

BPA Exposure History Quality Data									
Study Name		Study Dates		Study Location		Study Design		Study Status	
Study ID	Study Name	Start Date	End Date	Country	Region	Design	Status	Phase	Notes
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EPA Licence Effluent Quality Data

Licensee Name: **Bega Valley Shire Council**
 Licensee Address: **No. 4 Znoel Placa. Bega**

Site Name: **Merimbula Sewage Treatment Plant**
 Site Location: **Princes Highway, Merimbula**
 EPA Licence Number (EPL): **1741**
 Link to Licence at EPA Website: <http://www.epa.nsw.gov.au/prpoeaapp/>

(select Licences option, enter Licence Number, select Search)

Sample Point: **Groundwater quality monitoring point located in the Merimbula dunes near the effiltration ponds and labelled as "Point 11" on photo titled "Environmental Monitoring Sites".**
 Required Sampling Frequency & Type: **Quarterly Grab Sample**

Date Sampled	Date Obtained	Date Published	Units		pH	Temperature °C	Conductivity mS/cm	Dissolved Oxygen mg/L	Redox Potential mV	Faecal Coliforms cfu/100mL	Enterococci cfu/100mL	Alkalinity (as CaCO ₃) mg/L	Calcium mg/L	Potassium mg/L	Sodium mg/L	Magnesium mg/L	Chloride mg/L	Chlorine mg/L	Sulfate mg/L	Total Nitrogen mg/L	Ammonia mg/L	Total Oxidised Nitrogen mg/L	Nitrate mg/L	Nitrite mg/L	Total Phosphorus mg/L	Orthophosphate mg/L	Depth to Water m
			EPL 100%ile Limit																								
5-Feb-14	19-Feb-14	19-Sep-14	6.22	17.7	0.616	1.03	-178.5	<2	<2	183	24.3	15.7	66.0	16.2	79.6	-	7.2	1.76	0.8	<0.05	-	-	0.81	0.71	2.040		
7-May-14	16-May-14	19-Sep-14	6.13	17.6	0.616	1.36	-142.4	<2	<2	170	23.9	15.9	68.8	16.8	82.0	-	7.6	1.71	0.9	<0.05	-	-	0.76	0.69	1.898		
5-Aug-14	15-Aug-14	19-Sep-14	6.33	14.7	0.624	1.26	-142.3	<1	<1	155	23.1	14.8	64.1	16.3	90.6	-	8.8	1.69	1.0	<0.05	-	-	0.69	0.65	1.964		
5-Nov-14	17-Nov-14	25-Nov-14	6.62	15.4	0.689	1.29	-142.2	<1	<1	150	20.7	14.2	76.3	17.2	113	-	7.0	1.86	0.9	<0.05	<0.05	<0.01	0.64	0.53	1.966		
19-Feb-15	3-Mar-15	10-Mar-15	6.82	19.4	0.773	0.88	-132.3	<1	<1	177	23.3	15.5	83.0	19.4	124	<0.03	9.4	1.83	1.2	<0.05	<0.05	<0.01	0.62	0.59	1.680		
21-May-15	28-May-15	2-Jun-15	6.81	16.7	0.748	1.26	-149.5	<2	<2	169	24.1	15.1	87.4	18.8	121	<0.03	11.0	1.75	1.0	<0.05	<0.05	<0.01	0.72	0.62	1.680		
6-Aug-15	14-Aug-15	15-Sep-15	6.63	13.7	0.810	1.78	-144.8	<2	<2	155	24.8	15.7	95.3	21.4	159	<0.03	18.4	1.74	1.0	<0.05	<0.05	<0.01	0.505	0.49	1.676		
26-Nov-15	7-Dec-15	11-Dec-15	6.75	17.9	0.808	1.14	-199.0	<2	<2	150	23.0	13.4	95.8	18.2	147	<0.03	13.8	1.70	0.9	<0.05	<0.05	<0.01	0.52	0.50	1.635		
25-Feb-16	7-Mar-16	12-Mar-16	6.73	20.5	0.270	1.20	-143.2	12	<2	85	11.4	6.9	23.9	10.2	26.0	<0.03	2.4	1.91	0.4	<0.05	<0.05	<0.01	0.64	0.57	1.615		
2-Jun-16	16-Jun-16	24-Jun-16	6.76	16.8	0.454	1.57	2.6	<2	<2	109	17.7	8.6	37.2	13.7	63.6	<0.03	3.6	1.42	0.5	<0.05	<0.05	<0.01	0.61	0.57	2.063		
25-Aug-16	5-Sep-16	16-Sep-16	6.68	14.9	0.578	1.06	-124.6	<2	<2	120	19.0	9.0	53.0	15.4	94.0	<0.03	2.3	1.54	0.6	<0.05	<0.05	<0.01	0.53	0.48	1.636		
