

Figure 1 Guyra Waste Water Treatment Plant, monitoring points

Image source: <https://maps.six.nsw.gov.au>

Downloaded 22nd July 2020

Guyra Waste Water Treatment Plant, 7776 Guyra Road, GUYRA NSW 2365, Licence No. 1671																		
Monitoring Point 1 - discharge to Laura Ck		Licence Period 01May 2022 to 30 April 2023																
Parameter/month	90th %ile	Units	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Minimum	Average	Maximum	90th %ile
Sample date	Limits		31-May	29-Jun	28-Jul	31-Aug	07-Oct	31-Oct	30-Nov	29-Dec	31-Jan	28-Feb	29-Mar	28-Apr				
pH	6.5-8.5		7.23	7.20	7.72	8.03	7.25	9.51	7.55	8.19	7.31	8.69	7.41	7.4	7.20	7.79	9.51	9
EC	no limit	uS/cm	404	474	367	351	270	258	376	474	464	421	335	518	258	393	518	474
TSS	<20	mg/L	5	3	3	10	3	8	8	5	8	10	10	5	3	6	10	10.0
BOD5	<15	mg/L	2.0	4.8	1.2	3.8	3.9	1.1	8.4	4.8	7.4	4.7	6.2	3.0	1.1	4.3	8.4	7.28
Ammonia-N	<5	mg/L	0.64	1.45	0.32	0.26	0.11	0.26	1.21	0.66	1.57	0.28	4.77	2.26	0.11	1.1	4.77	2.2
TKN	no limit	mg/L	1.80	3.40	2.90	3.30	2.30	1.50	1.90	3.70	1.20	1.10	8.00	3.80	1.10	2.9	8.00	3.79
NOx-N	no limit	mg/L	2.96	3.11	2.25	1.26	1.70	1.10	0.25	<0.01	0.35	1.16	0.79	0.35	0.25	1.4	3.11	2.96
Total N	<15	mg/L	4.80	6.20	5.20	4.60	4.00	2.60	2.20	3.70	1.57	2.30	8.80	4.10	1.57	4.2	8.80	6.1
SRP	no limit	mg/L	0.13	0.28	0.12	0.12	0.06	0.09	0.09	1.02	0.01	0.20	0.84	0.06	0.01	0.25	1.02	0.8
TP	<1	mg/L	0.14	0.31	0.11	0.15	0.11	0.29	0.34	1.64	0.18	0.25	0.89	0.33	0.11	0.40	1.64	0.8
TOG	<10	mg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Weir FC	no limit	cfu/100 ml	880	80	16	16	48	8.00	24.00	4	504	296	>1600	300	4	198	880	504
Inflow FC	no limit	cfu/100 ml	3800	5200	1760	160	2120	20	160	800	6000	>6000	>8000	6000	20	2602	6000	6000
Cumulative monthly discharge		ML	25.24	47.35	78.94	118.74	165.91	229.10	275.94	292.72	314.27	339.29	368.89	391.71	Allowable annual total = 218 ML			
Report Date			06-Jun	06-Jul	02-Aug	06-Sep	13-Oct	06-Nov	09-Dec	03-Jan	05-Feb	05-Mar	03-Apr	04-May				

Abbreviations: EC (electrical conductivity); TSS (total suspended solids); BOD5 (5-day biochemical oxygen demand); TKN (total Kjeldahl nitrogen); NOx-N (nitrate + nitrite as nitrogen); Total N (total nitrogen); SRP (orthophosphate); TP (total phosphorus); TOG (total oil & grease); FC (faecal coliforms)

The top value on the Y-axis for TSS, BOD5 and TOG are the limits of the licence.

