.691	1.513	0.019	1.413	0.079	24	0.34	0.00	560	5.55	41	0.65	47	0.76	10	0.28	0	0.00	0.66	0.66	0.66	0.66	0.068	0.989	25.0	25.0	25.0	26.0	4562	21700							
10	7:00	20.8	1.804	1.676	0.012	1.556	0.075	17	0.23	0.00	400	3.58	29	0.33	33	0.48	42	1.07	0	0.00	0.66	0.66	0.66	0.66	0.075	1.085	27.0	27.0	27.0	26.0	4562	21700							
11	7:00	16.7	1.488	1.314	0.000	1.262	0.061	18	0.29	0.00	440	5.02	28	0.47	37	0.57	13	0.41	0	0.00	0.66	0.66	0.66	0.66	0.061	0.859	27.0	27.0	27.0	26.0	4562	21700							
12	7:00	21.3	1.890	1.670	0.000	1.631	0.083	19	0.24	0.00	451	4.05	32	0.46	39	0.54	16	0.39	0	0.00	0.66	0.66	0.66	0.66	0.078	1.022	27.0	76.0	76.0	2281	10850								
13	7:00	16.8	1.470	1.302	0.005	1.281	0.083	16	0.26	0.00	374	4.31	13	0.24	32	0.57	15	0.46	0	0.00	0.66	0.66	0.66	0.66	0.064	0.851	27.0	116.0	28.0	119.0	87.0	9124	43400						
14	7:00	16.4	1.469	1.303	0.019	1.131	0.075	18	0.29	0.00	395	2.89	13	0.16	31	0.62	17	0.59	0	0.00	0.66	0.66	0.66	0.66	0.070	1.309	27.0	27.0	27.0	26.0	2281	10850							
15	7:00	15.5	1.356	1.124	0.005	1.219	0.070	22	0.39	0.00	521	6.95	29	0.62	44	0.82	20	0.65	0	0.00	0.66	0.66	0.66	0.66	0.051	0.735	27.0	36.0	33.0	52.0	26.0	9124	43400						
16	7:00	21.0	1.897	1.677	0.022	1.583	0.097	23	0.29	0.00	485	4.16	0	0.00	45	0.64	43	1.07	0	0.00	0.66	0.66	0.66	0.66	0.083	1.066	27.0	31.0	27.0	26.0	6843	32550							
17	7:00	21.5	1.934	1.736	0.017	1.641	0.095	20	0.25	0.00	486	4.20	0	0.00	35	0.53	74	1.78	0	0.00	0.66	0.66	0.66	0.66	0.080	1.135	30.0	30.0	30.0	2281	10850								
18	7:00	15.7	1.444	1.298	0.005	1.116	0.084	17	0.28	0.00	389	4.49	0	0.00	32	0.65	72	2.55	0	0.00	0.66	0.66	0.66	0.66	0.065	0.848	27.0	30.0	67.0	30.0	9124	43400							
19	7:00	20.5	1.905	1.581	0.022	1.476	0.080	21	0.28	0.00	410	3.94	18	0.28	35	0.54	77	2.06	0	0.00	0.66	0.66	0.66	0.66	0.070	1.020	27.0	54.1	39.0	30.0	4562	21700							
20	7:00	16.9	1.416	1.265	0.009	1.181	0.070	20	0.34	0.00	470	5.57	32	0.61	39	0.75	10	0.34	0	0.00	0.66	0.66	0.66	0.66	0.056	0.827	27.0	49.0	28.0	6843	32550								
21	7:00	21.0	1.799	1.589	0.015	1.474	0.088	21	0.28	0.00	504	4.75	44	0.66	42	0.65	10	0.27	0	0.00	0.66	0.66	0.66	0.66	0.074	1.039	27.0	55.0	34.0	29.0	6843	32550							
22	7:00	17.5	1.491	1.323	0.014	1.245	0.074	12	0.19	0.00	335	3.80	12	0.22	22	0.40	8	0.25	0	0.00	0.66	0.66	0.66	0.66	0.060	0.865	27.0	46.8	39.0	34.0	48.0	6843	32550						
23	7:00	17.0	1.423	1.257	0.016	1.205	0.065	19	0.32	0.00	486	5.79	26	0.50	37	0.70	13	0.43	0	0.00	0.66	0.66	0.66	0.66	0.060	0.822	27.0	43.5	30.0	2281	10850								
24	7:00	17.2	1.458	1.310	0.004	1.191	0.073	19	0.31	0.00	416	4.76	56	1.03	34	0.65	15	0.50	0	0.00	0.66	0.66	0.66	0.66	0.054	0.856	27.0	44.0	34.0	32.0	6843	32550							
25	7:00	16.7	1.428	1.231	0.017	1.153	0.076	16	0.27	0.00	330	4.02	46	0.90	32	0.63	12	0.41	0	0.00	0.66	0.66	0.66	0.66	0.057	0.805	27.0	42.6	38.0	32.0	71.0	29.0	9124	43400					
26	7:00	20.5	1.742	1.540	0.021	1.459	0.075	19	0.26	0.00	430	4.18	64	1.00	36	0.56	16	0.43	0	0.00	0.66	0.66	0.66	0.66	0.075	1.007	27.0	53.3	38.0	32.0	71.0	29.0	9124	43400					
27	7:00	17.3	1.457	1.287	0.005	1.217	0.078	18	0.30	0.00	494	4.70	56	1.04	36	0.67	19	0.62	0	0.00	0.66	0.66	0.66	0.66	0.059	0.841	27.0	44.6	36.0	34.0	49.0	30.0	9124	43400					
28	7:00	16.8	1.411	1.319	0.019	1.173	0.067	16	0.27	0.00	370	4.20	49	0.88	32	0.62	20	0.67	0	0.00	0.66	0.66	0.66	0.66	0.053	0.862	27.0	46.7	39.0	33.0	31.0	6843	32550						
29	7:00	19.4	1.540	1.292	0.014	1.245	0.073	16	0.25	0.00	294	2.97	38	0.72	29	0.53	34	1.08	0	0.00	0.66	0.66	0.66	0.66	0.059	0.844	27.0	44.8	34.0	46.0	32.0	6843	32550						
30	7:00	17.9	1.418	1.214	0.015	1.259	0.065	19	0.32	0.00	410	5.06	51	1.01	39	0.71	81	2.55	0	0.00	0.66	0.66	0.66	0.66	0.056	0.793	27.0	42.1	40.0	29.0	4562	21700							
31																																							
<b>Total</b>																																							
<b>Ave.</b>																																							
<b>Max</b>																																							
<b>Min</b>																																							

CHLORINATION		FLUORIDATION	
20% Sodium Permanganate	Pret-aerator	20% Sodium Permanganate	Pret-aerator
40% Bisulfite Solution	Membrane Backwash	40% Bisulfite Solution	Membrane Backwash
12.5% Sodium Hypochlorite Solution	Post Softener	12.5% Sodium Hypochlorite Solution	Post Softener
20% Ammonium Sulfate Solution	Post Softener	20% Ammonium Sulfate Solution	Post Softener
40% Fluorosilicic Acid Solution	Post Cleanwell	40% Fluorosilicic Acid Solution	Post Cleanwell
35% Phosphate Solution	Post Cleanwell	35% Phosphate Solution	