16-Nov-16	24-Nov-16	28-Nov-16	6.97	15.8	0.674	1.50	-97.3	<2	<2	128	22.2	11.4	71.5	16.1	124	<0.03	3.0	1.66	0.8	<0.05	<0.05	<0.01	0.54	0.50	2.112		
15-Feb-17	22-Feb-17	23-Feb-17	7.08	19.2	0.635	1.07	-114.0	<2	<2	169	25.3	13.0	84.3	14.6	96.3	<0.03	1.4	1.55	0.7	<0.05	<0.05	<0.01	0.72	0.68	2.044		
24-May-17	30-May-17	1-Jun-17	7.04	16.4	0.710	1.25	-95.8	<2	<2	174	26.6	13.5	80.8	16.5	120	<0.03	1.1	1.41	0.7	<0.05	<0.05	<0.01	0.62	0.61	1.933		
16-Aug-17	30-Aug-17	1-Sep-17	7.01	14.8	0.730	2.06	-88.9	<2	<2	166	27.1	11.8	83.2	17.9	132	<0.03	2.4	1.40	0.7	<0.05	<0.05	<0.01	0.55	0.54	2.164		
14-Dec-17	24-Dec-17	5-Feb-18	7.19	16.5	0.611	1.01	-185.1	90	<2	154	22.3	11.2	74.5	15.5	104	<0.03	4.0	1.36	0.6	<0.05	<0.05	<0.01	0.59	0.59	2.068		
14-Mar-18	23-Mar-18	26-Mar-18	7.23	18.6	0.458	0.19	-220.0	<2	<2	160	26.6	12.8	53.9	11.0	14.6	<0.03	1.3	1.23	0.6	<0.05	<0.05	<0.01	0.85	0.80	1.828		
14-Jun-18	25-Jun-18	26-Jun-18	7.19	15.9	0.751	1.54	-130.5	<2	<2	147	42.2	12.8	74.6	16.0	146	<0.03	20.1	1.36	0.7	<0.05	<0.05	<0.01	0.70	0.67	1.990		
13-Sep-18	25-Sep-18	26-Sep-18	7.26	14.6	0.708	1.16	-153.3	<2	<2	144	37.9	11.6	62.8	14.7	130	<0.03	12.4	1.25	1.0	<0.05	<0.05	<0.01	0.68	0.58	2.276		
11-Dec-18	27-Dec-18	2-Jan-19	7.18	17.0	0.932	0.90	-200.2	<2	<2	135	37.7	11.9	107	21.8	175	<0.03	21.6	1.35	0.8	<0.05	<0.05	<0.01	0.61	0.59	2.163		
15-Mar-19	9-Apr-19	12-Apr-19	7.26	18.9	1.000	2.81	-60.0	<2	<2	135	31.7	12.6	145	13.7	219	-	4.7	1.56	0.9	<0.05	<0.05	<0.01	0.64	0.56	1.945		
20-Jun-19	17-Jul-19	17-Jul-19	6.74	15.4	0.893	2.16	-96.0	<1	<1	166	-	-	-	-	-	-	-	1.32	0.7	0.25	0.25	<0.01	0.61	0.56	2.008		
11-Sep-19	23-Sep-19	25-Sep-19	6.79	14.9	0.891	1.48	-198.5	<1	<1	162	-	-	-	-	-	-	-	1.21	0.6	<0.05	<0.05	<0.01	0.59	0.59	2.325		
12-Dec-19	9-Jan-20	4-Feb-20	7.35	16.9	0.862	4.25	-71.9	<2	<2	168	37.6	14.2	114	13.3	152	-	3.2	1.10	0.4	<0.05	<0.05	<0.01	0.70	0.68	2.472		
12-Feb-20	27-Feb-20	5-Mar-20	6.82	18.0	1.030	1.13	-140.7	<2	<2	171	40.2	17.2	124	13.3	180	-	20.9	1.27	0.7	<0.05	<0.05	<0.01	0.88	0.84	1.855		
21-May-20	29-May-20	1-Jun-20	7.30	16.9	1.040	1.71	-3.1	<2	<2	156	35.2	16.6	126	13.5	195	-	19.0	1.36	0.8	<0.05	<0.05	<0.01	0.74	0.73	2.236		
20-Aug-20	28-Aug-20	31-Aug-20	7.00	13.7	0.947	1.79	-39.3	<2	<2	155	-	-	-	-	-	-	-	1.30	0.7	0.08	0.08	<0.01	0.51	0.48	1.603		
26-Nov-20	4-Dec-20	9-Dec-20	7.24	18.0	1.060	1.74	-78.5	<2	<2	152	49.7	13.6	90.7	17.6	184	-	30.5	1.46	0.7	<0.05	<0.05	<0.01	0.56	0.48	-		
18-Feb-21	4-Dec-20	29-Mar-21	7.20	18.0	1.080	1.74	-78.5	<1	<1	141	-	-	-	-	-	-	-	1.46	0.9	<0.05	<0.05	<0.01	0.59	0.52	1.890		
24-Aug-21	17-Sep-21	17-Sep-21	6.86	18.0	0.923	1.74	-78.5	<2	<2	142	-	-	-	-	179	-	27.0	1.57	0.8	<0.05	<0.05	<0.01	0.52	0.5	1.890		
23-Nov-21	3-Dec-21	21-Dec-21	6.69	18.0	1.080	1.74	-78.5	<1	<1	145	-	-	-	-	224	-	21.5	1.6	0.8	<0.05	<0.05	<0.01	0.48	0.44	1.890		
21-Apr-22	3-May-22	12-Sep-23	6.97	18.0	1.170	1.74	-78.5	<2	<2	169	-	-	-	-	281	-	18.1	1.89	0.7	0.09	0.09	<0.01	0.35	0.33	1.890		