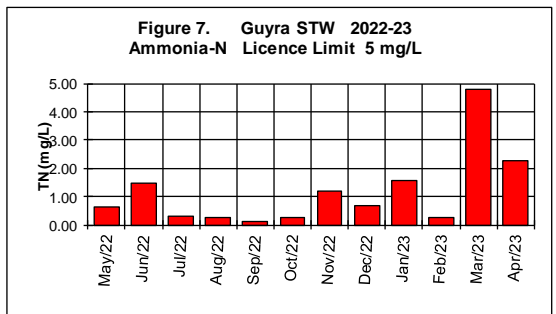
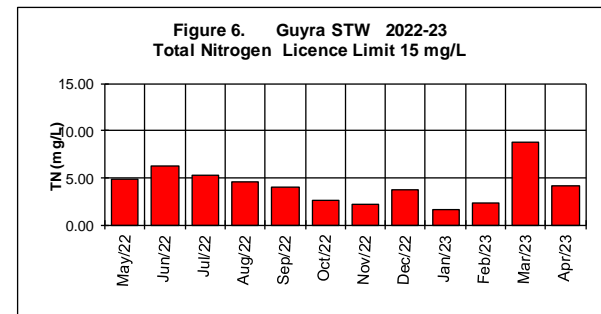
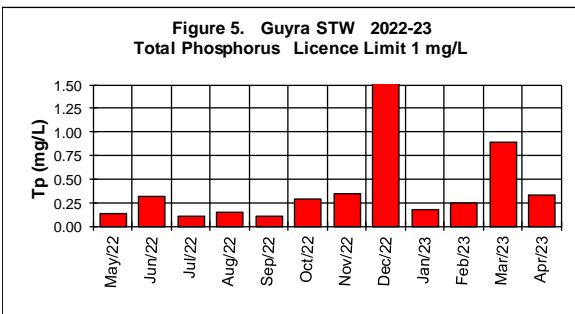
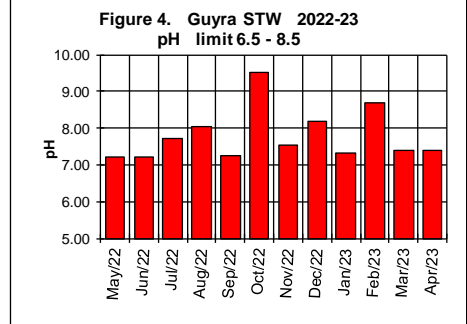
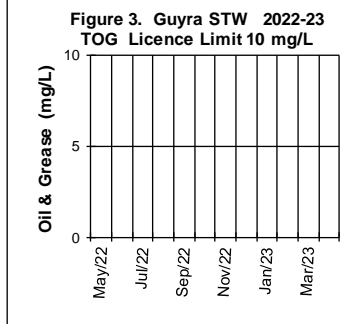
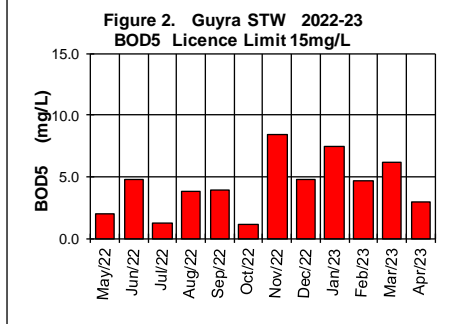
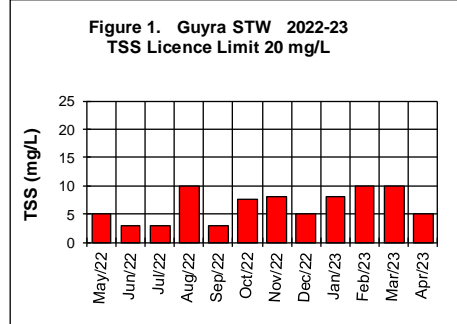


Table 2. Water Quality Monitoring data for licence period

Note: Bypass for 1/3NOV22=1566 kL; Bypass for 12/13MAR23= 98 kL; 29/30MAR23 = 1255 kL; TP exceeded limit DEC22 (1.64 mg/L); pH exceeded limit FEB23 (8.69)

