Monthly Operating Report

January:2021

So. Sangamon

Water Commission

February 22nd, 2021

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 January 2021.

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**.

During the month of January 2021, the plant pumped 42.168 million gallons from the well field and 36.911 million gallons of finished water. This is 1.3 million gallons more than January of 2020.

The SSWC plant has been placed on Critical Review status. Systems on Critical Review will be evaluated for sufficient capacity before issuance of water main extension permits. The Critical Review is currently under review.

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 January 2021, there were 31 inspections, 3 preventative and 3 corrective maintenance activity completed.

Budget. Passed at May 18th 2020 meeting.

Capital Planning.

BOP CPU replacement

Chloramines Project

New Berlin Meter relocation.

Chatham emergency interconnect

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 January 2021.

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 January. 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 41.168 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.	8.3	17.0	1.58	.318	-	370	300	1.625
Min.	8.1	13.7	.35	.196	-	330	272	1.175
Avg.	8.2	14.7	.67	.231	-	349	283	1.360
Total	-	-	-	-	-	-	-	41.168

2.3 EFFLUENT CONCENTRATIONS

The facility filtered 36.911 MG during the month with a daily average of 1.191 MG and a min/max 1.039/ 1.443 MG.

Table 2.3 Finished Water Quality

	Free CL2	Total CL2	pH	Temp	Iron	Manganese	Fluoride	Hardness	Alkalinity	Phosphate
Max.	1.85	2.00	8.6		0.02	0.08	.92	370	292	2.31
Min.	1.38	1.45	8.4		0.01	0.005	0.38	100	220	1.77
Avg.	1.59	1.70	8.5		0.01	0.036	0.65	182	278	2.03
MCL	-	-	-	-	1.00	-	4.00	-	-	-
SMCL	-	-	-	-	0.30	0.050	2.00	-	-	-

Finished Water Flow Comparison for FY 2020 -21

Time Period	2020-2021	2019-2020	2018-2019
Feb 2020- Jan 2021	395,279,167	359,206,807	380,970,204
Increase for the same period last year		36.1MG	- 21.8 MG

FINISHED WATER PUMPING HISTORY						
	20-21	19-20	18-19	17-18	16-17	15-16
Feb	28,797,693	28,625,431	25,617,914	27,373,232	26,095,228	26,336,077
Mar	30,339,298	31,237,000	28,217,699	30,068,363	27,851,811	28,729,919
Apr	31,542,650	28,418,249	27,110,578	29,625,797	29,292,618	29,270,184
May	34,673,848	33,045,927	33,304,196	32,120,873	33,349,391	33,371,016
June	17,414,377	33,460,303	34,040,000	39,931,402	41,541,321	31,092,539
July	44,237,066	23,742,374	41,178,722	42,164,927	35,378,396	33,123,375
Aug	39,638,063	25,018,633	35,176,238	38,760,634	35,401,490	38,109,133
Sept	38,674,095	34,234,782	34,754,000	39,896,986	36,325,215	36,546,171
Oct	34,597,739	30,769,238	30,353,482	33,506,605	34,374,820	34,783,455
Nov	32,325,040	30,877,400	30,464,000	28,617,333	30,478,309	27,217,293
Dec	31,582,311	29,703,954	31,930,000	28,808,037	32,525,530	27,788,637
Jan	31,456,987	30,073,516	28,823,375	30,556,824	30,449,215	28,510,121
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Totals	395,279,167	359,206,807	380,970,204	401,431,013	393,063,344	374,877,920
Avg	1.08 MGD	.984 MGD	1.04 MGD	1.10 MGD	1.07 MGD	1.03 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

Lagoon Effluent Results						
Date	**Fe (mg/l)**	**Mn (mg/l)**	**Chloride (mg/l)**	**Cl^2 (mg/l)**	**pH (S.U.)**	**TSS (mg/l)**
January 8th, 2021	.52	.532	360	.01	8.5	4.8
Minimum	.52	.532	360	.01	8.5	4.8
Maximum	.52	.532	360	.01	8.5	4.8
Average	.52	.532	360			4.8
Monthly Avg Limit	***2.000***	***1.000***				***15***
Daily Limit	***4.000***	***2.000***	***500***	***0.05***	***6.0-9.0***	***30***

The Chloride sample for the month, performed by the Springfield Metropolitan Sanitary District, was below 30,000 mg/l for the month of January 2021. The limit for chloride discharge to the sanitary district is 30,000 mg/L.

3. OPERATIONS

3.1 EVENTS IMPACTING OPERATIONS

There was 1 incident that impacted the operation of the plant.

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 of January

- Kevin was on site when an issue arose and had to stay late

3.4 CUSTOMER INQUIRIE

There were numerous customer inquiries.

