

December Superintendents Report

January 14, 2024

A correction to the Precipitation for the year 2024 needs to be made. The number (47.77) given last month was the 12 Month Rolling Total. The total for January through November should have been 41.92 MGD.

December 11, 2024, we received a text from Kurt Brown asking if we were taking max, I answered 59.72 MGD and sent another explaining 46.6 MGD from Bing and 14.58 from JC. At the time of the CSO events we were pumping 60+ MGD.

On December 12, 2024, Ron Lake, Josh Holland, Kurt Brown, Ron Warwick, Adam Afify and I had a Teams meeting where we compared all three entities flow data and time stamps. All three systems reported the same data. Please note, this rain event started very slowly and gradually picked up. Compared to many of our rain events that happen as a downpour.

In December we received 3.15 inches of precipitation, for a total of 45.07 inches this year.

The Average flow was 17.47 MGD with a total of 541.50 million gallons.

CBOD = 5 mg/L, 97% removal, TSS = 3 mg/L, 98% removal, Fecals 6 MPN, Ammonia = 0.178 mg/L, 98% Conversion and Phos = 0.19 mg/L, 96% removal, TN = 2.6 mg/L for 86% removal.

In 2024 we removed the following from our influent: 8,673,920 Lbs of TSS, 8,053,897 Lbs of CBOD, 769,064 Lbs of TN, and 158,330 Lbs of Phosphorus.

Micro-Turbines produced 92,143 KWH in December, up from 88,576 KWH in November. Total Miro-Turbine electric production for 2024 was 958,907 KWH.

Solar produced 1967 KWH in December down from 3588 KWH in November. The total production of electricity from Solar for 2024 was 68,973 KWH. This represents 6,949 KWH more than the annual estimate by the vendor.

After 5 years of service, the Solar array has produced approximately 20% of the initial cost of the Solar Cells. The cost of electricity going up will only decrease the payback time.

The year 2024 saw Mechanics perform 5,834 Preventive maintenance tasks utilizing the CMMS software. They removed Main pump number 4 for rebuild. Removed, inspected, and replaced oil in 4 Secondary Influent Pumps (SIPS). Removed and replaced with an upgraded Archimedes screw the North Grit conveyor. Removed and replaced the Backwash Spray water pump Check Valve. Brought in PW Tech (The Manufacturer) to re-furbish and upgrade both Mechanical thickeners. Replaced damaged entries to Gravity thickeners. Completed all buildings Roof inspections and repairs. Installed a flagpole, in conjunction with operators, drained cleaned and had both methanol tanks inspected, All Chemical Bilk storage tanks, and our Petroleum Bulk storage tank inspected.

This year the Operations department has drained, cleaned, and inspected all Primary tanks, CN Cells and DN Cells. Resolved a digester feed sludge Magmeter issue, worked with mechanics to Drain and Clean Ferric and Methanol tanks, Senior Operator tested and became an “A/B” Operator and provided training for all in his department to become PBS “C” operators with an eye to provide training for all employees that go into the field to become “C” operators. The department has met every single Parameter of the SPDES permit for the 28 continuous months since the CN Viewport issue recovery. They continue to refine chemical use through Jar-Testing, process sampling, and optimizing dosing setpoints ultimately reduces our chemical budget. Operations Department has been forming relationships with City, Town, and Village Public works departments to foster collaboration and collection system efficiency as seen in discovering the source of a colored influent sample. Continued training and creating an environment of personal growth and advancement at the facility to ensure a more skilled and capable team for future operational success.

The electrical/instrumentation department completed just over 800 Preventive maintenance tasks utilizing the CMMS program. They worked with Matco to provide them with the appropriate 4800 volt switching operations to enable maintenance of the Breakers for Headhouse and LVS 4 gear which feed the Digester complex. They wired in numerous receptacles throughout the plant to enhance functionality and safety. Added momentary push buttons to the Scum Pit control panels. Wired in a ground for the rebuilt Plant water pumps, uncovered a construction damaged Fiber Optic cable, wired in a new Air conditioning Unit in Building 10, maintained the ChemScan units and UV system, and calibrated/Bump tested gas monitors and instrumentation throughout the facility. They received refresher training with PowerFlo Technologies, ChemScan, WesTech and Wedecco.

We had zero lost work time due to injuries this year, Safety officer provided 18 required training classes and retention of all safety related records, Safety officer continues to work with all departments to create a safe work environment, Started a Hepatitis vaccination program.

Management called in PESH to look at our confined space entries and ensure they align with PESH guidelines.

We had an EPA IWPP audit this year and told us we were one of the better run IWPP programs in the State. We eventually had a closing conference with the EPA on 12/17/2024 and await their conclusion and recommendations.

This year saw the 5-Year plan adopted by the board. This report will evolve through the years to accurately inform the owners of the needs and goals of the facility to run efficiently and cost effectively.