EPA Licence Effluent Quality Data

Licensee Name: **Bega Valley Shire Council**
 License Address: **No. 4 Zinoel Placa. Bega**

Site Name: **Merimbula Sewage Treatment Plant**
 Site Location: **Princes Highway, Merimbula**

EPA Licence Number (EPL): **174**

Link to Licence at EPA Website: <http://www.epa.nsw.gov.au/prpoeaapp/> (select Licences option, enter Licence Number, select Search)

Sample Point: **Groundwater quality monitoring point located in the Merimbula dunes near the effiltration ponds and labelled as "Point 12" on photo titled "Environmental Monitoring Sites".**

Required Sampling Frequency & Type: **Quarterly Grab Sample**

Units			pH	Temperature	Conductivity	Dissolved Oxygen	Redox Potential	Faecal Coliforms	Enterococci	Alkalinity (as CaCO3)	Calcium	Potassium	Sodium	Magnesium	Chloride	Chlorine	Sulfate	Total Nitrogen	Ammonia	Total Oxidised Nitrogen	Nitrate	Nitrite	Total Phosphorus	Orthophosphate	Depth to Water	
EPL 100% Site Limit			pH Units	oC	mS/cm	mg/L	mV	cfu/100mL	cfu/100mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	
Date Sampled	Date Obtained	Date Published																								
5-Feb-14	19-Feb-14	19-Sep-14	7.40	17.2	1.629	1.79	57.6	<2	<2	241	101	7.2	197	17.3	399	-	29.4	0.52	<0.1	0.28	-	-	0.05	0.05	7.190	
7-May-14	16-May-14	19-Sep-14	7.21	17.4	2.022	2.23	-51.5	<5	<2	246	106	9.4	257	21.5	494	-	38.1	0.33	<0.1	0.09	-	-	0.05	0.05	6.700	
5-Aug-14	15-Aug-14	19-Sep-14	7.56	16.5	1.852	1.30	-92.3	<1	<1	250	104	7.9	216	19.9	442	-	31.4	0.30	<0.1	0.08	-	-	0.05	0.06	6.947	
5-Nov-14	17-Nov-14	25-Nov-14	7.66	16.9	1.700	1.77	-47.5	<1	<1	244	97.4	6.8	194	17.2	373	-	28.6	0.38	<0.1	0.16	0.13	0.04	0.04	0.09	6.969	
19-Feb-15	3-Mar-15	10-Mar-15	7.76	19.4	1.660	1.81	0.9	<1	<1	253	102	6.9	190	17.4	363	<0.03	27.6	0.45	<0.1	0.19	0.19	<0.01	0.05	0.06	7.094	
21-May-15	28-May-15	2-Jun-15	7.72	16.7	1.760	2.00	-85.7	<2	<2	259	106	7.7	218	18.0	412	<0.03	29.7	0.36	<0.1	0.14	0.14	<0.01	0.05	0.04	6.855	
6-Aug-15	14-Aug-15	15-Sep-15	7.65	15.6	1.530	6.10	-82.6	<2	<2	280	105	5.9	166	16.5	340	<0.03	28.3	0.46	<0.1	0.18	0.18	<0.01	0.104	0.02	6.946	
26-Nov-15	7-Dec-15	11-Dec-15	7.71	18.1	1.540	2.74	-35.5	<2	<2	260	103	5.7	176	15.2	307	<0.03	25.5	0.59	<0.1	0.31	0.29	0.02	0.04	0.04	6.867	
25-Feb-16	7-Mar-16	12-Mar-16	7.77	21.0	1.410	3.31	-9.8	<2	<2	265	96.6	5.8	157	14.4	297	<0.03	26.2	0.48	<0.1	0.23	0.23	<0.01	0.06	0.08	6.965	
2-Jun-16	16-Jun-16	24-Jun-16	7.73	16.5	1.420	2.67	21.4	<2	<2	264	101	6.1	153	14.3	284	<0.03	23.2	0.48	<0.1	0.24	0.23	0.01	0.05	0.04	7.016	
25-Aug-16	5-Sep-16	16-Sep-16	7.76	15.8	1.240	2.72	-3.6	<2	<2	268	94.6	4.7	122	13.2	234	<0.03	22.4	0.45	<0.1	0.23	0.21	0.02	0.05	0.03	6.990	
16-Nov-16	24-Nov-16	28-Nov-16	8.00	17.5	1.360	2.17	24.5	<2	<2	287	99.4	5.2	142	13.8	265	<0.03	24.1	0.37	<0.1	0.15	0.13	0.02	0.05	0.05	-	