OTHER WORK PERFORMED
Trouble shooting of new train
Trouble shooting of CIP skid and CIP procedure
Inspected distribution mains
Consulted with new customers.
Repaired Train #2
Replaced BW valve on train #3
Flushed Train #3 air control system
Added to customer info database
Inspected booster station

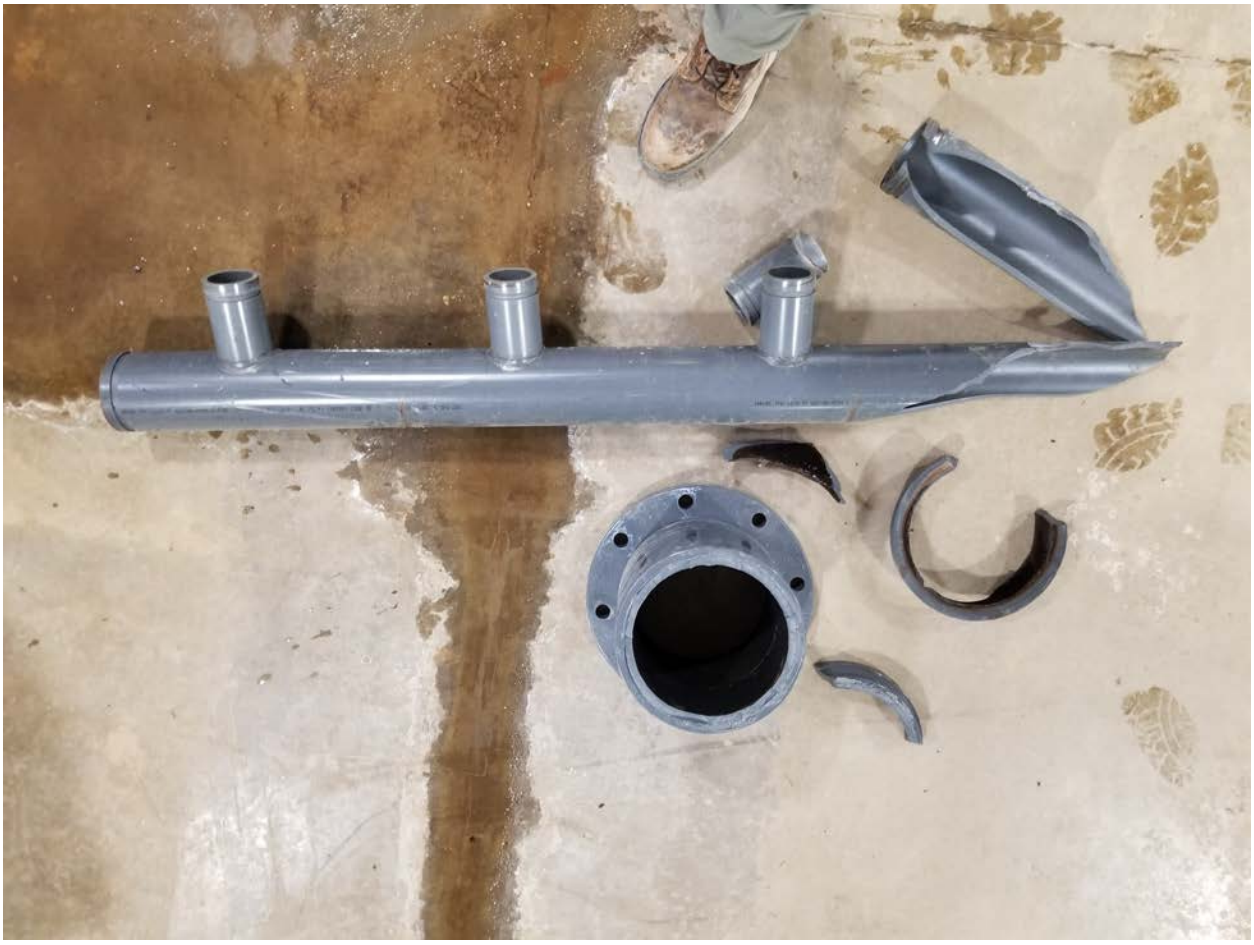
In January we had another new customer hook onto South Sangamons water mains on Leach road.

While running the service line to our new customer the contractor discovered SSWCs waste effluent line. This line had not been located by USIC. USIC was called and it was then properly located.