Superintendents Summary Report for 2024																										
	FLOW	Precip	CBOD5		REM	Tot Susp Solids		REM	Settleable Solids		REM	Total Nitrogen			REM	Phosphorous			REM	Ammonia		REM	TKN		REM	
	MGD	Inches	In	out	%	In	out	%	In	out	%	In	out	%	In	out	%	In	out	%	In	out	In	out	In	out
	AVG			limit			limit			limit			limit			limit			limit			limit		limit		
			18 mg/L			20 mg/L			0.3 mL/L			6.0 mg/L				1.0 mg/L				1800 lbs./Day			11000 lbs/Day			
Jan	26.40	4.71	116	10	91%	123	5	96%	7.40	0.10	99%	12.9	3.6	72%	2.40	0.340	86%	7.3	0.14	98%	12.3	1.2	90%			
Feb	18.72	1.63	181	8	96%	194	3	98%	11.10	0.10	99%	17.8	3.9	78%	3.80	0.290	92%	12.9	0.15	99%	17.7	1.5	92%			
Mar	24.33	4.10	137	7	95%	153	4	97%	7.70	0.10	99%	14.2	4.8	66%	2.64	0.358	86%	9.0	0.15	98%	13.7	1.4	90%			
Apr	22.87	4.42	150	8	95%	170	5	97%	9.80	0.10	99%	14.9	4.4	70%	3.19	0.459	86%	9.5	0.20	98%	14.6	1.3	91%			
May	16.12	3.67	175	7	96%	176	4	98%	13.00	0.10	99%	20.4	4.0	80%	3.10	0.421	86%	10.7	0.15	99%	20.3	1.3	94%			
Jun	12.56	3.09	193	10	95%	193	7	96%	16.30	0.10	99%	25.6	2.0	92%	4.02	0.564	86%	12.7	0.33	97%	25.6	1.6	94%			
Jul	13.79	6.02	178	9	95%	194	6	97%	14.90	0.10	99%	21.4	2.3	89%	3.74	0.480	87%	12.2	0.20	98%	21.3	1.4	93%			
Aug	18.35	7.14	169	6	96%	189	4	98%	12.50	0.10	99%	18.2	3.2	82%	3.57	0.290	92%	10.7	0.16	98%	18.1	1.1	94%			
Sep	11.16	1.94	228	5	98%	213	3	99%	15.50	0.10	99%	27.8	3.8	86%	4.63	0.480	90%	16.2	0.17	99%	27.7	1.4	95%			
Oct	9.49	1.53	272	5	98%	252	4	98%	17.20	0.10	99%	34.1	2.2	94%	5.37	0.750	86%	18.9	0.29	98%	34.0	1.5	96%			
Nov	12.26	3.67	253	4	98%	236	3	99%	14.90	0.10	99%	30.0	3.3	89%	6.30	0.471	93%	17.1	0.35	98%	29.9	1.3	96%			
Dec	17.47	3.15	155	5	97%	158	3	98%	10.50	0.10	99%	18.2	2.6	86%	4.59	0.190	96%	11.3	0.18	98%	17.9	0.9	95%			
		TOT																								
Avg	16.96	45.07	184	7	96%	188	4.3	98%	12.57	0.10	99%	21.3	3.3	82%	3.95	0.424	89%	12.4	0.21	98%	21.1	1.3	93%			
<p style="text-align: center;">Ammonia limit equates to approx 6 mg/L monthly Avg. / TKN limit equates to 38 mg/L Monthly Avg.</p> <p style="text-align: center;">TN limit is 6.0 mg/L From O1A REM = Removal %</p> <p style="text-align: center;">The Permit for TN = Monitoring Monthly Avg. from Outfall OO1, Not to Exceed 639,261 lbs. as a Rolling 12 Month Avg.</p> <p style="text-align: center;">Outfall OO1 includes Flow Through O1A (DN cells) and O1B (DN Cell Bypass)</p> <p style="text-align: center;">These numbers represent Outfall from OO1</p>																										

