ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES

MONTHLY IRON REMOVAL AND ION EXCHANGE SOFTENING REPORT

South Sangamon Water Commission - IL 1670080
September 2021

		Pumping Totals						Chemicals Applied														UF Filters					Softeners							
								Sodium Permanganate		Sodium Bisulfite BW		Sodium Hypochlorite		Ammonium Sulfate		Fluorosilicic Acid		Phosphate		Sodium Bisulfite Pond		Hours since previous backwash									Regeneration		
Date	Time Meter Read	Hours Filter Ran	Raw Well Prod. (M gal)	UF Filtered (M gal)	Plant Water (M gal)	HS Pumpage (M gal)	Lagoon Effluent Pumpage (M gal)	Am't Used lbs.	Calc mg/l as NaMnO4	Am't Used lbs.	Calc mg/l	Am't Used lbs.	Calc mg/l as Cl	Am't Used lbs.	Calc mg/l as NH3	Am't Used lbs.	Calc mg/l as F	Am't Used lbs.	Calc mg/l as PO4	Am't Used lbs.	Calc mg/l	Bank # 1	Bank # 2	Bank # 3		Wash Water Gal. (M gal)	Water Softened Gal. (M gal)	Water Bypassed Gal (M gal)	Each day indicate total number of hours since previous regeneration. If regeneration at mid-day, indicate hours previous/hours following. 1	2	3	4	Salt Used lbs.	Washed Water Gal.
1	7:00	15.4	1.417	1.212	0.009	1.164	0.077	29	0.49		0.00	368	4.55	115	2.28	31	0.61	18	0.61	0	0.00	0.66	0.66	0.66		0.063	0.792	0.420	60.0	39.0		34.0	6843	32550
2	7:00	18.0	1.683	1.445	0.015	1.309	0.096	33	0.48		0.00	378	3.92	115	1.91	31	0.54	20	0.60	52	26.09	0.66	0.66	0.66		0.086	0.944	0.501		30.0	68.0		4562	21700
3	7:00	17.1	1.621	1.424	0.015	1.277	0.096	33	0.49		0.00	378	3.98	121	2.04	31	0.55	23	0.71	53	26.38	0.66	0.66	0.66		0.082	0.931	0.493	36.0	19.0		34.0	6843	32550
4	7:00	17.2	1.655	1.489	0.009	1.320	0.092	34	0.49		0.00	398	4.01	132	2.13	32	0.55	28	0.84	45	23.37	0.66	0.66	0.66		0.078	0.973	0.516	28.0	32.0		30.0	6843	32550
5	7:00	16.2	1.538	1.371	0.016	1.201	0.096	31	0.49		0.00	378	4.13	132	2.31	32	0.61	37	1.22	37	18.41	0.66	0.66	0.66		0.082	0.896	0.475	29.0		70.0	30.0	6843	32550
6	7:00	16.6	1.555	1.344	0.015	1.238	0.085	32	0.49		0.00	478	5.33	172	3.07	40	0.74	70	2.24	36	20.23	0.66	0.66	0.66		0.071	0.878	0.466	29.0	36.0		29.0	6843	32550
7	7:00	17.3	1.607	1.400	0.015	1.332	0.081	33	0.49		0.00	388	4.15	134	2.30	33	0.56	69	2.05	39	23.09	0.66	0.66	0.66		0.081	0.915	0.485					0	0