Guyra Waste Water Treatment Plant, 7776 Guyra Road, GUYRA NSW 2365, Licence No. 1671																		
Monitoring Point 1 - discharge to Laura Ck		Licence Period 01May 2021 to 30 April 2022																
Parameter/month	90th %ile	Units	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	Minimum	Average	Maximum	90th %ile
Sample date	Limits		31-May	29-Jun	29-Jul	30-Aug	30-Sep	28-Oct	30-Nov	30-Dec	31-Jan	28-Feb	31-Mar	29-Apr				
pH	6.5-8.5		7.78	8.67	9.17	7.53	8.37	8.56	7.27	7.25	7.09	7.15	7.05	6.97	7.0	7.7	9.17	8.7
EC	no limit	uS/cm	565	283	248	249	409	551	263	357	350	270	222	390	222	346	565	537
TSS	<20	mg/L	5	13	7.5	8	2.5	2.5	3	2.5	5	5	3	3	3	5.0	13	8.0
BOD5	<15	mg/L	1.4	2	0.75	1.1	1	1	4.4	4.20	5.5	6.5	3.9	5.9	0.8	3.1	6.5	5.9
Ammonia-N	<5	mg/L	1.10	0.09	0.20	0.20	0.20	11.40	1.04	0.11	0.73	0.48	0.33	0.11	0.09	1.3	11.4	1.1
TKN	no limit	mg/L	1.10	1.50	1.90	1.40	3.80	15.40	2.50	0.90	1.50	0.70	2.30	2.80	0.70	3.0	15.4	3.7
NOx-N	no limit	mg/L	6.20	2.90	1.15	2.20	1.48	2.10	1.81	0.05	0.92	1.92	2.47	2.40	0.05	2.1	6.20	2.9
Total N	<15	mg/L	7.30	4.40	3.00	3.60	5.30	17.50	4.30	0.90	2.40	2.60	4.80	5.20	0.90	5.1	17.5	7.1
SRP	no limit	mg/L	0.04	0.02	0.04	0.01	0.01	0.14	0.16	0.24	0.16	0.17	0.08	0.01	0	0.0	0	0.2
TP	<1	mg/L	0.16	0.20	0.09	0.05	0.03	0.10	0.16	0.31	0.56	0.25	0.18	0.08	0.03	0.2	0.56	0
TOG	<10	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Weir FC	no limit	cfu/100 ml	32	128	5	4	24	20	560	4	76	560	440	144	4	166	560	548
Inflow FC	no limit	cfu/100 ml	300	100	1250	120	160	160	200	1340	850	2800	1920	6000	100	1267	6000	2712
Cumulative monthly discharge		ML	15.92	48.39	107.64	161.91	189.75	212.02	254.87	321.22	352.23	379.64	428.68	467.92	Allowable annual total = 218 ML			
Report Date			07-Jun	05-Jul	04-Aug	05-Sep	05-Oct	03-Nov	06-Dec	05-Jan	06-Feb	06-Mar	07-Apr	29-Apr				

Abbreviations: EC (electrical conductivity); TSS (total suspended solids); BOD5 (5-day biochemical oxygen demand); TKN (total Kjeldahl nitrogen); NOx-N (nitrate + nitrite as nitrogen); Total N (total nitrogen); SRP (orthophosphate); TP (total phosphorus); TOG (total oil & grease); FC (faecal coliforms)

The top value on the Y-axis for TSS, BOD5 and TOG are the limits of the licence.