Landfill 2024 Summary

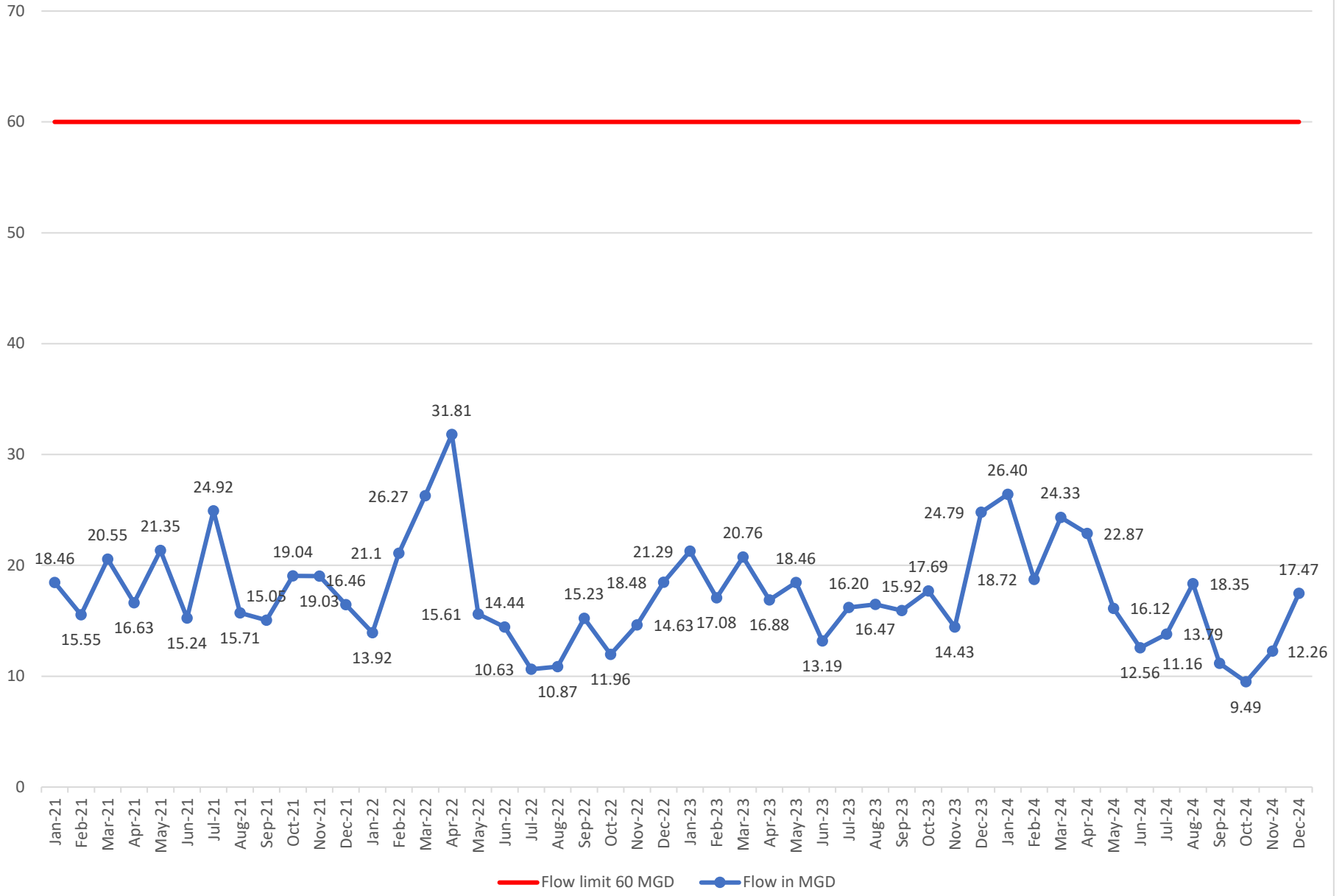
Date	Digested	Lime Stab	Solids Total		Bar screen	Grit and Screen		Grease
	Tons	Tons	Tons	Cost	Tons	Tons	Cost	Tons
January	717.02		717.02	\$28,680.80		22.98	\$1,034.10	
February	613.29		613.29	\$24,531.60		17.01	\$765.45	
March	666.43		666.43	\$26,657.20		29.68	\$1,335.60	
April	685.81		685.81	\$27,432.40		23.46	\$1,055.70	
May	627.24		627.24	\$25,089.60		29.70	\$1,336.50	
June	623.85		623.85	\$25,035.20		22.74	\$1,023.30	
July	768.65		768.65	\$30,746.00		34.95	\$1,572.75	
August	812.06		812.06	\$32,482.40		26.29	\$1,183.05	
September	577.48		577.48	\$23,099.00		19.41	\$873.45	
October	779.48		779.48	\$31,179.90		23.54	\$1,059.30	
November	779.97		779.97	\$31,198.80		19.71	\$886.95	
December	745.87		745.87	\$29,834.80		28.80	\$1,297.80	
Average	699.76		699.76	\$27,997.31		24.86	\$1,118.66	
Sub Total	8,397.15		8,397.15	\$335,967.70		298.27	\$13,423.95	
				\$40/Ton			\$45/Ton	