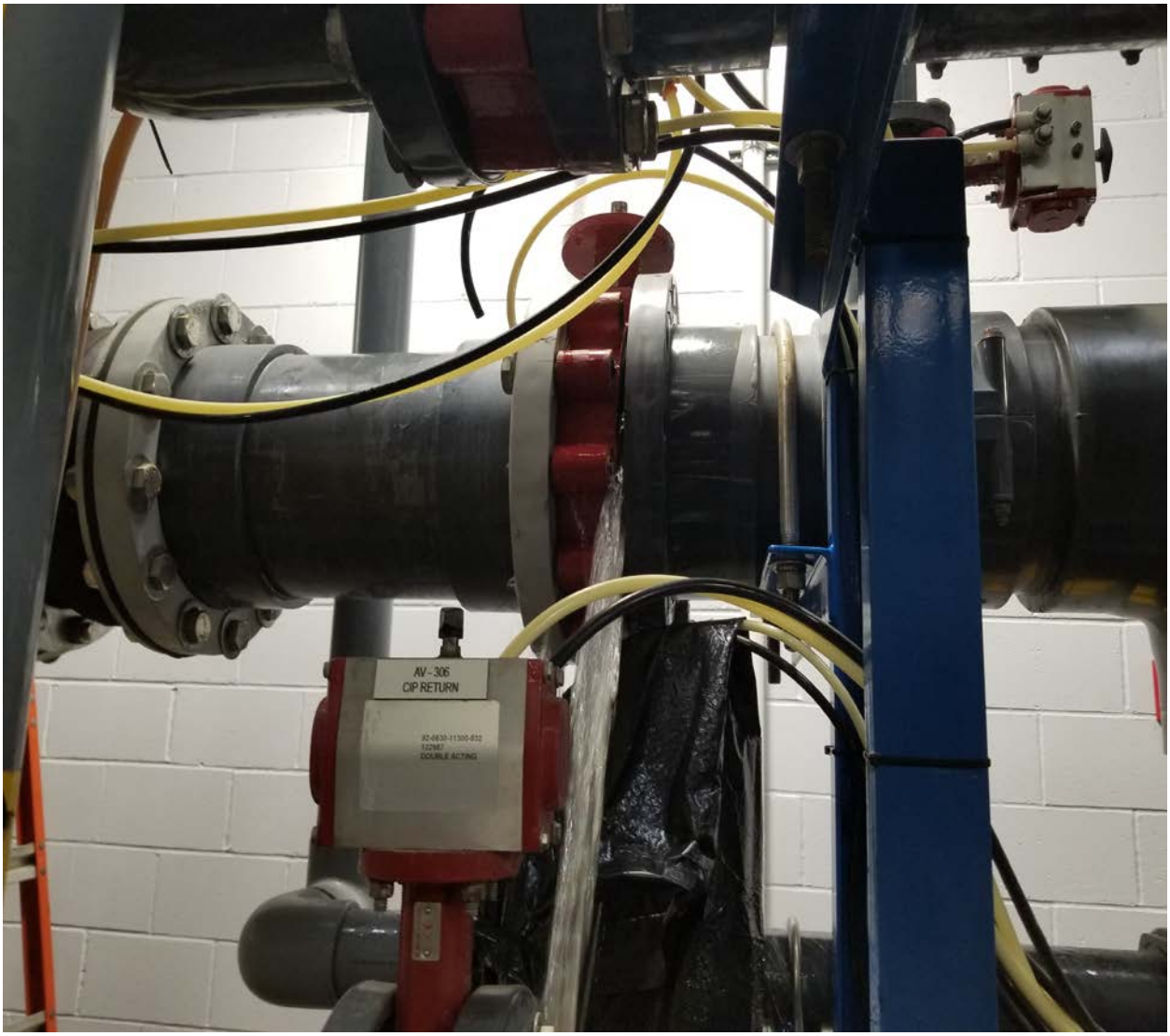
On January 6th AAC arrived on site at SSWC to program for the New Berlin booster station. While adding the new program, AAC caused the Ultrafilter program to malfunction. This malfunction caused the LSPs to ramp up to max speed. This in turn caused a pressure surge that shut train 1 and 3 to shut down. It also caused damage to train 2. Some of the damage is this flange that burst.

This pressure surge caused this filter cartridge to burst

It also caused a filter cartridge to push up into the manifold, damaging it.



The damaged manifold and the flange after removal.



This pressure spike also caused the seal in the BW waste valve stem to fail. Causing the staff at SSWC to have to replace the valve and purge the air system of the water.

4. MAINTENANCE AND REPAIR

4.1 PREVENTATIVE AND PREDICTIVE MAINTENANCE

For the month of January 2021, there were 31 inspections, 3 preventative and 3 corrective maintenance activity completed.

4.2 CORRECTIVE REPAIR

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

CIP train 1,2 and 3

Replaced manifold on train #3

Worked with SCADAware in learning our system.

Replaced Backwash valve

Purged air control system

HTE arrived to repair compressors

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 December 2020.