15-Feb-17	22-Feb-17	23-Feb-17	7.78	18.8	1.420	2.55	57.0	<2	<2	287	106	5.3	188	15.6	292	<0.03	24.9	0.57	<0.1	0.32	0.30	0.01	0.04	0.05	-	
24-May-17	30-May-17	1-Jun-17	7.82	16.4	1.520	1.56	-32.5	<2	<2	306	105	5.0	177	16.3	244	<0.03	17.3	0.31	<0.1	<0.05	<0.05	<0.01	0.07	0.04	6.960	
16-Aug-17	30-Aug-17	1-Sep-17	7.83	16.6	1.500	1.96	-40.5	<2	<2	333	121	4.5	183	17.3	318	<0.03	22.2	0.31	<0.1	<0.05	<0.05	<0.01	0.08	0.05	7.175	
14-Dec-17	24-Dec-17	5-Feb-18	7.86	16.8	1.580	1.03	-82.9	4.0	6	325	115	4.6	190	17.4	350	<0.03	31.2	0.33	<0.1	<0.05	<0.05	<0.01	0.08	0.04	7.086	
14-Mar-18	23-Mar-18	26-Mar-18	7.82	16.6	1.610	0.29	-122.0	<2	<2	328	121	5.6	206	19.6	189	<0.03	15.6	0.29	<0.1	<0.05	<0.05	0.01	0.07	0.03	7.199	
14-Jun-18	25-Jun-18	28-Jun-18	7.86	16.3	1.810	1.30	-83.8	<2	<2	277	120	8.0	223	21.7	415	<0.03	29.0	0.29	<0.1	<0.05	<0.05	<0.01	0.07	0.05	7.960	
13-Sep-18	25-Sep-18	26-Sep-18	7.90	17.3	1.950	1.05	11.0	<2	<2	309	116	8.6	234	21.4	449	<0.03	32.3	0.26	0.2	<0.05	<0.05	<0.01	0.06	0.06	7.400	
11-Dec-18	27-Dec-18	2-Jan-19	7.87	17.1	2.090	1.07	-143.9	<2	<2	331	129	7.6	290	24.8	455	<0.03	35.0	0.31	0.3	<0.05	<0.05	<0.01	0.05	0.04	7.161	
15-Mar-19	9-Apr-19	12-Apr-19	7.63	16.9	2.100	2.85	-42.9	<2	<2	247	116	7.4	279	20.3	471	-	36.4	0.24	<0.1	<0.05	<0.05	<0.01	0.04	<0.02	7.155	
20-Jun-19	17-Jul-19	17-Jul-19	7.59	16.2	2.320	5.01	-24.8	<1	<1	283	-	-	-	-	-	-	-	0.25	<0.1	<0.05	<0.05	<0.01	0.04	<0.02	6.985	
11-Sep-19	23-Sep-19	25-Sep-19	7.64	17.0	2.580	1.75	-52.8	<1	<1	259	-	-	-	-	-	-	-	0.34	<0.1	0.09	0.09	<0.01	0.04	<0.02	7.070	
12-Dec-19	9-Jan-20	4-Feb-20	8.02	19.0	2.620	5.22	-8.4	<2	<2	268	119	11.7	350	29.0	572	-	42.3	0.23	<0.1	<0.05	<0.05	<0.01	0.04	0.04	7.223	
12-Feb-20	27-Feb-20	5-Mar-20	7.69	18.6	2.910	1.67	-60.3	<2	<2	269	121	12.9	398	34.8	718	-	49.2	0.24	<0.1	<0.05	<0.05	<0.01	0.06	<0.02	7.072	
21-May-20	29-May-20	1-Jun-20	7.87	16.5	3.070	2.40	-49.8	<2	<2	323	124	12.6	392	38.7	760	-	50.9	0.29	<0.1	<0.05	<0.05	<0.01	0.06	0.05	7.052	
20-Aug-20	28-Aug-20	31-Aug-20	7.83	15.7	3.190	2.43	60.6	<2	<2	314	-	-	-	-	-	-	-	0.25	<0.1	0.06	0.06	<0.01	0.04	0.02	6.742	
26-Nov-20	4-Dec-20	9-Dec-20	8.03	17.7	2.220	2.56	-21.4	<2	<2	275	110	8	266	22.6	523	-	38	0.40	<0.1	0.19	0.19	<0.01	0.04	0.04	-	
18-Feb-21	4-Dec-20	29-Mar-21	7.99	17.7	1.940	2.56	-21.4	<1	<1	268	-	-	-	-	-	-	-	0.5	<0.1	0.27	0.27	<0.01	0.04	0.05	5.655	
24-Aug-21	1-Sep-21	17-Sep-21	7.7	17.7	1.100	2.56	-21.4	<2	<2	258	-	-	-	-	-	-	-	18.9	0.98	<0.1	0.64	<0.01	0.04	0.04	5.655	
23-Nov-21	3-Dec-21	21-Dec-21	7.54	17.7	1.200	2.56	-21.4	<1	<1	344	-	-	-	-	-	-	-	189	-	19	0.81	<0.1	0.44	0.44	5.655	
21-Apr-22	3-May-22	12-Sep-23	8.07	17.7	1.140	2.56	-21.4	<2	4	261	-	-	-	-	-	-	-	16.1	0.99	<0.1	0.73	0.73	<0.01	0.05	0.03	5.655