\$349,391.65
Annual Cost to Date

\$420,000 budgeted for 2024 / **\$70,608.35 Under Budget**

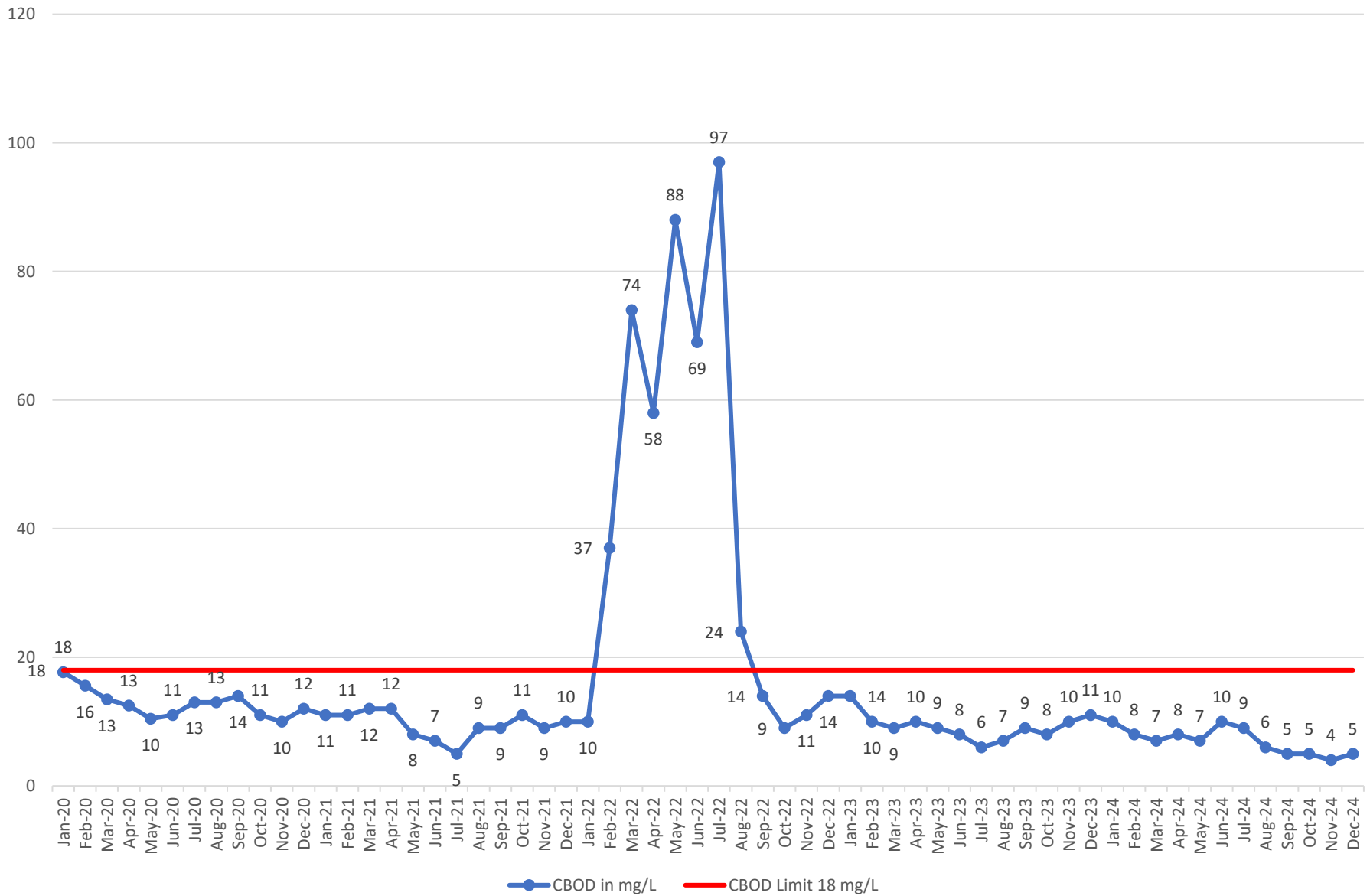
ES8130.54804

2021-2024 Flow

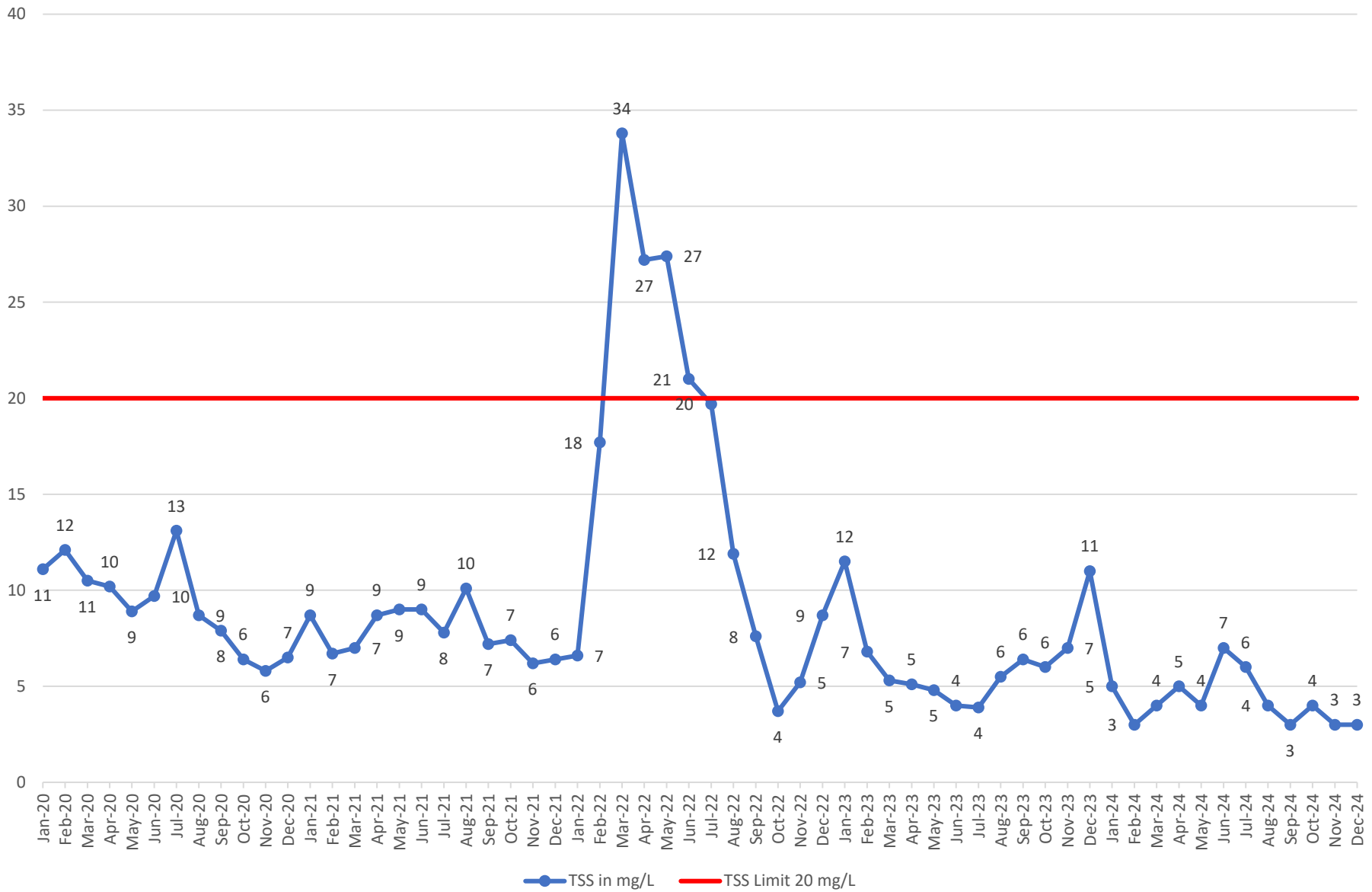


2020-2024 CBOD

Limit = 18 mg/L/Day Monthly Avg