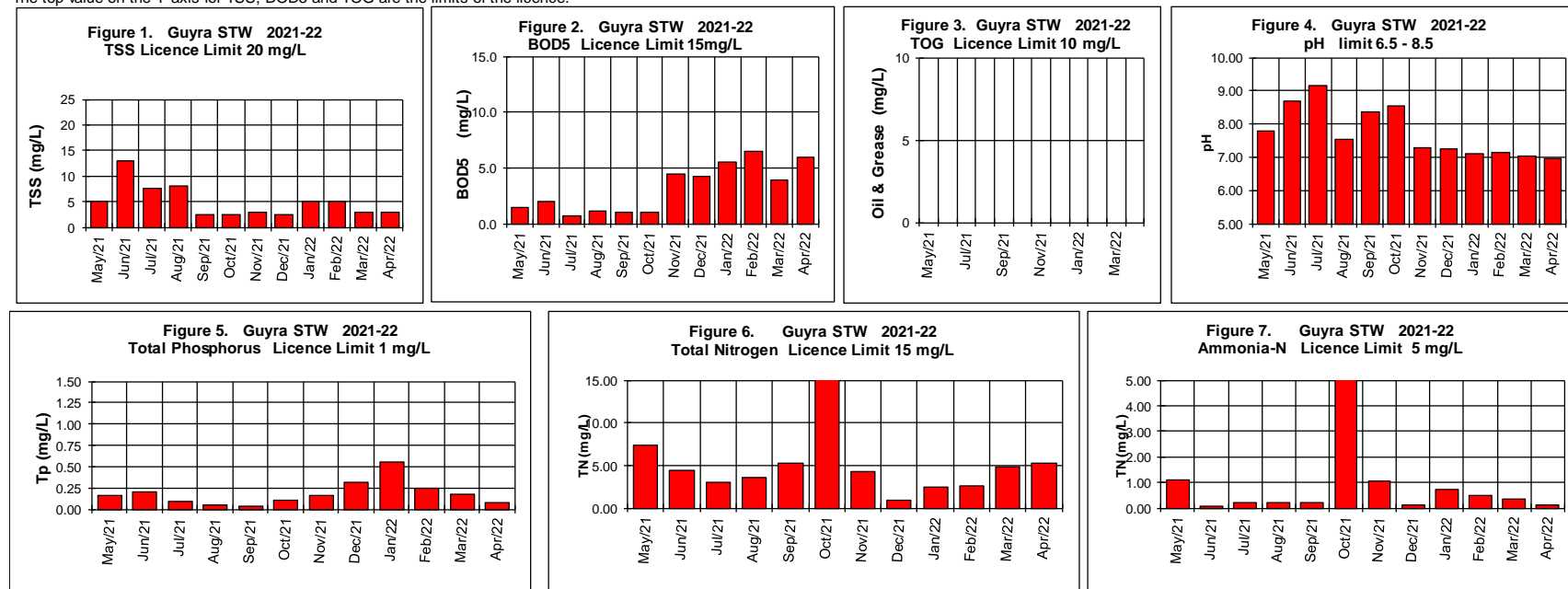


Table 2. Water Quality Monitoring data for licence period

Note: Inflow meter failed 11APR21-repairs incomplete, no data to end of MAY21, JUN21, JUL21, AUG21, SEP21. pH slightly above limit JUN21, JUL21, OCT21 Ammonia-N and TN above limit OCT21. Annual total flow 468 ML, 216% allowable limit.

Guyra Waste Water Treatment Plant, 7776 Guyra Road, GUYRA NSW 2365, Licence No. 1671																		
Monitoring Point 1 - discharge to Laura Ck		Licence Period 01May 2020 to 30 April 2021													Minimum	Average	Maximum	90th %ile
Parameter/month	90th %ile	Units	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21				
Sample date	Limits		29-May	30-Jun	30-Jul	31-Aug	30-Sep	29-Oct	27-Nov	23-Dec	28-Jan	24-Feb	30-Mar	29-Apr				
pH	6.5-8.5		7.40	7.65	8.26	8.83	9.73	9.1	7.52	7.62	8.62	7.7	7.93	7.31	7.3	8.1	9.73	9.07
EC	no limit	uS/cm	528	456	339	430	458	397	608	359	572	587	304	514	304	463	608	586
TSS	<20	mg/L	5	8	22.5	5	5	8	20	5	15	17	3	5	3	9.9	23	19.7
BOD5	<15	mg/L	2.9	2.1	3	8.8	1	3	10.4	4.50	6.15	9.5	0.8	8.1	1	5.0	10	9.43
Ammonia-N	<5	mg/L	2.86	0.38	0.22	0.29	0.04	0.37	3.31	0.75	0.51	0.31	0.17	2.55	0.04	0.0	3.31	2.8
TKN	no limit	mg/L	4.10	2.70	3.30	2.20	1.00	1.80	6.00	2.70	2.50	2.60	1.00	4.50	1.00	2.9	6.00	4.46
NOx-N	no limit	mg/L	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.27	0.55	0.63	1.96	3.55	0.27	1.0	3.55	1.844
Total N	<15	mg/L	4.90	3.50	4.10	3.00	1.80	2.30	6.80	3.00	3.10	3.20	3.00	8.00	1.80	3.9	8.00	6.61
SRP	no limit	mg/L	1.78	0.38	0.08	0.15	0.04	0.01	1.56	0.40	0.60	0.02	0.08	<0.01	0	0.0	2	1.6
TP	<1	mg/L	2.08	0.79	0.43	0.24	0.08	0.21	1.61	0.42	0.79	0.40	0.11	0.05	0.05	0.0	2.08	1.5
TOG	<10	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Weir FC	no limit	cfu/100 ml	680	64	8	<1	108	40	440	250	196	205	148	68	8	201	680	440
Inflow FC	no limit	cfu/100 ml	880	2800	1700	300	340	1540	3600	520	220	5200	440	5600	220	1928	5600	5040
Cumulative monthly discharge	ML		12.88	28.74	49.53	72.81	86.92	99.18	109.11	136.14	155.20	170.98	218.31	237.04	Allowable annual total = 218 ML			
Report Date			03-Jun	06-Jul	12-Aug	07-Sep	07-Oct	04-Nov	03-Dec	29-Dec	03-Feb	04-Feb	07-Apr	05-May				

Abbreviations: EC (electrical conductivity); TSS (total suspended solids); BOD5 (5-day biochemical oxygen demand); TKN (total Kjeldahl nitrogen); NOx-N (nitrate + nitrite as nitrogen); Total N (total nitrogen); SRP (orthophosphate); TP (total phosphorus); TOG (total oil & grease); FC (faecal coliforms)

The top value on the Y-axis for TSS, BOD5 and TOG are the limits of the licence.

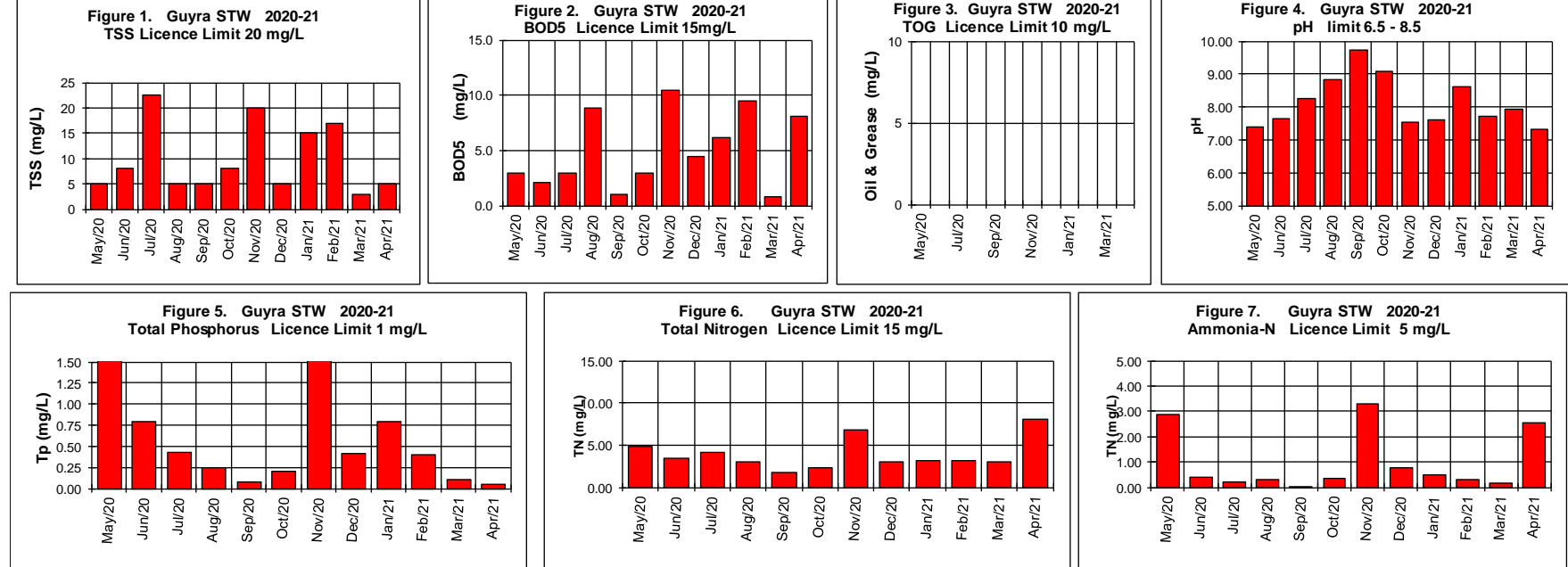


Table 2. Water Quality Monitoring data for licence period

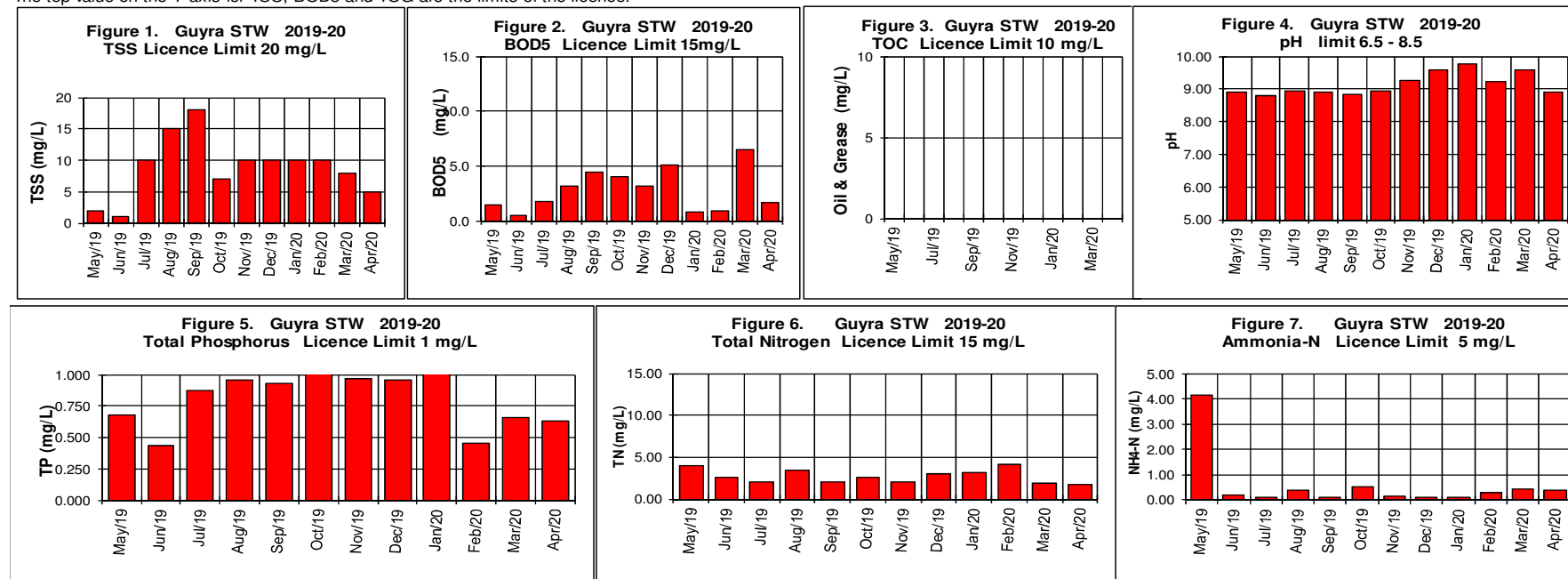
Note: elevated total phosphorus result of equipment malfunction for dosing alum (MAY20) Elevated pH AUG20, SEP20, OCT20, NOV20, JAN21. Elevated TP NOV20

Guyra Waste Water Treatment Plant, 7776 Guyra Road, GUYRA NSW 2365, Licence No. 1671																		
Monitoring Point 1 - discharge to Laura		Licence Period 01May 2019 to 30 April 2020																
Parameter/month	90th %ile	Units	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Minimum	Average	Maximum	90th %ile
Sample date	Limits		31-May	26-Jun	31-Jul	29-Aug	27-Sep	31-Oct	29-Nov	30-Dec	30-Jan	27-Feb	31-Mar	30-Apr				
pH	6.5-8.5		8.90	8.81	8.95	8.9	8.83	8.94	9.26	9.58	9.76	9.24	9.58	8.92	8.81	9.14	9.76	9.58
EC	no limit	uS/cm	696	661	694	747	761	774	719	741	541	475	488	612	475	659	774	760
TSS	<20	mg/L	2	1	10	15	18	7	10	10	10	10	8	5	1	8.8	18	14.5
BOD5	<15	mg/L	1.5	0.5	1.8	3.2	4.5	4	3.2	5.1	0.8	0.9	6.5	1.7	1	2.8	7	5.04
Ammonia-N	<5	mg/L	4.14	0.20	0.12	0.40	0.12	0.51	0.15	0.09	0.08	0.27	0.42	0.40	0.08	0.58	4.14	0.5
TKN	no limit	mg/L	2.90	2.40	1.90	2.80	1.10	1.80	1.20	2.20	2.30	3.30	1.10	4.00	1.10	2.25	4.00	3.26
NOx-N	no limit	mg/L	1.06	0.17	0.16	0.68	0.94	0.80	1.80	0.80	0.80	0.80	0.80	0.80	0.16	0.80	1.80	1.05
Total N	<15	mg/L	4.00	2.60	2.10	3.50	2.00	2.60	2.00	3.00	3.10	4.10	1.90	1.80	1.80	2.73	4.10	3.95
SRP	no limit	mg/L	0.412	0.41	0.65	0.85	0.49	1.06	0.60	0.86	1.05	0.32	0.46	0.52	0.32	0.64	1.06	1.03
TP	<1	mg/L	0.678	0.43	0.88	0.96	0.93	1.07	0.97	0.96	1.14	0.45	0.66	0.63	0.43	0.81	1.14	1.06
TOG	<10	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
FC - weir	no limit	cfu/100 ml	144	32	20	8	80	36	56	240	28	8	16	128	8	66	240	142
Pond 1- FC	no limit	cfu/100 ml	8000	2640	3600	1200	200	380	160	860	2200	1040	1180	1480	160	1912	8000	3504
Cumulative monthly discharge	ML		9.9	19.3	29.9	39.7	48.5	57.3	65.8	72.2	85.6	106.3	121.0	137.0	Allowable annual total = 218 ML			
Cumulative monthly inflow	ML		13.3	26.7	27.2	40.9	54.8	66.1	77.2	90.4	97.0	124.3	140.2	156.5				
Report Date			10-Jun	11-Jul	7-Aug	3-Sep	3-Oct	6-Nov	5-Dec	5-Jan	4-Feb	5-Mar	6-Apr	7-May				

Abbreviations: EC (electrical conductivity); TSS (total suspended solids); BOD5 (5-day biochemical oxygen demand); TKN (total Kjeldahl nitrogen); NOx-N (nitrate + nitrite as nitrogen); Total N (total nitrogen); SRP (orthophosphate); TP (total phosphorus); TOG (total oil & grease); FC (faecal coliforms)

The top value on the Y-axis for TSS, BOD5 and TOG are the limits of the licence.

Table 2: Water Quality Monitoring data for licence period



Note: Elevated pH is due to high concentration of algae in the maturation ponds and non compliance in total phosphorus result is due to equipment malfunction for dosing alum.