EPA Licence Effluent Quality Data

Licensee Name	Besa Valley Shire Council
Licensee Address	No. 4 Zinoel Place, Besa
Site Name	Merimbula Sewage Treatment Plant
Site Location	Princes Highway, Merimbula
EPA Licence Number (EPL)	1741
Link to Licence at EPA Website	http://www.epa.nsw.gov.au/br00e0a0p/ (select Licences option, enter Licence Number, select Search)
Sample Point	Groundwater quality monitoring point located in the Merimbula dunes near the effiltration ponds and labelled as "Point 13" on photo titled "Environmental Monitoring Sites".
Required Sampling Frequency & Type	Quarterly Grab Sample

Date Sampled	Date Obtained	Date Published	pH		Temperature	Conductivity	Dissolved Oxygen	Redox Potential	Faecal Coliforms	Enterococci	Alkalinity (as CaCO3)	Calcium	Potassium	Sodium	Magnesium	Chloride	Chlorine	Sulfate	Total Nitrogen	Ammonia	Total Oxidised Nitrogen	Nitrate	Nitrite	Total Phosphorus	Orthophosphate	Depth to Water
			Units	Units	°C	ms/cm	mv	cfu/100mL	cfu/100mL	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L	mol/L
5-Feb-14	19-Feb-14	19-Sep-14	7.66	18.3	0.790	2.34	64.9	<2	<2	179	37.4	19.2	98.5	9.09	126	-	26.3	1.40	0.8	0.11	-	-	7.77	7.29	6.096	
7-May-14	16-May-14	19-Sep-14	7.60	17.5	0.830	2.24	9.2	<2	<2	173	39.7	21.4	103	9.71	129	-	31.2	1.42	0.9	0.10	-	-	7.07	6.34	5.737	
5-Aug-14	15-Aug-14	19-Sep-14	7.70	16.5	0.976	2.09	13.3	<1	<1	216	58.3	18.4	105	11.5	151	-	33.7	1.49	0.9	0.26	-	-	6.30	6.04	5.954	
5-Nov-14	17-Nov-14	25-Nov-14	7.92	17.2	1.030	1.08	-46.0	<1	<1	250	56.3	20.5	110	16.0	150	-	31.7	1.54	1.0	<0.05	<0.01	-	6.01	5.61	5.799	
19-Feb-15	3-Mar-15	10-Mar-15	7.91	18.4	0.991	1.74	5.2	<1	2	208	53.3	22.0	110	10.9	156	<0.03	36.2	1.25	0.8	0.08	0.08	<0.01	6.91	6.56	5.953	
21-May-15	28-May-15	2-Jun-15	8.15	17.4	0.930	1.49	-28.9	<2	<2	195	46.3	21.8	120	9.41	150	<0.03	33.3	1.29	0.8	0.10	0.10	<0.01	7.75	7.07	5.800	
6-Aug-15	14-Aug-15	15-Sep-15	7.86	16.2	0.850	2.16	-31.2	<2	<2	193	43.8	21.3	98.2	9.07	140	<0.03	29.6	1.48	1.0	<0.05	<0.01	-	7.92	6.30	5.903	
26-Nov-15	7-Dec-15	11-Dec-15	7.92	19.3	0.885	2.51	-11.7	<2	28	196	51.0	18.9	96.1	10.4	124	<0.03	26.5	1.75	0.9	0.46	0.46	<0.01	6.89	6.69	5.919	
25-Feb-16	7-Mar-16	12-Mar-16	7.93	19.0	0.949	3.52	105.9	<2	<2	193	49.8	20.8	112	10.6	152	<0.03	34.5	1.73	0.5	0.68	0.68	<0.01	7.45	6.28	5.800	
2-Jun-16	16-Jun-16	24-Jun-16	7.97	17.4	0.837	3.93	70.3	<2	2	171	44.6	21.6	89.6	10.0	133	<0.03	33.1	1.22	0.5	0.07	0.07	<0.01	6.74	6.93	-	
25-Aug-16	5-Sep-16	16-Sep-16	7.90	16.7	0.896	2.94	67.1	<2	<2	218	58.5	21.5	92.0	11.0	144	<0.03	30.4	1.44	0.7	0.35	0.35	<0.01	6.08	5.89	-	
16-Nov-16	24-Nov-16	28-Nov-16	8.06	18.6	0.921	2.33	34.1	<2	<2	203	56.3	24.7	92.4	11.9	137	0.04	31.6	1.59	1.0	0.14	0.14	<0.01	5.90	5.69	5.900	