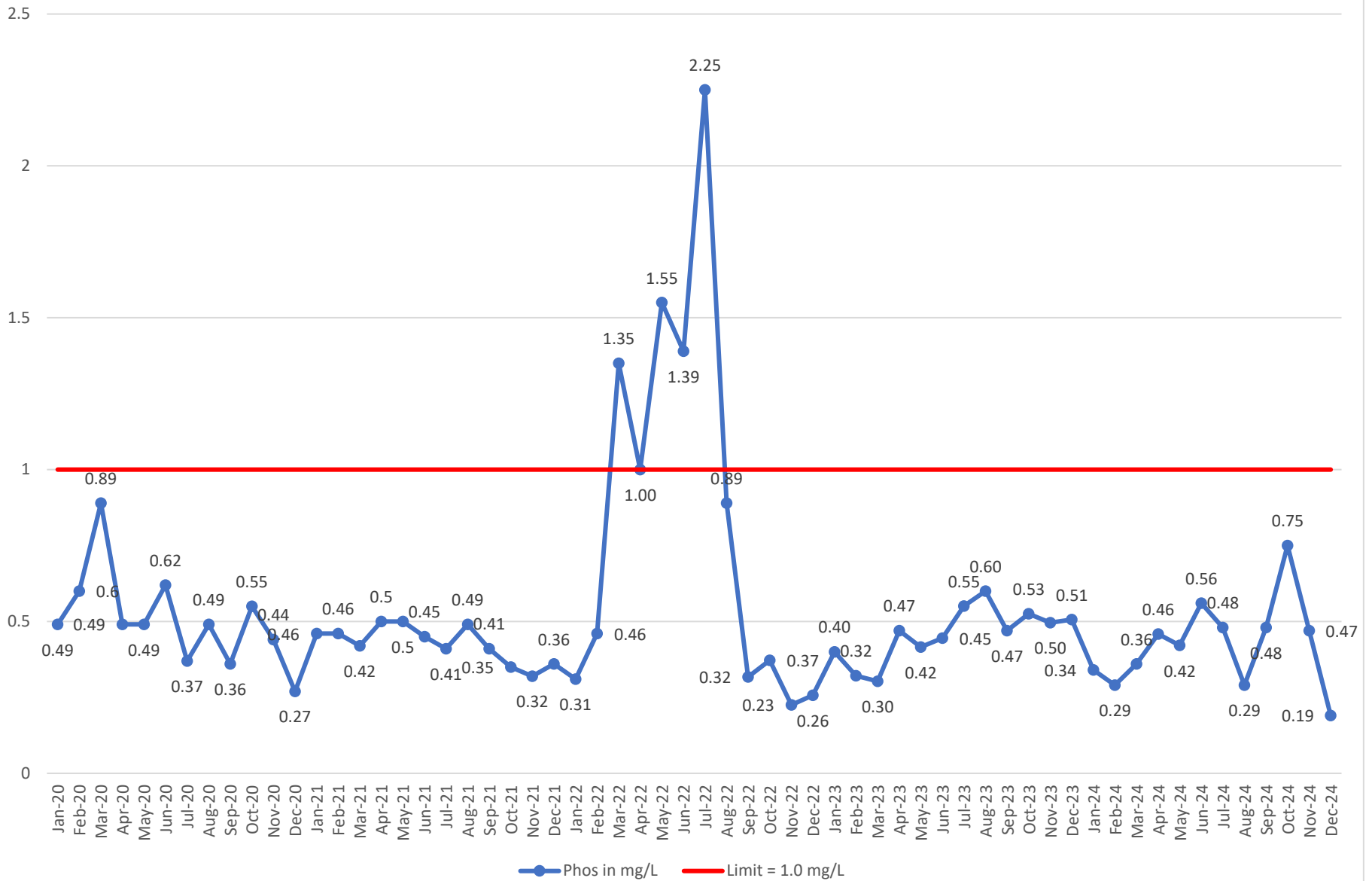


TSS 2020-2024 Limit = 20 mg/L/Day Monthly Avg



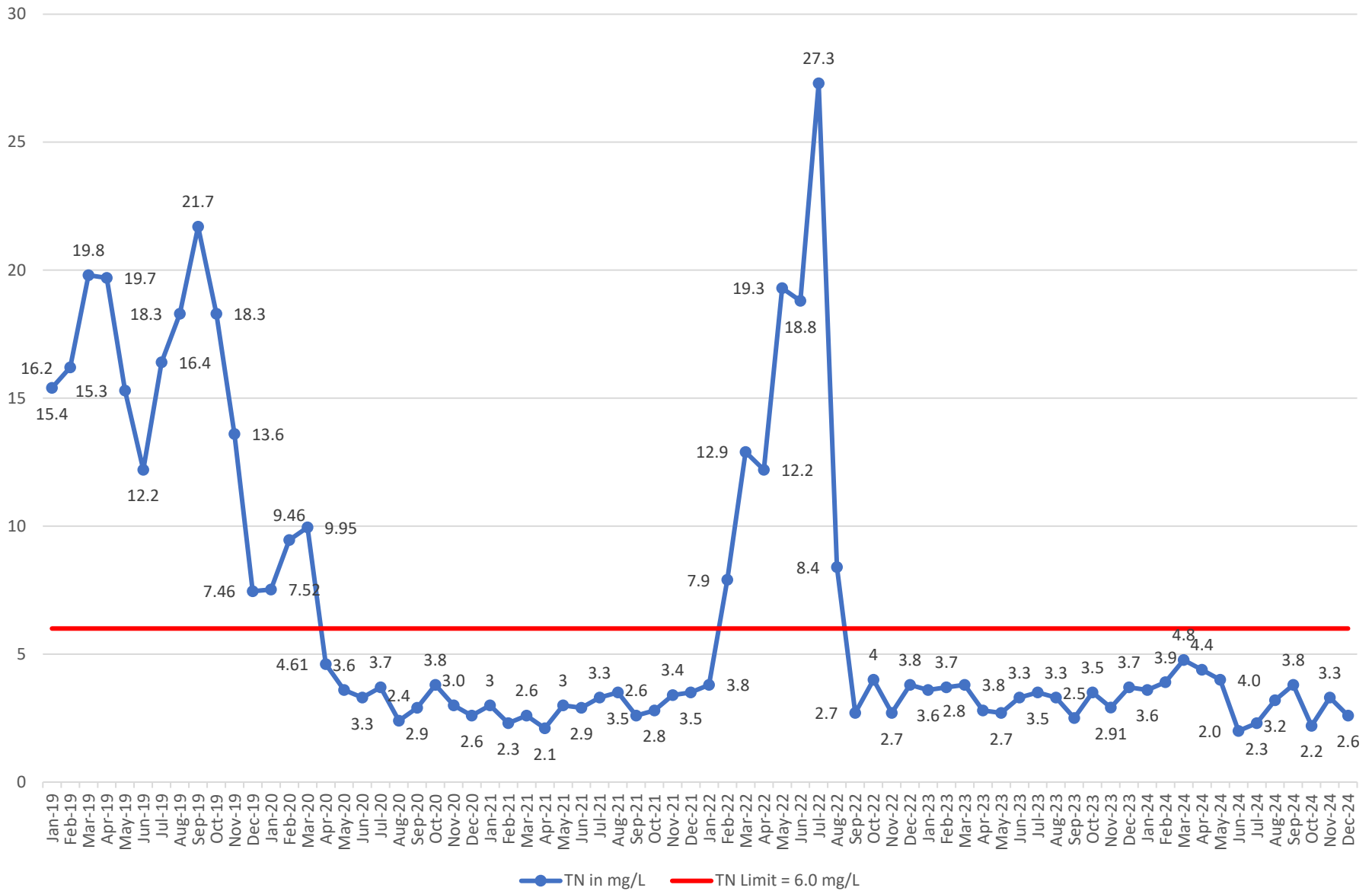
2020-2024 Phos

Limit = 1.0 mg/L/Day Monthly Avg

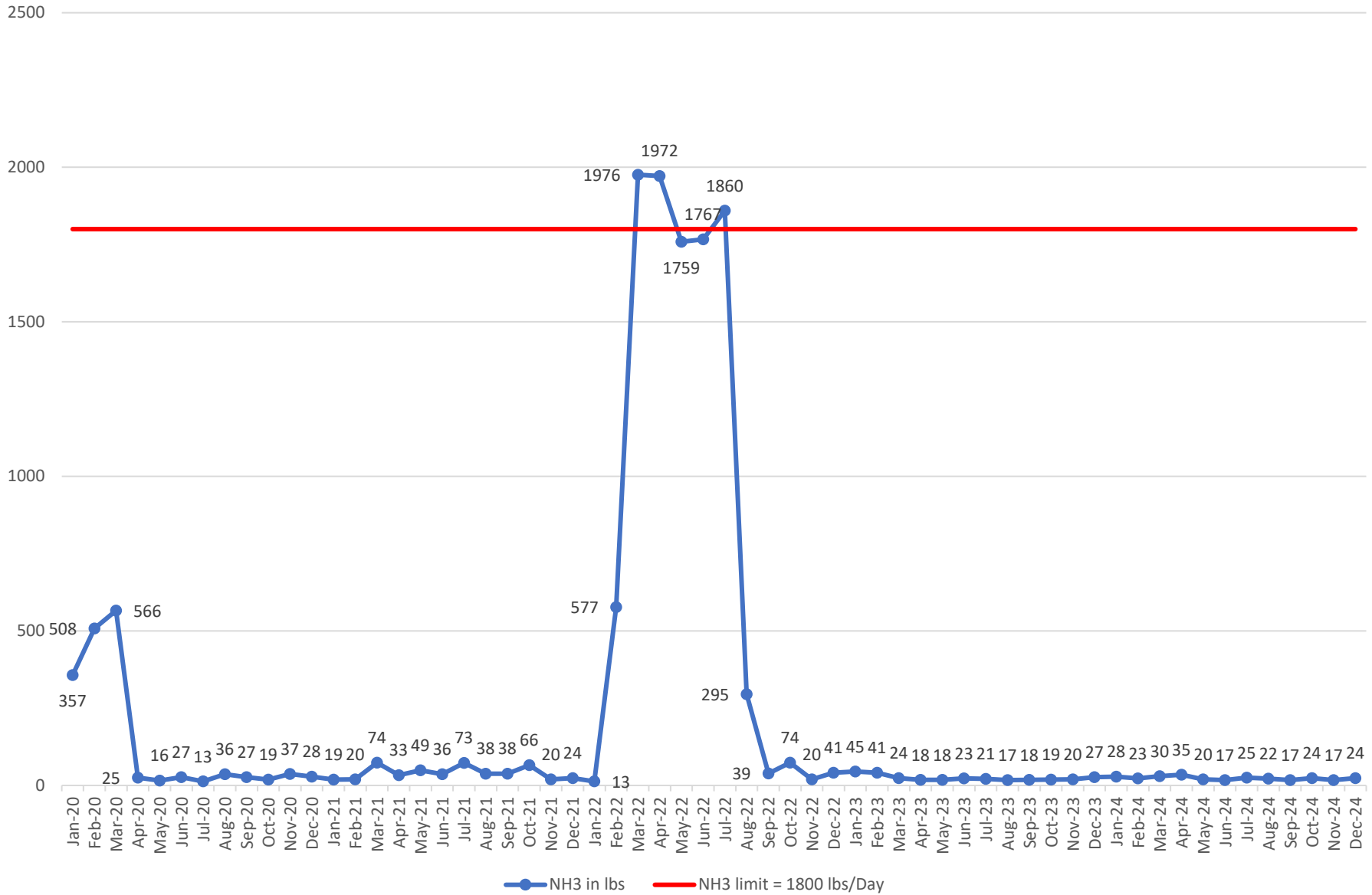


TN 2019-2024

Limit = 6.0 mg/L /Day Monthly Avg



2020-2024 NH3 in Avg. Lbs/Day
Limit = 1800 Lbs/Day



2024 Digester Filter Cake Mercury Results					
Date	mg/kg		Rep Limit		
January	<0.905		0.905	mg/kg	
February	<0.876		0.876	mg/kg	
March	<0.872		0.872	mg/kg	
April	<0.880		0.880	mg/kg	
May	<4.400		4.400	mg/kg	
June	<0.929		0.929	mg/kg	
July	<0.996		0.996	mg/kg	
August	<1.750		1.750	mg/kg	
September	<0.935		0.935	mg/kg	
October	<0.990		0.990	mg/kg	
November	<0.990		0.990	mg/kg	
December	<0.984		0.984	mg/kg	
Average			1.292	mg/kg	
EPA Method 7471B Dry					
Metals testing performed by: Microbac Laboratories					