8	7:00	17.2	1.400	1.713	0.013	1.159	0.112	29	0.49		0.00	332	2.90	115	1.61	37	0.73	26	0.89	39	16.65	0.66	0.66	0.66		0.098	1.120	0.593	32.0	58.0		36.0	6843	32550
9	7:00	19.5	1.707	1.378	0.015	1.403	0.090	35	0.49		0.00	416	4.52	139	2.42	53	0.86	15	0.42	22	11.68	0.66	0.66	0.66		0.076	0.901	0.477	27.0		96.0	26.0	6843	32550
10	7:00	19.8	1.880	1.644	0.018	1.471	0.119	38	0.49		0.00	424	3.87	143	2.09	51	0.79	15	0.40	14	5.63	0.66	0.66	0.66		0.100	1.075	0.569	28.0	30.0	26.0	27.0	9124	43400
11	7:00	18.3	1.811	1.614	0.022	1.432	0.106	37	0.49		0.00	490	4.55	164	2.44	57	0.91	18	0.50	40	18.04	0.66	0.66	0.66		0.092	1.055	0.559	27.0	29.0		29.0	6843	32550
12	7:00	17.2	1.635	1.442	0.016	1.361	0.076	33	0.49		0.00	370	3.85	121	2.01	44	0.74	15	0.44	29	18.40	0.66	0.66	0.66		0.066	0.942	0.500	28.0	29.0			4562	21700
13	7:00	18.6	1.811	1.604	0.009	1.440	0.104	37	0.49		0.00	444	4.15	144	2.15	53	0.84	20	0.55	38	17.46	0.66	0.66	0.66		0.090	1.048	0.556		25.0	68.0	26.0	6843	32550
14	7:00	20.5	1.980	1.788	0.017	1.611	0.113	40	0.49		0.00	432	3.62	146	1.96	51	0.72	23	0.56	36	15.23	0.66	0.66	0.66		0.099	1.169	0.619	28.0	28.0		24.0	6843	32550
15	7:00	19.6	1.845	1.573	0.017	1.483	0.102	38	0.49		0.00	400	3.81	124	1.89	46	0.71	25	0.67	30	14.06	0.66	0.66	0.66		0.088	1.028	0.545	29.0		56.0	28.0	6843	32550
16	7:00	18.8	1.808	1.591	0.016	1.421	0.105	37	0.49		0.00	398	3.75	143	2.16	51	0.82	37	1.03	40	18.21	0.66	0.66	0.66		0.091	1.040	0.551	28.0	28.0		23.0	6843	32550
17	7:00	20.9	2.005	1.773	0.014	1.583	0.109	41	0.49		0.00	382	3.23	115	1.56	43	0.62	50	1.25	58	25.62	0.66	0.66	0.66		0.099	1.159	0.614	28.0	35.0			4562	21700
18	7:00	17.5	1.649	1.437	0.013	1.359	0.097	34	0.49		0.00	358	3.73	99	1.65	41	0.69	9	0.26	28	13.79	0.66	0.66	0.66		0.083	0.939	0.498		31.0	63.0	59.0	6843	32550
19	7:00	17.5	1.661	1.452	0.022	1.350	0.097	34	0.49		0.00	420	4.34	122	2.01	47	0.79	14	0.41	0	0.00	0.66	0.66	0.66		0.087	0.949	0.503			26.0	26.0	4562	21700
20	7:00	19.2	1.815	1.602	0.009	1.424	0.108	37	0.49		0.00	446	4.17	129	1.93	51	0.82	15	0.42	2	0.89	0.66	0.66	0.66		0.089	1.047	0.555	60.0	30.0	31.0	24.0	9124	43400
21	7:00	20.8	1.948	1.712	0.020	1.583	0.106	40	0.49		0.00	386	3.38	132	1.85	46	0.66	15	0.37	7	3.18	0.66	0.66	0.66		0.096	1.119	0.593	31.0	29.0			4562	21700