- Kevin Canham
- Stephen Bivin
- Katie Krall
- Kevin Garman (SCADAware
- Dan (SCADAware)
- HTE Compressor

5.3 BUDGET

Table 5.3 Operating Budget

Table 5.3 Budget Table

Budget Category	Month Budget	Month Actual	YTD Budget	YTD Actual	Annual Budget
Labor (D.L. + OH)	$14,590.81	?	$81,431	$71,581	$171,795
Utilities	$8,30630		$40,750	$40,586	$97,800
Chemicals	$22,421.92		$110,000	$76,944	$264,000
Maintenance & Repair	$13,668.62		$67,146	$94,528	$160,937
Chloride	$12,979.73		$65,800	$61,400	$157,920
Lab Supplies and Equipment	$1,856.22		$9,410	$6,131	$22,584
Office Supplies	$213.04		$1,080	$264	$2,592
Miscellaneous Expenses*	$		$	?	$500
Other Operating Costs	$	?	$	$6107	$
Engineering Fees	$2,547.95		**$12,500**	**$5,430**	$30,000
Office Equipment rental	$65		$325	$596	$780
Locates	$378.00	0	$1,890	$3,730	$4536
Truck	$3,287.67	0	$6,667	$131	$40,000
Total	**$80,315.26**	**$**	**$396,999**	**$367,428**	**$953,444**

*as of September 21th 2020

6. CAPITAL PLANNING

6.1 APPROVED CIP PROJECTS CURRENT STATUS

New Berlin Meter master meter relocation project is commencing. Engineering and relocation plans have been finalized. Awaiting ground breaking.

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

BOP CPU replace is in the planning phase

Benton and Assoc has initiated the planning phase of the Chatham Emergency interconnect. Construction permit has been applied for.

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.