Pounds in the River																						
	Total	LBS	LBS	%	LBS	LBS	%	LBS	LBS	%	LBS	LBS	LBS	LBS	%	LBS	LBS	%	LBS	LBS	%	
	Flow	TSS IN	TSS OUT	Removal	CBOD IN	CBOD OUT	Removal	TKN IN	TKN OUT	Removal	NO2+NO3 IN	NO2+NO3 OUT	TN IN	TN OUT	Removal	PHOS IN	PHOS OUT	Removal	NH3 IN	NH3 OUT	Conversion	
2022																						
January	13.92	752317	22879	97%	855718	34466	96%	70269	5153	93%	1085	8414	71355	13567	81%	14108	1142	92%	44842	389	99%	
February	21.10	933179	107443	88%	845355	222253	74%	78856	33194	58%	3742	9474	82598	42668	48%	9594	2222	77%	62727	17507	72%	
March	26.27	979502	222872	77%	792947	474219	40%	76429	76705	0%	4218	6226	80647	82931	-3%	10337	8486	18%	53719	55523	-3%	
April	31.81	991076	213147	78%	783579	438293	44%	93362	83603	10%	5858	8035	99220	91638	8%	12117	7593	37%	50499	54151	-7%	
May	15.61	880544	113222	87%	765599	354471	54%	92502	76537	17%	269	605	92771	77142	17%	10702	5982	44%	48722	54524	-12%	
June	14.44	605418	76448	87%	582426	243430	58%	71448	65217	9%	446	468	71894	65686	9%	10633	4316	59%	37908	46158	-22%	
July	10.63	474987	53904	89%	570837	262842	54%	80037	74067	7%	148	172	80186	74240	7%	9795	6089	38%	40815	57650	-41%	
August	10.87	662809	32613	95%	611359	66290	89%	86575	14864	83%	255	7589	86830	22453	74%	10592	2482	77%	46973	9134	81%	
September	15.23	720472	28095	96%	659432	49463	92%	86123	6247	93%	826	4076	86949	10323	88%	13629	1196	91%	51845	1166	98%	
October	11.96	689451	11411	98%	765897	27532	96%	89336	5287	94%	352	7428	89687	12715	86%	13719	1137	92%	53830	2295	96%	
November	14.63	765387	18863	98%	869401	38319	96%	93343	4639	95%	446	4639	93789	10423	89%	12483	709	94%	50376	612	99%	
December	18.48	945889	42217	96%	939985	65979	93%	89469	6908	92%	1845	10151	102834	18071	82%	19469	1078	94%	49652	1279	97%	
Average	17.08	783419	78593	91%	753711	189796	74%	83979	37702	54%	1624	5606	86563	43488	49%	12265	3536	68%	49326	25032	46%	
Minimum	10.63	474987	11411	77%	570837	27532	40%	70269	4639	0%	148	172	71355	10323	-3%	9594	709	18%	37908	389	-41%	
Maximum	31.81	991076	222872	98%	939985	474219	96%	93362	83603	95%	5858	10151	102834	91638	89%	19469	8486	94%	62727	57650	99%	
Total LBS IN/Out		9401031	943,114		9044535	2277557		1007749	452421		19490	67277	1038760	521857		147178	42432		591908	300388		
LBS Removed		8457917			6766978			555328			-47787		516903			104746			291520			
2023																						
January	21.29	827915	63036	92%	905659	78128	91%	94919	10050	89%	2193	9780	97111	19831	80%	16720	2173	87%	51915	1383	97%	
February	17.08	749718	27372	96%	784221	39095	95%	88621	6141	93%	1342	8603	89963	14744	84%	20109	1267	94%	51222	1160	98%	
March	20.76	970905	28555	97%	936779	49575	95%	98641	7549	92%	2575	13079	101216	20628	80%	14873	1614	89%	54279	738	99%	
April	16.88	763238	22619	97%	829703	40640	95%	88596	6951	92%	761	5843	89358	12795	86%	11662	1851	84%	50375	542	99%	
May	18.46	811094	24661	97%	863962	44309	95%	91824	6262	93%	2020	10611	93844	16873	82%	13931	2173	84%	50760	555	99%	
June	13.19	687305	13281	98%	650166	24616	96%	67468	5438	92%	228	6136	67696	11577	83%	10310	1648	84%	50712	703	99%	
July	16.20	699650	16536	98%	619230	23771	96%	62623	4928	92%	734	10488	63357	15416	76%	10057	2422	76%	36765	643	98%	
August	16.47	723029	23711	97%	686944	30099	96%	73856	5759	92%	445	8583	74301	14342	81%	11886	2467	79%	51836	513	99%	
September	15.92	633166	25545	96%	616519	34220	94%	82253	5902	93%	435	4194	82688	10095	88%	12169	1785	85%	50140	547	99%	
October	17.69	707918	28571	96%	726132	35391	95%	84797	7622	91%	1061	9597	85857	17219	80%	15295	2163	86%	52089	582	99%	
November	14.43	838841	24910	97%	822635	36419	96%	86525	6710	92%	322	3988	86847	10698	88%	18095	1783	90%	50801	592	99%	
December	24.79	798471	64887	92%	770439	68299	91%	64683	9034	86%	4347	15482	69030	24516	64%	16620	3616	78%	42832	828	98%	
Average	17.76	767604	30307	96%	767699	42047	95%	82067	6862	92%	1372	8865	83439	15728	81%	14311	2080	85%	49477	732	99%	
Minimum	13.19	633166	13281	92%	616519	23771	91%	62623	4928	86%	228	3988	63357	10095	64%	10057	1267	76%	36765	513	97%	
Maximum	24.79	970905	64887	98%	936779	78128	96%	98641	10050	93%	4347	15482	101216	24516	88%	20109	3616	94%	54279	1383	99%	
Total LBS IN/Out		9211250	363,684		9212389	504562		984806	82346		16463	106384	1001268	188734		171727	24962		593726	8786		
LBS Removed		8847566			8707827			902460			-89921		812534			146765			584940			
2024																						
January	26.40	795488	34386	96%	736069	66849	91%	78068	8246	89%	4434	17790	82502	26036	68%	14419	2160	85%	44848	882	98%	
February	18.72	866036	13380	98%	792747	37595	95%	77149	7084	91%	1174	11399	78323	18483	76%	15476	1198	92%	51801	660	99%	
March	24.33	918522	25921	97%	804365	46764	94%	80457	8945	89%	3606	21334	84063	30280	64%	15094	2081	86%	51156	909	98%	
April	22.87	932718	29882	97%	816054	48446	94%	80484	7365	91%	2027	18050	82511	25414	69%	16937	2456	85%	50416	1065	98%	
May	16.12	727930	18589	97%	721436	30314	96%	83968	5561	93%	258	11860	84226	17421	79%	12670	1719	86%	44065	612	99%	
June	12.56	609278	20819	97%	602255	32145	95%	79508	5183	93%	183	1275	79691	6458	92%	12006	1681	86%	38597	1057	97%	
July	13.79	685311	21460	97%	608775	30869	95%	72044	5110	93%	340	4128	72383	9238	87%	13434	1882	86%	42570	788	98%	
August	18.35	804882	22815	97%	708991	28061	96%	75495	5328	93%	1126	10348	76621	15676	80%	14149	1163	92%	43116	668	98%	
September	11.16	597227	9431	98%	636066	14367	98%	77480	3827	95%	155	6954	77636	10781	86%	13799	1428	90%	43608	916	98%	
October	9.49	614523	9292	98%	656743	12035	98%	82642	3607	96%	129	1797	82771	5403	93%	13526	1844	86%	47233	729	98%	
November	12.26	656294	9228	99%	694719	12619	98%	81529	4101	95%	414	7753	81944	11854	86%	17988	1286	93%	48634	510	99%	
December	17.47	694953	14039	98%	657510	21769	97%	75031	4333	94%	1459	8721	76491	13054	83%	18534	804	96%	44914	729	98%	
Average	16.96	741930	19104	97%	702978	31819	96%	78655	5724	93%	1275	10117	79930	15842	80%	14836	1642	89%	45913	794	98%	
Minimum	9.49	597227	9228	96%	602255	12035	91%	72044	3607	89%	129	1275	0	72383	5403	64%	12006	804	85%	38597	510	97%
Maximum	26.40	932718	34386	99%	816054	66849	98%	83968	8945	96%	4434	21334	0	84226	30280	93%	18534	2456	96%	51801	1065	99%
Total LBS IN/Out		8903162	229,242		8435730	381833		943855	68690		15305	121409	959162	190098		178032	19702		550958	9525		
LBS Removed		8673920			8053897			875165			-106104		769064			158330			541433			