15-Feb-17	22-Feb-17	23-Feb-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24-May-17	30-May-17	1-Jun-17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16-Aug-17	30-Aug-17	1-Sep-17	7.90	17.3	0.926	1.38	-23.5	<2	<2	222	59.5	17.8	112	9.73	142	<0.03	31.3	1.94	1.5	<0.05	<0.05	<0.01	5.23	5.18	6.141	
14-Dec-17	24-Dec-17	5-Feb-18	7.96	17.6	0.954	1.15	-6.9	259	<2	239	60.0	21.1	119	10.8	164	<0.03	24.6	2.80	2.4	<0.05	<0.05	<0.01	5.43	5.38	6.155	
14-Mar-18	23-Mar-18	26-Mar-18	7.92	17.9	0.921	0.99	-120.0	<2	<2	244	58.4	19.1	119	11.8	127	<0.03	17.4	2.21	1.8	<0.05	<0.05	<0.01	6.03	5.67	6.010	
14-Jun-18	25-Jun-18	26-Jun-18	7.94	17.4	1.010	0.78	-17.9	<2	<2	178	53.2	19.8	124	10.4	205	<0.03	31.9	1.39	0.8	<0.05	<0.05	<0.01	5.77	5.67	6.018	
13-Sep-18	25-Sep-18	26-Sep-18	8.02	17.5	1.030	0.93	-17.3	<2	<2	189	46.4	20.5	124	10.0	199	<0.03	34.2	1.52	1.5	<0.05	<0.05	<0.01	5.93	5.27	6.188	
11-Dec-18	27-Dec-18	2-Jan-19	7.99	17.8	1.170	1.04	-4.1	<2	<2	201	56.3	22.7	160	10.6	198	<0.03	39.9	1.49	1.1	0.11	0.11	<0.01	6.37	5.43	6.119	
15-Mar-19	9-Apr-19	12-Apr-19	7.85	18.1	1.190	1.34	0.0	<2	<2	150	49.8	21.7	173	10.2	242	-	48.9	1.32	1.4	<0.05	<0.05	<0.01	7.36	7.20	6.090	
20-Jun-19	17-Jul-19	17-Jul-19	7.92	17.2	1.270	1.50	10.4	<1	<1	163	-	-	-	-	-	-	-	1.40	0.9	<0.05	<0.05	<0.01	7.11	6.18	6.025	
11-Sep-19	23-Sep-19	25-Sep-19	7.90	17.7	1.240	1.32	26.0	<1	<1	151	-	-	-	-	-	-	-	-	1.33	0.9	<0.05	<0.05	<0.01	7.18	6.96	6.110
12-Dec-19	9-Jan-20	4-Feb-20	8.06	18.4	1.380	1.08	94.5	<2	<2	192	60.7	26.7	181	13	240	-	43.0	0.98	0.6	0.14	0.11	0.03	6.86	6.46	6.226	
12-Feb-20	27-Feb-20	5-Mar-20	8.11	19.1	1.210	0.85	-58.9	<2	<2	158	42.4	23.9	158	10.7	221	-	37.7	1.25	0.8	<0.05	<0.05	<0.01	6.57	6.33	5.723	
21-May-20	29-May-20	1-Jun-20	8.06	17.7	1.350	1.62	55.9	<2	<2	194	47.6	24.1	172	11.8	247	-	41.2	1.00	0.5	<0.05	<0.05	<0.01	6.78	6.45	6.026	
20-Aug-20	28-Aug-20	31-Aug-20	8.10	16.8	1.150	1.77	100.6	<2	<2	187	-	-	-	-	-	-	-	-	1.07	0.7	<0.05	<0.05	<0.01	6.78	5.21	5.724
26-Nov-20	4-Dec-20	9-Dec-20	8.13	18.8	1.220	2.95	129.3	<2	<2	198	49.2	20.4	132	11.6	207	-	36.6	1.30	0.4	0.57	0.57	<0.01	6.49	5.98	-	
18-Feb-21	4-Dec-20	29-Mar-21	8.07	18.8	1.22	2.95	129.3	<1	<1	200	-	-	-	-	-	-	-	-	1.17	0.3	0.23	<0.01	6.27	5.48	6.787	
24-Aug-21	1-Sep-21	17-Sep-21	7.9	18.8	1.32	2.95	129.3	<2	<2	240	-	-	-	-	267	-	40.4	1.3	0.3	<0.50	<0.50	<0.01	5.05	4.61	6.787	
23-Nov-21	3-Dec-21	21-Dec-21	7.73	18.8	1.49	2.95	129.3	<1	<1	256	-	-	-	-	309	-	40.9	1.34	0.6	0.48	0.48	<0.01	4.18	4.05	6.787	
21-Apr-22	3-May-22	12-Sep-23	7.97	18.8	1.21	2.95	129.3	<2	<2	253	-	-	-	-	193	-	32.3	1.09	0.1	0.66	0.65	0.01	4.31	4.11	6.787	