22	7:00	16.5	1.584	1.494	0.009	1.222	0.104	32	0.49		0.00	322	3.23	92	1.48	38	0.71	13	0.42	0	0.00	0.66	0.66	0.66		0.090	0.976	0.518	29.0	16.0		41.0	6843	32550
23	7:00	17.5	1.470	1.152	0.014	1.192	0.090	30	0.49		0.00	352	4.58	93	1.94	39	0.75	16	0.53	13	6.90	0.66	0.66	0.66		0.076	0.753	0.399	28.0		62.0	28.0	6843	32550
24	7:00	17.5	1.688	1.487	0.016	1.346	0.097	34	0.49		0.00	294	2.96	115	1.85	43	0.73	18	0.53	38	18.72	0.66	0.66	0.66		0.083	0.972	0.515		53.0	28.0	27.0	6843	32550
25	7:00	18.4	1.719	1.502	0.016	1.369	0.098	35	0.49		0.00	448	4.47	134	2.14	51	0.85	-6	-0.17	36	17.69	0.66	0.66	0.66		0.088	0.982	0.520	33.0	31.0			4562	21700
26	7:00	15.6	1.508	1.398	0.009	1.199	0.087	31	0.49		0.00	334	3.58	97	1.66	37	0.70	10	0.33	30	16.47	0.66	0.66	0.66		0.073	0.914	0.484	28.0	31.0		35.0	6843	32550
27	7:00	18.2	1.709	1.454	0.017	1.421	0.094	35	0.49		0.00	356	3.67	110	1.81	40	0.64	10	0.28	30	15.25	0.66	0.66	0.66		0.080	0.950	0.504	28.0		69.0	26.0	6843	32550
28	7:00	18.6	1.765	1.516	0.016	1.401	0.096	36	0.49		0.00	454	4.49	143	2.26	51	0.83	14	0.40	40	19.91	0.66	0.66	0.66		0.082	0.991	0.525	28.0	29.0		26.0	6843	32550
29	7:00	20.8	1.901	1.737	0.018	1.524	0.101	39	0.49		0.00	354	3.05	110	1.52	41	0.61	13	0.34	28	13.25	0.66	0.66	0.66		0.087	1.135	0.602		32.0	47.0	29.0	6843	32550
30	7:00	17.4	1.627	1.361	0.013	1.336	0.103	33	0.49		0.00	376	4.14	123	2.17	43	0.73	15	0.44	34	15.81	0.66	0.66	0.66		0.084	0.890	0.471	31.0	30.0	30.0	27.0	9124	43400
31									#DIV/0!		#DIV/0!		#DIV/0!		#DIV/0!		#DIV/0!		#DIV/0!		#DIV/0!	0.66	0.66	0.66				0.000						
Total		543.7	51.002	45.109	0.443	40.931	2.942	1041.204	#DIV/0!	0	#DIV/0!	11754	#DIV/0!	3774	#DIV/0!	1284	#DIV/0!	665	#DIV/0!	894	#DIV/0!					2.540	29.483	15.626	733	730	740	724	191604	911400
Ave.		18.1	1.700	1.504	0.015	1.364	0.098	34.7	#DIV/0!	#DIV/0!	#DIV/0!	392	#DIV/0!	126	#DIV/0!	42.8	#DIV/0!	22.2	#DIV/0!	29.8	#DIV/0!	0.66	0.66	0.66	#DIV/0!	0.085	0.983	0.504	31.9	31.7	52.9	30.2	6386.8	30380
Max		20.9	2.005	1.788	0.022	1.611	0.119	41.0	#DIV/0!	0	#DIV/0!	490	#DIV/0!	172	#DIV/0!	57	#DIV/0!	70	#DIV/0!	58	#DIV/0!	0.66	0.66	0.66	0	0.100	1.169	0.619	60.0	58.0	96.0	59.0	9,124	43,400
Min		15.4	1.400	1.152	0.009	1.159	0.076	28.6	#DIV/0!	0	#DIV/0!	294	#DIV/0!	92	#DIV/0!	31	#DIV/0!	-6	#DIV/0!	0	#DIV/0!	0.66	0.66	0.66	0	0.063	0.753	0.000	27.0	16.0	26.0	23.0	0	0