South Sangamon Water Commission

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

DIVISION OF PUBLIC WATER SUPPLIES

South Sangamon Water Commission - IL1670080

January 2021

Physical and Chemical Tests

	Raw						Pre UF Membrane				Post UF Membrane			Post IEX				Finished														Membrane Integrity		
																																Post Filter		
			Total	Total	Total	Total	Turbidity	Total	Total	Soluble	Total	Total	Turbidity	1	2	3	4		Turbidity	Total	Total	Total	Total	Fluoride	Ortho	Free	Mono-	Chlorine						
Date	pH	Temp	Alk.	Hard.	Fe	Mn		Fe	Mn	Mn	Fe	Mn		Chloride				pH		Alk.	Hard.	Fe	Mn	F	Phosphate	Ammonia	Chloramine	F	T	Distrbution				
		deg. C	mg/L	mg/L	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	NTU	mg/L	mg/L	mg/L	mg/L		NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/l	mg/l	mg/l	mg/L	F	T	Bank 1	Bank 2	Bank 3
			as CaCO3																	as CaCO3										mg/l	mg/L	psi	psi	psi
1	8.10	15.0	285	330	0.52	0.238			0.331	0.074	0.44	0.098	0.28					8.50	0.32	280	140	0.01	0.008	0.67	1.98	0.01	0.00	1.38	1.58					
2	8.10	15.2	285	354	0.84	0.272			0.290	0.129	0.54	0.099	0.25					8.50	0.36	282	138	0.01	0.060	0.74	2.15	0.01	0.00	1.52	1.63					
3	8.10	15.5	282	360	0.46	0.250			0.387	0.110	0.47	0.086	0.25					8.60	0.35	280	160	0.01	0.073	0.68	1.86	0.02	0.00	1.66	1.80					
4	8.20	14.6	300	350	0.85	0.228			0.335	0.118	0.01	0.086	0.22					8.40	0.38	270	180	0.02	0.061	0.53	1.79	0.00	0.00	1.73	1.76			pass		
5	8.20	13.7	280	340	0.61	0.227			0.300	0.148	0.47	0.111	0.29					8.50	0.29	280	120	0.01	0.043	0.66	2.13	0.03	0.00	1.59	1.71					pass
6	8.10	13.9	285	350	1.58	0.216			0.308	0.111	0.52	0.104	0.19					8.50	0.36	285	140	0.02	0.029	0.92	2.30	0.02	0.00	1.39	1.45					
7	8.20	17.0	285	350	0.70	0.215			0.354	0.069	0.47	0.070	0.33					8.50	0.21	270	100	0.02	0.027	0.51	1.78	0.01	0.00	1.43	1.45					
8	8.20	14.5	285	340	0.88	0.207			0.309	0.059	0.77	0.071	0.20					8.60	0.34	280	100	0.01	0.010	0.56	1.99	0.02	0.00	1.47	1.66					
9	8.10	15.2	276	352	0.83	0.232			0.349	0.049	0.01	0.073	0.25					8.60	0.26	272	104	0.01	0.031	0.38	1.96	0.01	0.00	1.85	2.00					
10	8.30	14.0	300	352	0.44	0.219			0.377	0.050	0.01	0.051	0.23					8.50	0.25	292	104	0.01	0.018	0.62	1.88	0.02	0.00	1.41	1.58					
11	8.10	14.4	280	340	0.60	0.241			0.331	0.104	0.49	0.071	0.28					8.60	0.35	275	105	0.01	0.025	0.58	1.77	0.01	0.00	1.57	1.62					
12	8.20	14.5	280	340	0.73	0.226			0.403	0.044	0.60	0.038	0.21					8.60	0.28	280	140	0.02	0.012	0.57	1.92	0.00	0.00	1.49	1.50			pass		pass
13	8.20	14.7	282	356	0.53	0.233			0.408	0.086	0.50	0.079	0.19					8.60	0.22	280	100	0.01	0.030	0.83	1.78	0.00	0.00	1.71	1.79					
14	8.20	15.0	280	350	1.05	0.236			0.351	0.075	0.58	0.076	0.20					8.60	0.24	275	100	0.02	0.016	0.64	1.84	0.00	0.00	1.43	1.45					