Site Map

Licensee Name

Bega Valley Shire Council

Site Name

Merimbula Sewage Treatment Plant

EPA EPL Number

1741



Environmental Monitoring Sites

Licensee Name Bega Valley Shire Council
Site Name Merimbula Sewage Treatment Plant
EPA EPL Number 1741



Licence Limit Exceedances Log				
Licence Name	Site Name	EPA CPL Number	Sample Point	Reason for Limit Exceedance
	Rage Valley Shire Council	Merimbula Sewage Treatment Plant	17A Point 4	
Licence Parameter	Date Sampled	Result	Licence Limit	Reason for Limit Exceedance
Faecal Coliforms	7/11/2012	1,300	200	During late October there was a planned increase in the operating level of effluent pond at the STP to accommodate the commissioning of the new reuse dam at Pambula River Falls (capacity 20ML). It is considered that accumulated faecal matter from birds on the banks of the effluent pond has raised coliform concentrations as the pond level has risen, thus contributing to this result.
Faecal Coliforms	5/12/2012	700	200	Point Level returned to previous levels as from 28/11/12. Failed dosing pump (November) also repaired. Disinfection performance returning to within licence levels, however concentrations still in exceedance as at 05/12/12.
Faecal Coliforms	2/01/2013	380	200	The hypochlorite dosing system failed to dose. This resulted in a reduction in disinfection at the start of the effluent pond, which increased faecal concentrations of faecal coliforms at the sample point / point of discharge from the plant. The disinfection system is under repair.
pH	6/02/2013	9.1	6.5-8.5	Open storage during summer periods promotes algae growth. This in turn increases pH levels. An algae removal membrane system was approved in Nov 2012 for installation as a trial at the Merimbula STP by April 2013.
Suspended Solids	6/02/2013	36	30	As above, summer periods promote algae growth which raises pH and is evident as an increase in suspended solids. Remedial action includes trial algae-removal unit, per above.
Oil & Grease	6/03/2013	13	10	Algal cells are likely to be the measured source of oil and grease during the summer / autumn period where high algal concentrations are continuing. BYSC will monitor this result for recurrence, as algal concentrations are expected to reduce over the late autumn months.
Faecal Coliforms	6/03/2013	530	200	As algal growth during the summer period increases, the effectiveness of the disinfection system decreases, where the available chlorine is consumed by the algae. Algal populations remain high as at the sample date 06/03/13.
Faecal Coliforms	2/04/2014	220	200	Faecal recommination is occurring in the open pondage, downstream of the formal chlorine disinfection process at the head of the pond. There is no formal facility installed at Merimbula STP, to reduce or eliminate faecal recommodation in open pondage.
Faecal Coliforms	4/06/2014	1,360	200	A disinfection system is present at the Merimbula STP, however there is no formal secondary disinfection system to reduce faecal recommodation within the open pondage at this site.
Faecal Coliforms	7/01/2015	15,000	200	Algal, existing secondary disinfection system is not designed to reduce faecal recommodation within the open pondage at Merimbula. Faecal coliform numbers at end of disinfection reported as 2 cfu/100mL. That is, results show compliance when sampled the end of the disinfection process unit.
BOD	2/09/2015	29	15	D&M Contractor, Downer, explain their high BOD is due to proliferation of Chlorella. However as the results trend appears highly erratic (104 on 19/09/16, yet just 2 on 19/09/15). Council have requested Downer to review these results with their NATS laboratory. Further comment to be provided.
BOD	6/01/2016	31	15	Council's operator, Downer FS 142, suggests that high loadings from visiting tourist aquaculture, together with a high rainfall event, placed stress on plant, which in turn resulted in a reduced level of treatment and higher BOD.
Ammonia	4/01/2017	7.4	5	Due to an influx of visitors to Merimbula after New Year's Day, flow to the Merimbula STP increased significantly. Changes to the treatment process were done to react to the increase in load and as a result there was an elevated Ammonia concentration recorded on the 4th January 2017. Constant changes were made to the process to compensate for the load variance and the Ammonia concentration levels soon returned to normal.
pH	1/03/2017	8.61	6.5-8.5	Algal proliferation during February caused pH of effluent within the storage ponds to increase beyond the upper licence limit of 8.5.
pH	5/02/2018	8.6	6.5-8.5	During summer months algae blooms occur in the effluent pond at Merimbula STP and causes the pH of the effluent to increase. Operational steps are now employed to reduce algae in the effluent pond to ensure compliance with the licence.
pH	7/03/2018	8.7	6.5-8.5	During summer months algae blooms occur in the effluent pond at Merimbula STP and causes the pH of the effluent to increase. Operational steps are now employed to reduce algae in the effluent pond to ensure compliance with the licence.
Faecal Coliforms	7/03/2018	560	200	Significant Chlorine dosing occurred at the top end of the Effluent Pond. Effluent was also re-chlorinated in the last channel of the effluent pond to compensate for bacterial regrowth and contamination by birds in the pond. As a result of algae blooms the pH is above the level where optimum disinfection can occur and therefore the non-compliant faecal coliform result. Operational steps are now employed to reduce algae in the effluent pond to ensure a lower pH level where effective disinfection will occur.
Faecal Coliforms	6/11/2019	245	200	Significant Chlorine dosing occurred at the top end of the Effluent Pond. Effluent was also re-chlorinated in the last channel of the effluent pond to compensate for bacterial regrowth and contamination by birds in the pond. As a result of algae blooms the pH is above the level where optimum disinfection can occur and therefore the non-compliant faecal coliform result. Operational steps are now employed to reduce algae in the effluent pond to ensure a lower pH level where effective disinfection will occur.
pH	15/11/2020	9.0	6.5-8.5	During summer months algae blooms occur in the effluent pond at Merimbula STP and causes the pH of the effluent to increase. Operational steps are now employed to reduce algae in the effluent pond to ensure compliance with the licence.
pH	4/03/2020	9.0	6.5-8.5	During summer months algae blooms occur in the ocean outfall pond at Merimbula STP and causes the pH of the effluent to increase. Operational steps are employed to reduce algae in the effluent pond to ensure compliance with the licence.
pH	1/04/2020	8.88	6.5-8.5	During summer months algae blooms occur in the ocean outfall pond at Merimbula STP and causes the pH of the effluent to increase. Dosing Sodium Hypochlorite to maintain compliant Faecal Coliforms increases the pH further. Several operational steps are employed to reduce algae in the effluent pond.
pH	7/05/2020	8.6	6.5-8.5	During summer months algae blooms occur in the ocean outfall pond at Merimbula STP and causes the pH of the effluent to increase. Dosing Sodium Hypochlorite to maintain compliant Faecal Coliforms increases the pH further. Several operational steps are employed to reduce algae in the effluent pond.
Ammonia	8/10/2020	13.3	5	The catch pond was cleaned and all the sludge removed from the catch pond was pumped into a sludge hopper. The supernatant in the sludge hopper returned to the aeration basin as a result of excess sludge being discharged. The supernatant impacted the process severely and further ammonia was discharged.
pH	3/12/2020	9.2	6.5-8.5	During summer months algae blooms occur in the ocean outfall pond at Merimbula STP and causes the pH of the effluent to increase. Operational steps are employed to reduce algae in the effluent pond to ensure compliance with the licence.
Faecal Coliforms	4/03/2021	230	200	Significant Chlorine dosing occurred at the top end of the Effluent Pond. Effluent was also re-chlorinated in the last channel of the effluent pond to compensate for bacterial regrowth and contamination by birds in the pond. As a result of algae blooms the pH is above the level where optimum disinfection can occur and therefore the non-compliant faecal coliform result. Operational steps are now employed to reduce algae levels in the effluent pond to ensure a lower pH level where effective disinfection will occur.
Faecal Coliforms	6/05/2021	1740	200	Merimbula STP received 150mm of rain on 5 May and 50mm of rain on 6 May, the sample day. Over 12 hrs later the STP. The STP operated in HIGH FLOW all day. The Ocean outfall pond started spilling into the Wet Weather Pond and pumping commenced to ocean out of hours. At High Flow the Sodium Hypochlorite dosing system becomes ineffective and incapable to ensure proper Chlorine dosing and disinfection provided.
BOD	5/08/2021	27	15	The aeration level was sufficient to facilitate proper and compliant nitrification as well as providing sufficient dissolved oxygen to oxidise biodegradable organic material. The non-compliant BOD concentration is a result of organic matter and algae currently present in the ocean outfall pond that accumulates in the sampling well. ACTOVID improve the circulation through the Ocean Outfall Pond.
BOD	2/09/2021	37	15	High BOD because of algae growth in the Ocean Outfall Pond that accumulates in sampling well. The aeration level was sufficient to facilitate proper and compliant nitrification as well as providing sufficient dissolved oxygen to oxidise biodegradable organic material. Improve the circulation through the Ocean Outfall Pond. As per licence requirement the Chlorophyll a was determined as 3.70 µg/l.
BOD	2/12/2021	27	15	The aeration level was sufficient to facilitate proper and compliant nitrification as well as providing sufficient dissolved oxygen to oxidise biodegradable organic material. During summer months algae blooms occur in the effluent pond at Merimbula STP and causes the BOD to increase. As per licence requirement the Chlorophyll a was determined as 10.6 µg/l. Total Algae 5660 cells/ml.
Faecal Coliforms	6/01/2022	850	200	The 0.1 cubic meter suspended solids catch pond is full and overflowing with effluent.
BOD	3/02/2022	15	15	High BOD because of algae growth in the Ocean Outfall Pond that accumulates in sampling well.
Faecal Coliforms	3/03/2022	230	200	Sodium Hypochlorite dosing was running at full capacity to maximise disinfection. However flow was recorded at over 2 times the plant's Dry Weather Design capacity and disinfection consequently not effective.
Faecal Coliforms	5/01/2023	208	200	Sodium Hypochlorite dosing was running at full capacity to maximise disinfection during peak holiday flow. Ocean outfall pond also show algae growth and compromised disinfection as per impact increase.
Ammonia	5/10/2023	14.4	5	Insufficient aeration levels during the refurbishment of one of the two aeration tanks. Aeration Tank 1 is refurbished since July and all the flow is processed in Tank 2. High loads entered the STP during this period especially during the last weekend in September when Merimbula hosted a music festival. The 0.1 cubic meter suspended solids catch pond was also affected and also overflowed.
Total Nitrogen	5/10/2023	15.9	15	High loads entered Tank 2 during the refurbishment of Tank 1 and maximum aeration applied. Tank 1 is off-line while refurbishment is completed. Tank 2 is receiving all the load and flow (up to 1.6 Mgd) and aeration tanks are in place to provide maximum aeration and have led to excessive formation of Nitrate Nitrogen and hence exceeding Total Nitrogen limit.
Suspended Solids	5/10/2023	23	30	High Total Suspended Solids because of algae growth in the Ocean Outfall Pond. During summer months algae blooms occur in the effluent pond at Merimbula STP and changes the turbidity in the pond and thus causes the Total Suspended Solids Concentration to increase. As per licence requirement the Chlorophyll a was determined as 149 µg/L. Total algae is 350 000 cells/ml.
Faecal Coliforms	7/12/2023	236	200	Chlorine dosing system was fully functional but plant ran in high flow mode and residual testing undertaken with 0.1m³g/l recorded on the 7/12/23.
Faecal Coliforms	8/02/2024	200	200	Chlorine dosing system was fully functional but Chlorine residual was low due to algae growth.

Data Corrections Log

Licensee Name **Bega Valley Shire Council**
Site Name **Merimbula Sewage Treatment Plant**
EPA EPL Number **1741**
Sample Point **Point 6**

Licence Parameter	Date Sampled	Original Data	Corrected Data	Date Corrected	Date Originally Published	Reason for Correction
pH	12/03/2015	8.18	8.16	6/07/2015	26/03/2015	<i>Data transposed with that of another site during data entry.</i>
Suspended Solids	12/03/2015	20	13	6/07/2015	26/03/2015	<i>Data transposed with that of another site during data entry.</i>
BOD	12/03/2015	<2	3	6/07/2015	26/03/2015	<i>Data transposed with that of another site during data entry.</i>
Faecal coliforms	12/03/2015	6	<1	6/07/2015	26/03/2015	<i>Data transposed with that of another site during data entry.</i>
Total Nitrogen	12/03/2015	0.17	0.12	6/07/2015	26/03/2015	<i>Data transposed with that of another site during data entry.</i>