1	20	% Sodium Permanganate	Pre-aerator
2	40	% BisulfiteSolution	Membrane Backwash
3	12.5	% Sodium Hypochlorite Solution	Post Softener
4	20	% Ammonium Sulfate Solution	Post Softener
5	19	% Fluorosilicic Acid Solution	Post Clearwell
6	33	% Phosphate Solution	Post Clearwell
7	40	% BisulfiteSolution	Lagoon Effluent

CHLORINATION

Type of Chlorine Used: Sodium Hypochlorite 12.5 %

Chlorine Analyzers Used: Hach CL17 (2) & 5500sc

FLUORIDATION

Type of Fluoride Used: Hydrofluosilicic Acid 19% F

Fluoride Analyzer Used: Hach 2200, SPADNS method

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

Reported by: _____ Illinois Operator Certification I[253419999

Date: 10/7/2021

Date Bacterials Se[9/24/2021

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF PUBLIC WATER SUPPLIES

South Sangamon Water Commission - IL1670080
September 2021

Physical and Chemical Tests

Date	Raw						Pre UF Membrane				Post UF Membrane			Post IEX				Finished														Membrane Integrity		
																																Post Filter		
	pH	Temp deg. C	Total Alk. mg/L as CaCO3	Total Hard. mg/L as CaCO3	Total Fe mg/L	Total Mn mg/L	Turbidity NTU	Total Fe mg/L	Total Mn mg/L	Soluble Mn mg/L	Total Fe mg/L	Total Mn mg/L	Turbidity NTU	1 Chloride mg/L	2 Chloride mg/L	3 Chloride mg/L	4 Chloride mg/L	pH	Turbidity NTU	Total Alk. mg/L as CaCO3	Total Hard. mg/L as CaCO3	Total Fe mg/L	Total Mn mg/L	Fluoride F mg/L	Ortho Phosphate mg/L	Free Ammonia mg/l	Mono-Chloramine mg/l	Chlorine F mg/l	Chlorine T mg/L	Distrbution F mg/l	Distrbution T mg/L	Bank 1 psi	Bank 2 psi	Bank 3 psi
1	7.40	16.0	295	360	0.69	0.206			0.368	0.029	0.61	0.030	0.20					7.70	0.23	280	110	0.01	0.007	0.66	1.84	0.60	4.33	0.12	2.66			pass		pass
2	7.40	15.3	290	365	0.81	0.221			0.368	0.035	0.67	0.032	0.20					7.80	0.17	290	150	0.01	0.017	0.49	1.83	0.65	4.91	0.16	2.96					
3	7.30	15.2	298	364	0.63	0.202			0.357	0.019	0.02	0.062	0.25					7.80	0.18	296	110	0.01	0.004	0.82	1.86	0.85	8.06	0.29	3.03					
4	7.40	15.1	292	362	0.62	0.204			0.344	0.022	0.01	0.019	0.26					7.80	0.15	286	150	0.01	0.008	0.80	1.80	0.77	7.61	0.16	2.93					
5	7.40	14.9	264	360	0.79	0.201			0.338	0.015	0.01	0.017	0.25					7.70	0.20	298	160	0.01	0.006	0.80	1.62	0.69	7.11	0.14	2.98					
6	7.40	14.9	300	365	0.80	0.213			0.336	0.011	0.09	0.015	0.23					7.70	0.21	280	150	0.01	0.012	0.82	1.76	0.70	7.03	0.12	3.02					
7	7.40	15.6	300	370	0.67	0.226			0.450	0.044	0.70	0.040	0.20					7.80	0.23	290	140	0.04	0.011	0.50	1.72	0.70	5.07	0.15	3.32					
8	7.40	15.4	280	362	0.67	0.220			0.324	0.111	0.71	0.050	0.26					7.80	0.22	290	100	0.01	0.020	0.98	1.71	0.65	5.33	0.10	3.12				pass	pass
9	7.40	15.2	290	360	0.74	0.236			0.361	0.095	0.80	0.021	0.17					7.80	0.27	282	165	0.01	0.020	0.61	1.89	0.58	4.08	0.22	2.88					
10	7.40	15.2	295	345	0.97	0.230			0.293	0.119	0.81	0.068	0.21					7.80	0.24	280	100	0.01	0.022	0.89	1.58	0.13	4.76	0.11	3.14					
11	7.40	15.4	300	360	0.82	0.223			0.287	0.111	0.69	0.070	0.23					7.80	0.25	280	102	0.01	0.023	0.82	1.72	0.18	4.52	0.10	3.06					
12	7.40	15.2	305	355	0.68	0.222			0.326	0.090	0.70	0.068	0.21					7.80	0.23	280	120	0.01	0.030	0.80	1.87	0.20	5.03	0.11	3.12					
13	7.50	15.6	278	340	0.86	0.235			0.302	0.128	0.73	0.082	0.21					7.80	0.23	275	160	0.02	0.023	1.03	1.75	0.60	5.80	0.16	3.08					pass