15	8.20	14.5	280	352	0.94	0.208			0.315	0.055	0.64	0.048	0.19					8.50	0.17	280	140	0.01	0.005	0.54	1.96	0.00	0.00	1.59	1.88					
16	8.20	14.6	280	330	0.73	0.318			0.421	0.093	0.68	0.120	0.18					8.60	0.22	280	100	0.02	0.054	0.58	2.04	0.00	0.00	1.72	1.86					
17	8.20	14.8	280	345	0.80	0.210			0.378	0.076	0.63	0.143	0.22					8.60	0.24	280	120	0.02	0.012	0.67	2.31	0.02	0.00	1.71	1.88					
18	8.10	14.9	280	350	0.72	0.236			0.398	0.075	0.53	0.121	0.20					8.60	0.28	280	150	0.01	0.048	0.71	2.01	0.01	0.00	1.80	1.90					
19	8.20	14.8	290	356	0.35	0.212			0.375	0.023	0.42	0.013	0.19					8.60	0.25	220	230	0.02	0.048	0.58	1.94	0.01	0.00	1.63	1.72			pass		pass
20	8.20	15.3	280	352	1.14	0.238			0.408	0.065	0.46	0.073	0.20					8.60	0.42	270	200	0.02	0.079	0.73	1.94	0.01	0.00	1.47	1.63					
21	8.20	14.3	280	340	0.47	0.243			0.368	0.071	0.33	0.081	0.18					8.60	0.40	270	208	0.01	0.080	0.63	2.15	0.01	0.00	1.56	1.57					
22	8.20	14.2	280	352	0.71	0.212			0.335	0.070	0.39	0.040	0.17					8.60	0.23	285	270	0.02	0.030	0.58	2.20	0.00	0.00	1.60	1.66					
23	8.20	15.1	272	352	0.51	0.228			0.362	0.046	0.01	0.057	0.24					8.50	0.25	274	230	0.01	0.040	0.69	2.30	0.00	0.00	1.58	1.75					
24	8.30	15.2	290	356	0.41	0.252			0.347	0.084	0.02	0.062	0.33					8.50	0.29	285	230	0.01	0.033	0.65	2.07	0.00	0.00	1.62	1.74					
25	8.20	14.4	280	370	0.45	0.254			0.397	0.096	0.36	0.071	0.14					8.60	0.20	290	370	0.01	0.056	0.65	2.07	0.00	0.00	1.59	1.78					
26	8.30	14.3	285	350	0.50	0.232			0.344	0.075	0.35	0.073	0.19					8.60	0.20	285	305	0.02	0.008	0.73	2.15	0.00	0.00	1.60	1.68					
27	8.20	14.7	280	340	0.53	0.237			0.382	0.058	0.38	0.062	0.16					8.60	0.20	280	200	0.01	0.067	0.68	1.94	0.00	0.00	1.56	1.58					
28	8.20	14.2	285	356	0.54	0.206			0.326	0.620	0.35	0.030	0.14					8.50	0.20	290	300	0.01	0.021	0.76	2.11	0.01	0.00	1.60	1.69			pass	pass	pass
29	8.20	14.5	280	370	0.45	0.223			0.347	0.033	0.33	0.040	0.17					8.60	0.20	280	270	0.02	0.013	0.77	2.15	0.00	0.00	1.63	1.68					
30	8.20	14.7	280	345	0.50	0.209			0.406	0.096	0.32	0.076	0.18					8.60	0.20	280	275	0.02	0.037	0.67	2.18	0.00	0.00	1.85	1.86					
31	8.20	14.2	282	340	0.40	0.196			0.332	0.320	0.23	0.024	0.19					8.60	0.22	280	320	0.01	0.035	0.50	2.20	0.00	0.00	1.62	1.80					
Ave.	8.19	14.7	283	349	0.67	0.231	#DIV/0!	#DIV/0!	0.357	0.103	0.40	0.072	0.21	#####	#####	#####	#####	8.56	0.27	278	182	0.01	0.036	0.65	2.03	0.01	0.00	1.59	1.70	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Max	8.30	17.0	300	370	1.58	0.318	0.00	0.00	0.421	0.620	0.77	0.143	0.33	0	0	0	0	8.60	0.42	292	370	0.02	0.080	0.92	2.31	0.03	0.00	1.85	2.00	0.00	0.00	0.00	0.00	0.00
Min	8.10	13.7	272	330	0.35	0.196	0.00	0.00	0.290	0.023	0.01	0.013	0.14	0	0	0	0	8.40	0.17	220	100	0.01	0.005	0.38	1.77	0.00	0.00	1.38	1.45	0.00	0.00	0.00	0.00	0.00

Lagoon Effluent Tests	pH	Temp	TChlor	Mn	Fe	Chloiride	TSS
Monthly		°C	mg/l	mg/l	mg/l	mg/L	mg/L
Date 1/8/2021	8.5	15	0.01	0.532	0.52	360	4.8

Distribution Stability Tests	pH	Temp	TDS	Alkalinity	Calcium	Chloiride	Sulfate
Every Two Weeks		°C	mg/L	mg/L as CaCO3		mg/L	mg/L
Date 2/1/2021	8.6	15.3		270			
Date							
Date							

Remarks:

On Jan 21st a distribution stability sample was drawn. The samplpe never made it to the lab. When this was discovered we spoke with Mary Reed and was instructed to draw a sample asap. This is the reason for the lack of results.

South Sangamon Water Commission

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY — MONTHLY IRON REMOVAL AND ION EXCHANGE SOFTENING REPORT

DIVISION OF PUBLIC WATER SUPPLIES

South Sangamon Water Commission - IL 1670080

January 2021

		Pumping Totals						Chemicals Applied														UF Filters					Softeners							
			Raw					Sodium Permanganate		Sodium Bisulfite BW		Sodium Hypochlorite		Ammonium Sulfate		Fluorosilicic Acid		Phosphate		Sodium Bisulfite Pond		Hours since previous backwash				Wash	Water	Water	Each day indicate total number of				Regeneration	
	Time	Hours	Well	UF	Plant	HS	Lagoon Effluent	Am't		Am't		Am't		Am't		Am't		Am't		Am't						Water	Softened	Bypassed	hours since previous regeneration.				Salt	Washed
Date	Meter	Filter	Prod.	Filtered	Water	Pumpage	Pumpage	Used	Calc	Used	Calc	Used	Calc	Used	Calc	Used	Calc	Used	Calc	Used	Calc					Gal.	Gal.	Gal	If regeneration at mid-day, indicate				Used	Water
	Read	Ran	(Mgal)	(Mgal)	(Mgal)	(Mgal)	(Mgal)	lbs.	mg/l as NaMnO4	lbs.	mg/l	lbs.	mg/l as Cl	lbs.	mg/l as NH3	lbs.	mg/l as F	lbs.	mg/l as PO4	lbs.	mg/l	Bank # 1	Bank # 2	Bank # 3		(Mgal)	(Mgal)	(Mgal)	hours previous/hours following. 1	2	3	4	lbs.	Gal.
1	7:00	15.6	1.415	1.285	0.014	1.186	0.074	28	0.47	0	0.00	197	2.30	0	0.00	34	0.65	32	1.07	20	12.96	0.66	0.66	0.66		0.074	0.840	0.445					0	0
2	7:00	14.8	1.375	1.065	0.004	1.028	0.051	20	0.35	0	0.00	163	2.29	0	0.00	25	0.55	26	1.00	10	9.44	0.66	0.66	0.66		0.046	0.696	0.369		43.0			2281	10850
3	7:00	15.0	1.175	1.283	0.005	1.122	0.053	26	0.53	0	0.00	196	2.29	0	0.00	32	0.65	64	2.26	0	0.00	0.66	0.66	0.66		0.048	0.839	0.444			74.0		2281	10850
4	7:00	16.9	1.625	1.283	0.004	1.146	0.067	19	0.28	0	0.00	196	2.29	0	0.00	21	0.42	49	1.69	0	0.00	0.66	0.66	0.66		0.048	0.839	0.444	114.0	36.0	33.0	94.0	9124	43400
5	7:00	14.4	1.354	1.245	0.018	1.006	0.088	23	0.41	0	0.00	190	2.29	0	0.00	27	0.61	49	1.93	15	8.21	0.66	0.66	0.66		0.078	0.814	0.431	29.0	38.0			4562	21700
6	7:00	16.3	1.370	1.107	0.009	1.130	0.103	23	0.40	0	0.00	169	2.29	0	0.00	27	0.54	64	2.24	0	0.00	0.66	0.66	0.66		0.093	0.724	0.383			41.0	51.0	4562	21700
7	7:00	16.6	1.400	1.204	0.009	1.092	0.094	16	0.27	0	0.00	184	2.29	0	0.00	31	0.65	3	0.11	2	1.02	0.66	0.66	0.66		0.080	0.787	0.417	48.0	39.0	30.0		6843	32550
8	7:00	16.2	1.539	1.443	0.013	1.166	0.094	24	0.37	0	0.00	221	2.30	0	0.00	27	0.53	7	0.24	3	1.54	0.66	0.66	0.66		0.084	0.943	0.500		36.0		41.0	4562	21700
9	7:00	14.5	1.332	1.187	0.012	1.057	0.077	22	0.40	0	0.00	182	2.30	0	0.00	25	0.54	7	0.26	-4	-2.51	0.66	0.66	0.66		0.067	0.776	0.411	43.0		43.0		4562	21700
10	7:00	15.4	1.386	1.100	0.009	1.129	0.078	25	0.43	0	0.00	168	2.29	0	0.00	28	0.57	9	0.32	1	0.62	0.66	0.66	0.66		0.068	0.719	0.381		41.0		47.0	4562	21700
11	7:00	15.5	1.419	1.244	0.015	1.106	0.082	27	0.46	0	0.00	183	2.20	0	0.00	30	0.62	10	0.36	0	0.00	0.66	0.66	0.66		0.072	0.813	0.431	53.0		32.0		4562	21700
12	7:00	16.1	1.429	1.312	0.006	1.066	0.089	25	0.42	0	0.00	193	2.20	0	0.00	28	0.60	9	0.33	2	1.07	0.66	0.66	0.66		0.075	0.858	0.454		38.0	41.0	48.0	6843	32550
13	7:00	14.8	1.362	1.253	0.016	1.075	0.086	25	0.44	0	0.00	184	2.20	0	0.00	28	0.59	12	0.44	0	0.00	0.66	0.66	0.66		0.076	0.819	0.434	48.0	36.0			4562	21700
14	7:00	16.5	1.446	1.224	0.012	1.146	0.068	22	0.36	0	0.00	180	2.20	0	0.00	25	0.50	13	0.45	0	0.00	0.66	0.66	0.66		0.063	0.800	0.424			40.0		2281	10850
15	7:00	14.9	1.219	1.198	0.005	1.040	0.084	23	0.45	0	0.00	176	2.20	0	0.00	27	0.59	23	0.88	0	0.00	0.66	0.66	0.66		0.065	0.783	0.415	48.0	38.0	35.0	74.0	9124	43400
16	7:00	15.5	1.265	1.039	0.021	0.999	0.015	23	0.44	0	0.00	153	2.20	0	0.00	28	0.64	58	2.30	0	0.00	0.66	0.66	0.66		0.015	0.679	0.360					0	0
17	7:00	15.2	1.216	1.102	0.000	1.035	0.027	23	0.45	0	0.00	162	2.20	0	0.00	28	0.62	72	2.75	0	0.00	0.66	0.66	0.66		0.013	0.720	0.382		39.0	41.0	48.0	6843	32550
18	7:00	15.6	1.252	1.070	0.009	1.054	0.017	25	0.48	0	0.00	157	2.20	0	0.00	29	0.63	12	0.45	0	0.00	0.66	0.66	0.66		0.012	0.699	0.371		42.0			2281	10850
19	7:00	16.9	1.363	1.191	0.007	1.144	0.031	22	0.39	0	0.00	175	2.20	0	0.00	26	0.52	8	0.28	0	0.00	0.66	0.66	0.66		0.017	0.778	0.413	96.0		34.0	45.0	6843	32550
20	7:00	18.1	1.433	1.238	0.014	1.208	0.025	22	0.37	0	0.00	182	2.20	0	0.00	27	0.51	10	0.33	0	0.00	0.66	0.66	0.66		0.015	0.809	0.429		40.0	40.0		4562	21700
21	7:00	16.4	1.284	1.125	0.013	1.069	0.025	21	0.39	0	0.00	165	2.20	0	0.00	27	0.58	9	0.33	0	0.00	0.66	0.66	0.66		0.015	0.735	0.390	43.0	17.0			4562	21700
22	7:00	16.0	1.279	1.147	0.004	1.074	0.024	23	0.43	0	0.00	168	2.20	0	0.00	27	0.57	11	0.41	0	0.00	0.66	0.66	0.66		0.014	0.750	0.397		24.0		77.0	4562	21700
23	7:00	16.9	1.290	1.130	0.009	1.080	0.026	32	0.59	0	0.00	166	2.20	0	0.00	26	0.55	11	0.40	0	0.00	0.66	0.66	0.66		0.021	0.739	0.391		39.0			2281	10850
24	7:00	17.6	1.456	1.178	0.007	1.042	0.052	23	0.38	0	0.00	173	2.20	0	0.00	29	0.63	17	0.65	0	0.00	0.66	0.66	0.66		0.052	0.770	0.408					0	0
25	7:00	17.1	1.255	1.170	0.000	1.082	0.045	23	0.44	0	0.00	172	2.20	0	0.00	29	0.61	40	1.46	2	2.13	0.66	0.66	0.66		0.040	0.765	0.405	102.0				2281	10850
26	7:00	18.5	1.451	1.194	0.005	1.160	0.028	21	0.35	0	0.00	175	2.20	0	0.00	26	0.51	66	2.25	0	0.00	0.66	0.66	0.66		0.014	0.780	0.414		71.0	136.0	94.0	6843	32550
27	7:00	16.4	1.366	1.178	0.017	1.071	0.055	23	0.40	0	0.00	173	2.20	0	0.00	28	0.60	68	2.51	0	0.00	0.66	0.66	0.66		0.050	0.770	0.408			34.0		2281	10850
28	7:00	16.6	1.345	1.160	0.004	1.054	0.061	22	0.39	0	0.00	170	2.20	0	0.00	26	0.56	20	0.75	-5	-3.93	0.66	0.66	0.66		0.051	0.758	0.402	66.0	42.0			4562	21700
29	7:00	15.9	1.338	1.163	0.011	1.014	0.071	23	0.41	0	0.00	171	2.20	0	0.00	27	0.61	9	0.35	3	2.03	0.66	0.66	0.66		0.061	0.760	0.403			44.0	72.0	4562	21700
30	7:00	17.2	1.401	1.207	0.010	1.119	0.069	22	0.38	0	0.00	177	2.20	0	0.00	27	0.55	9	0.32	2	1.39	0.66	0.66	0.66		0.064	0.789	0.418		40.0			2281	10850
31	7:00	15.7	1.328	1.186	0.005	0.998	0.069	22	0.40	0	0.00	170	2.15	0	0.00	27	0.62	10	0.40	30	20.85	0.66	0.66	0.66		0.059	0.775	0.411		37.0	43.0		4562	21700
Total		499.1	42.168	36.911	0.287	33.698	1.825	718	12.74	0	0	5488.74	69.07	0	0.00	852	17.90	807	29.50	81	54.83					1.550	24.125	12.786	690	736	741	691	130017	618450
Ave.		16.1	1.360	1.191	0.009	1.087	0.059	23.2	0.41	0	0	177	2.23	0	0.00	27.5	0.58	26.0	0.95	2.6	1.77	0.66	0.66	0.66	#DIV/0!	0.050	0.778	0.412	62.7	38.7	46.3	62.8	4194.1	19950
Max		18.5	1.625	1.443	0.021	1.208	0.103	32.0	0.59	0	0	221	2.30	0	0	34	0.65	72	2.75	30	20.85	0.66	0.66	0.66	0	0.093	0.943	0.500	114.0	71.0	136.0	94.0	9,124	43,400
Min		14.4	1.175	1.039	0.000	0.998	0.015	16.0	0.27	0	0	152.509	2.15	0	0.00	21	0.42	3	0.11	-5	-3.93	0.66	0.66	0.66	0	0.012	0.679	0.360	29.0	17.0	30.0	41.0	0	0

1	20	% Sodium Permanganate	Pre-aerator	**CHLORINATION**		**FLUORIDATION**	
2	40	% BisulfiteSolution	Membrane Backwash				
3	12.5	% Sodium Hypochlorite Solution	Post Softener	Type of Chlorine Used	Sodium Hypochlorite 12.5 %	Type of Fluoride Used	Hydrofluosilicic Acid 19% F
4	20	% Ammonium Sulfate Solution	Post Softener				
5	19	% Fluorosilicic Acid Solution	Post Clearwell	Chlorine Analyzers Used: Hach CL17 (2) & 5500sc		Fluoride Analyzer Used: Hach 2200, SPADNS method	
6	33	% Phosphate Solution	Post Clearwell				
7	40	% BisulfiteSolution	Lagoon Effluent				

I certify that the information in this report is complete and accurate to the best of my knowledge.

Reported by: _____ Illinois Operator Certification ID 253419999

Date: 2/8/2021

Date Bacterials Ser 1/28/2021