14	7.40	16.0	290	360	0.77	0.223			0.311	0.116	0.72	0.070	0.21					7.80	0.25	280	140	0.01	0.023	1.30	1.85	0.58	5.58	0.17	3.02					
15	7.40	15.6	290	365	0.61	0.232			0.292	0.136	0.69	0.101	0.23					7.70	0.25	280	170	0.01	0.027	0.92	1.62	0.44	4.68	0.13	2.72			pass		
16	7.40	15.3	280	342	0.83	0.225			0.294	0.116	0.72	0.098	0.30					7.80	0.27	280	100	0.01	0.020	0.75	1.69	0.58	5.80	0.10	3.10					
17	7.40	15.6	285	340	0.88	0.228			0.303	0.122	0.77	0.085	0.17					7.80	0.21	275	125	0.01	0.027	1.08	1.88	0.68	4.88	0.10	3.06					
18	7.40	14.9	302	348	1.07	0.216			0.274	0.109	0.01	0.103	0.14					7.70	0.32	298	200	0.01	0.036	0.90	1.96	1.14	5.93	0.16	2.35					
19	7.40	15.5	300	352	0.60	0.211			0.270	0.117	0.01	0.097	0.40					7.80	0.24	296	102	0.01	0.032	0.86	1.79	1.24	5.83	0.18	2.37					
20	7.30	15.9	280	380	0.75	0.238			0.303	0.135	0.62	0.130	0.27					7.80	0.23	280	110	0.01	0.029	0.93	1.71	0.51	4.81	0.07	2.78					
21	7.30	15.7	280	360	0.91	0.237			0.304	0.132	0.81	0.093	0.21					7.70	0.17	280	100	0.01	0.023	0.73	1.83	0.54	4.26	0.21	2.56					
22	7.40	15.3	290	382	0.99	0.242			0.299	0.117	0.80	0.059	0.21					7.70	0.20	285	110	0.01	0.018	0.66	1.78	0.58	4.78	0.38	2.84					
23	7.40	15.1	290	360	0.76	0.234			0.316	0.137	0.75	0.091	0.20					7.80	0.18	280	115	0.01	0.025	0.80	1.69	0.41	4.06	0.10	2.62					
24	7.40	15.2	280	362	0.53	0.242			0.289	0.134	0.50	0.075	0.17					7.80	0.20	280	100	0.02	0.022	0.86	1.66	0.40	4.48	0.08	2.88			pass		pass
25	7.40	15.1	280	352	0.60	0.240			0.298	0.120	0.62	0.060	0.18					7.80	0.22	280	100	0.01	0.025	0.82	1.70	0.56	4.70	0.10	2.78					
26	7.40	15.2	280	360	0.60	0.232			0.302	0.080	0.48	0.036	0.25					7.70	0.21	280	110	0.01	0.020	0.80	1.52	0.52	4.30	0.05	2.88					
27	7.40	15.4	280	345	0.80	0.236			0.298	0.127	0.67	0.089	0.28					7.80	0.20	280	200	0.01	0.032	0.98	1.67	0.38	4.99	0.23	2.92					
28	7.30	15.0	290	352	0.75	0.200			0.268	0.097	0.01	0.059	0.17					7.50	0.19	292	110	0.01	0.008	0.82	1.86	0.44	5.09	0.24	3.01					
29	7.40	15.5	280	340	0.91	0.218			0.297	0.141	0.65	0.082	0.21					7.80	0.20	295	130	0.01	0.026	0.85	1.67	0.62	4.64	0.16	3.04					
30	7.40	15.5	280	370	0.86	0.218			0.304	0.134	0.62	0.094	0.27					7.80	0.29	280	100	0.01	0.021	0.98	1.87	0.52	5.94	0.10	3.02			pass		pass
31																																	
Ave.	7.39	15.4	288	358	0.77	0.224	#DIV/0!	#DIV/0!	0.316	0.097	0.53	0.067	0.23	######	######	######	######	7.76	0.22	284	128	0.01	0.021	0.84	1.76	0.58	5.28	0.15	2.91	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Max	7.50	16.0	305	382	1.07	0.242	0.00	0.00	0.450	0.141	0.81	0.130	0.40	0	0	0	0	7.80	0.32	298	200	0.04	0.036	1.30	1.96	1.24	8.06	0.38	3.32	0.00	0.00	0.00	0.00	0.00
Min	7.30	14.9	264	340	0.53	0.200	0.00	0.00	0.268	0.011	0.01	0.015	0.14	0	0	0	0	7.50	0.15	275	100	0.01	0.004	0.49	1.52	0.13	4.06	0.05	2.35	0.00	0.00	0.00	0.00	0.00

Lagoon Effluent Tests Monthly		pH	Temp °C	T Chlor mg/l	Mn mg/l	Fe mg/l	Chloiride mg/L	TSS mg/L
Date	9/27/2021	7.83	21.4	0.03	0.183	0.01	410	4.8

Distribution Stability Tests Every Two Weeks		pH	Temp °C	TDS mg/L	Alkalinity mg/L as CaCO3	Calcium mg/L as CaCO3	Chloiride mg/L	Sulfate mg/L
Date	9/28/2021	7.5	19.3	400	260		39	58
Date								
Date								

Remarks: