



Environmental Monitoring Report

Broadwater Power Plant 117 Pacific Highway Broadwater NSW

Licencee Cape Byron Management Pty Ltd
Address Suite 2.03 15-21 Via Roma Isle of Capri QLD 4217
EPL No 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>

This data is published as required under section 66(6) of the *Protection of the Environment Operations Act 1997*

Sampling Point:

Licencee
 Location
 EPL No
 Parameter/s Monitored
 Frequency & Method
 Limits

Monitoring Point 2 - No 1 Cogeneration Boiler Stack Emissions

Cape Byron Management Pty Ltd
 Broadwater Cogeneration Power Plant
 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
 see individual parameters in table
 Quarterly in accordance with EPA protocols
 see individual parameters in table



			RESULTS TABLE								
Report Number			AMG11093	AMG 11123	AMG 11349	AMG 11476					
Sampling Date			13-Sep-17	19-Dec-17	13-Feb-18	28-Jun-18					
Date Received			23-Oct-17	06-Feb-18	27-Feb-18	13-Jul-18					
Date Published			24-Oct-17	12-Feb-18	27-Apr-18	20-Jul-18					
Measured Parameters dry @ STP and corrected to 7% O ₂	Units	Concentration Limit									
Average stack gas temperature	°C	Not Applicable	68.6	62.0	63.1	66.3					
Average velocity at sampling plane	m/s	Not Applicable	7.3	7.0	6.9	14.9					
Dry Gas Volumetric Flowrate	m ³ /sec	Not Applicable	53.4	57.6	57.6	57.9					
Dry Gas Density	kg/m ³	Not Applicable	1.4	1.3	1.4	1.4					
Molecular Weight of Stack Gases	g/g mole	Not Applicable	30.7	28.2	28.7	27.4					
Moisture content	%	Not Applicable	22.6	15.2	13.5	24.3					
Concentration of carbon dioxide	%	Not Applicable	14.6	10.5	13.0	13.2					
Total Solid Particles	mg/m ³	100.0	23.8	16.4	51.0	12.1					
Sulphuric Acid Mist & Sulphur Trioxide as SO ₃	mg/m ³	12.0	2.4	5.7	11.1	11.1					
Nitrogen Oxides (NOx)	mg/m ³	500.0	246.0	158.0	239.0	227.0					

Sampling Point: **Monitoring Point 3 - Ambient Air Monitoring**
 Licencee Cape Byron Management Pty Ltd
 Location Broadwater Cogeneration Power Plant
 EPL No 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
 Parameters Monitored Particulates - Deposited Matter
 Monitoring Frequency Continuous with sample results extrapolated from sample period of 30 ± 2 days
 Limits Not Applicable
 Comments Laboratory Analysis



Date Sample Collected	Date Received	Date Published	Results (g/m ² /month)	Notes
4-Jan-18	5-Jan-18	19-Jan-18	1.01	
6-Feb-18	7-Feb-18	16-Feb-18	0.51	Org. matter/insects
8-Mar-18	9-Mar-18	20-Mar-18	1.05	Insects
9-Apr-18	11-Apr-18	30-Apr-18	0.54	
8-May-18	9-May-18	24-May-18	0.62	
6-Jun-18	7-Jun-18	22-Jun-18	0.70	
5-Jul-18	6-Jul-18	24-Jul-18	1.79	Org.matter/ yellow flakes
6-Aug-18	7-Aug-18	13-Aug-18	0.95	Org.matter
5-Sep-18	5-Sep-18	18-Sep-18	1.58	Org.matter

Sampling Point: **Monitoring Point 3 - Ambient Air Monitoring**
 Licencee Cape Byron Management Pty Ltd
 Location Broadwater Cogeneration Power Plant
 EPL No 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
 Parameters Monitored PM10
 Monitoring Frequency Sampling for 24 hours every 6 Days when site is operating
 Limits Not Applicable
 Comments Laboratory Analysis



Date Sample Collected	Date Received	Date Published	Results (ug/m ³)	Notes
1-Jan-18	8-Jan-18	17-Jan-18	13	
7-Jan-18	12-Feb-18	19-Feb-18	15	
13-Jan-18	12-Feb-18	19-Feb-18	30	
19-Jan-18	12-Feb-18	19-Feb-18	21	
25-Jan-18	12-Feb-18	19-Feb-18	22	
31-Jan-18	12-Feb-18	19-Feb-18	18	
6-Feb-18	12-Feb-18	28-Mar-18	18	
12-Feb-18	9-Mar-18	28-Mar-18	56	
18-Feb-18	9-Mar-18	28-Mar-18	17	
24-Feb-18	9-Mar-18	28-Mar-18	8	
2-Mar-18	9-Mar-18	28-Mar-18	20	
8-Mar-18	13-Apr-18	30-Apr-18	21	
14-Mar-18	13-Apr-18	30-Apr-18	18	
20-Mar-18	13-Apr-18	30-Apr-18	16	
26-Mar-18	13-Apr-18	30-Apr-18	16	
1-Apr-18	13-Apr-18	30-Apr-18	8	
7-Apr-18	13-Apr-18	30-Apr-18	17	
13-Apr-18	21-May-18	24-May-18	24	
19-Apr-18	21-May-18	24-May-18	57	
25-Apr-18	21-May-18	24-May-18	11	
1-May-18	21-May-18	24-May-18	13	
7-May-18	21-May-18	24-May-18	21	
13-May-18	13-Jun-18	19-Jun-18	11	
19-May-18	13-Jun-18	19-Jun-18	13	
25-May-18	13-Jun-18	19-Jun-18	11	
31-May-18	13-Jun-18	19-Jun-18	9	
6-Jun-18	9-Jul-18	13-Jul-18	5	
12-Jun-18	9-Jul-18	13-Jul-18	5	
18-Jun-18	9-Jul-18	13-Jul-18	11	
24-Jun-18	9-Jul-18	13-Jul-18	16	
30-Jun-18	9-Jul-18	13-Jul-18	11	
6-Jul-18	8-Aug-18	14-Aug-18	16	
12-Jul-18	8-Aug-18	14-Aug-18	31	
18-Jul-18	8-Aug-18	14-Aug-18	20	
24-Jul-18	8-Aug-18	14-Aug-18	28	
30-Jul-18	8-Aug-18	14-Aug-18	16	
5-Aug-18	8-Aug-18	14-Aug-18	31	
11-Aug-18	9-Sep-18	18-Sep-18	28	
17-Aug-18	9-Sep-18	18-Sep-18	94	
23-Aug-18	9-Sep-18	18-Sep-18	33	
29-Aug-18	9-Sep-18	18-Sep-18	19	
4-Sep-18	9-Sep-18	18-Sep-18	9	

Sampling Point: Monitoring Point 4 - Ambient Air Monitoring

Licencee Cape Byron Management Pty Ltd
 Location Broadwater Cogeneration Power Plant
 EPL No 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
 Parameter Particulates - Deposited Matter
 Frequency Continuous with sample results extrapolated from sample period of 30 ± 2 days
 Limits Not Applicable
 Comments Laboratory Analysis



Date Sample Collected	Date Received	Date Published	Results (g/m ² /month)	Notes
4-Jan-18	5-Jan-18	19-Jan-18	0.67	
6-Feb-18	7-Feb-18	16-Feb-18	0.36	Org. matter
8-Mar-18	9-Mar-18	20-Mar-18	1.23	Insects/Org.matter
9-Apr-18	11-Apr-18	30-Apr-18	0.93	
8-May-18	9-May-18	24-May-18	0.27	
6-Jun-18	7-Jun-18	22-Jun-18	0.85	
5-Jul-18	6-Jul-18	24-Jul-18	1.27	Org.matter
6-Aug-18	7-Aug-18	13-Aug-18	1.23	Org.matter
5-Sep-18	5-Sep-18	18-Sep-18	2.31	Org.matter

Sampling Point: Monitoring Point 5 - Ambient Air Monitoring
 Licencee Cape Byron Management Pty Ltd
 Location Broadwater Power Plant Fuel Stockpile
 EPL No 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
 Parameters Monitored Particulates - Deposited Matter
 Monitoring Frequency Continuous with sample results extrapolated from sample period of 30 ± 2 days
 Limits Not Applicable
 Comments Laboratory Analysis



Date Sample Collected	Date Received	Date Published	Results (g/m ² /month)	Notes
4-Jan-18	5-Jan-18	19-Jan-18	1.19	
6-Feb-18	7-Feb-18	16-Feb-18	1.04	Org. matter / insects
8-Mar-18	9-Mar-18	20-Mar-18	1.23	Insects/Org.Matter
9-Apr-18	11-Apr-18	30-Apr-18	0.93	
8-May-18	9-May-18	24-May-18	1.87	
6-Jun-18	7-Jun-18	22-Jun-18	1.60	
5-Jul-18	6-Jul-18	24-Jul-18	0.97	Org.matter
6-Aug-18	7-Aug-18	13-Aug-18	1.15	Org.matter
5-Sep-18	5-Sep-18	18-Sep-18	1.75	Org.matter

Sampling Point: Monitoring Point 6 - O₂ Monitoring No 1 Cogeneration Boiler

Licencee Cape Byron Management Pty Ltd
 Location Broadwater Cogeneration Power Plant
 EPL No 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
 Parameters Monitored Oxygen
 Monitoring Frequency Continuous Online Sampling
 Limit No Limits Prescribed



The results in the table provide a fortnightly summary of the minimum, maximum and mean daily values for the period indicated

Comments

MONITORING PERIOD			Oxygen (%)			Notes
Date Start	Date Finish	Date Published	Minimum Value	Mean Value	Maximum Value	
1-Jan-18	14-Jan-18	13-Feb-18	0.00	6.38	21.00	
15-Jan-18	28-Jan-18	13-Feb-18	3.90	7.76	21.20	
29-Jan-18	11-Feb-18	15-Mar-18	0.00	6.97	21.00	
12-Feb-18	25-Feb-18	15-Mar-18	2.80	5.59	15.40	
26-Feb-18	11-Mar-18	13-Apr-18	2.50	6.83	21.10	
12-Mar-18	25-Mar-18	13-Apr-18	1.80	9.47	21.30	
26-Mar-18	8-Apr-18	13-Apr-18	2.60	7.12	21.10	
9-Apr-18	22-Apr-18	24-May-18	n/a	n/a	n/a	Shut 09/04/18 - 27/04/18
23-Apr-18	6-May-18	24-May-18	2.50	8.66	21.50	
7-May-18	20-May-18	22-Jun-18	3.70	6.18	20.90	
21-May-18	3-Jun-18	22-Jun-18	1.00	7.61	21.30	
4-Jun-18	17-Jun-18	13-Jul-18	1.60	4.80	21.00	
18-Jun-18	1-Jul-18	13-Jul-18	0.80	4.66	20.90	
2-Jul-18	15-Jul-18	13-Aug-18	1.40	4.70	19.30	
16-Jul-18	29-Jul-18	13-Aug-18	2.20	5.18	21.00	
30-Jul-18	12-Aug-18	18-Sep-18	0.00	5.98	21.20	
13-Aug-18	26-Aug-18	18-Sep-18	0.00	4.16	21.00	

Sampling Point: Monitoring Point 7 - O₂ Monitoring No 12 Boiler
 Licence: Cape Byron Management Pty Ltd
 Location: Broadwater Cogeneration Power Plant
 EPL No: 20425 <http://www.environment.nsw.gov.au/>
 Parameters Monitored: Oxygen
 Monitoring Frequency: Continuous Online Sampling
 Limit: No Limits Prescribed



The results in the table provide a fortnightly summary of the minimum, maximum and mean daily values for the period indicated

Comments

MONITORING PERIOD			Oxygen (%)			Notes
Date Start	Date Finish	Date Published	Minimum Value	Maximum Value	Mean Value	
1-Jan-18	14-Jan-18	16-Feb-18	No Data	No Data	No Data	Boiler Not Operating
15-Jan-18	28-Jan-18	16-Feb-18	No Data	No Data	No Data	Boiler Not Operating
29-Jan-18	11-Feb-18	16-Feb-18	No Data	No Data	No Data	Boiler Not Operating
12-Feb-18	25-Feb-18	16-Feb-18	No Data	No Data	No Data	Boiler Not Operating
26-Feb-18	11-Mar-18	16-Feb-18	No Data	No Data	No Data	Boiler Not Operating
12-Mar-18	25-Mar-18	16-Feb-18	No Data	No Data	No Data	Boiler Not Operating
26-Mar-18	8-Apr-18	23-May-18	No Data	No Data	No Data	Boiler Not Operating
9-Apr-18	22-Apr-18	23-May-18	No Data	No Data	No Data	Boiler Not Operating
23-Apr-18	6-May-18	23-May-18	No Data	No Data	No Data	Boiler Not Operating
7-May-18	20-May-18	22-Jun-18	No Data	No Data	No Data	Boiler Not Operating
21-May-18	3-Jun-18	22-Jun-18	No Data	No Data	No Data	Boiler Not Operating
4-Jun-18	17-Jun-18	13-Jul-18	0.00	21.00	7.96	Boiler Started 06-07-18
18-Jun-18	1-Jul-18	13-Jul-18	0.00	21.00	21.00	
2-Jul-18	15-Jul-18	16-Aug-18	0.02	21.00	7.01	Boiler Shutdown 01-07-18 - 08-07-18
16-Jul-18	29-Jul-18	16-Aug-18	0.04	21.00	7.02	
30-Jul-18	12-Aug-18	18-Sep-18	0.00	21.00	10.53	
13-Aug-18	26-Aug-18	18-Sep-18	0.00	7.41	21.00	

Sampling Point: Monitoring Point 8 - Cogeneration Cooling Water Discharge
Licencee: Cape Byron Management Pty Ltd
Location: Broadwater Cogeneration Power Plant
EPL No: 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
Parameters Monitored: Temperature & Volume
Monitoring Frequency: Continuous online
Limits: See Table
Comments: No result may exceed the maximum limit.



MONITORING PERIOD			Temperature (°C)			Volume (kL/day)			Notes
			Limit/s	Maximum	41	Limit/s	Maximum	155520	
Date Start	Date Finish	Date Published	Min Temp	Mean Temp	Max Temp	Minimum Daily Discharge	Mean Daily Discharge	Maximum Daily Discharge	
1-Jan-18	14-Jan-18	13-Feb-18	29	37	41	137184	137184	137184	
15-Jan-18	28-Jan-18	13-Feb-18	26	37	40	78976	132198	137184	
29-Jan-18	11-Feb-18	15-Mar-18	27	39	41	92599	133369	137184	
12-Feb-18	25-Feb-18	15-Mar-18	27	29	41	137184	137184	137184	
26-Feb-18	11-Mar-18	13-Apr-18	22	35	40	136327	137109	137184	
12-Mar-18	25-Mar-18	13-Apr-18	23	32	39	101792	133393	137184	
26-Mar-18	8-Apr-18	13-Apr-18	24	35	40	136470	137125	137184	
9-Apr-18	22-Apr-18	24-May-18	n/a	n/a	n/a	n/a	n/a	n/a	Shut 09/04/18 - 27/04/18
23-Apr-18	6-May-18	24-May-18	20	33	40	68592	68592	68592	
7-May-18	20-May-18	22-Jun-18	19	36	41	68783	75737	104079	
21-May-18	3-Jun-18	22-Jun-18	17	32	38	68592	83886	111176	
4-Jun-18	17-Jun-18	13-Jul-18	17	27	37	136470	137120	137184	
18-Jun-18	1-Jul-18	13-Jul-18	15	25	31	134326	136712	137184	
2-Jul-18	15-Jul-18	13-Aug-18	16	26	34	128277	135803	137184	
16-Jul-18	29-Jul-18	13-Aug-18	15	25	34	122227	134830	137184	
30-Jul-18	12-Aug-18	18-Sep-18	16	26	31	134898	136779	137184	
13-Aug-18	26-Aug-18	18-Sep-18	18	27	32	134564	136839	137184	

Sampling Point: Monitoring Point 9 - Cogeneration Cooling Water Inlet
 Licence: Cape Byron Management Pty Ltd
 Location: Broadwater Cogeneration Power Plant
 EPL No: 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
 Parameters Monitored: Temperature
 Monitoring Frequency: Continuous online (by calculation)
 Limits: Not Applicable - background data only



MONITORING PERIOD			Temperature (°C)			Volume (kL/day)			Notes
Date Start	Date Finish	Date Published	Minimum Background Temperature	Mean Background Temperature	Maximum Background Temperature	Minimum Daily Intake	Mean Daily Intake	Maximum Daily Intake	
1-Jan-18	14-Jan-18	13-Feb-18	26.5	28.4	30.2	137184	137184	137184	
15-Jan-18	28-Jan-18	13-Feb-18	24.4	27.6	30.3	78976	132198	137184	
29-Jan-18	11-Feb-18	15-Mar-18	26.6	28.7	30.4	92599	133369	137184	
12-Feb-18	25-Feb-18	15-Mar-18	26.6	28.7	30.4	137184	137184	137184	
26-Feb-18	11-Mar-18	13-Apr-18	23.4	26.3	28.9	136327	137109	137184	
12-Mar-18	25-Mar-18	13-Apr-18	23.4	25.3	27.0	101792	133393	137184	
26-Mar-18	8-Apr-18	13-Apr-18	24.7	26.0	26.7	136470	137125	137184	
9-Apr-18	22-Apr-18	24-May-18	n/a	n/a	n/a	n/a	n/a	n/a	Shut 09/04/18 - 27/04/18
23-Apr-18	6-May-18	24-May-18	21.1	24.1	28.0	68592	68592	68592	
7-May-18	20-May-18	22-Jun-18	18.7	23.2	23.2	68783	75737	104079	
21-May-18	3-Jun-18	22-Jun-18	18.0	19.1	20.2	68592	83886	111176	
4-Jun-18	17-Jun-18	13-Jul-18	17.0	18.2	19.5	136470	137120	137184	
18-Jun-18	1-Jul-18	13-Jul-18	15.7	16.7	17.8	134326	136712	137184	
2-Jul-18	15-Jul-18	13-Aug-18	16.4	17.6	19.3	128277	135803	137184	
16-Jul-18	29-Jul-18	13-Aug-18	15.6	16.8	18.7	122227	134830	137184	
30-Jul-18	12-Aug-18	18-Sep-18	17.1	18.1	19.3	134898	136779	137184	
13-Aug-18	26-Aug-18	18-Sep-18	16.7	18.0	27.5	134564	136839	137184	

Sampling Point: Monitoring Point 10 - Stockpile Sediment Pond West
 Licencee Cape Byron Management Pty Ltd
 Location Broadwater Power Plant Fuel Stockpile
 EPL No 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
 Parameter/s Monitored See Table
 Frequency & Method Monthly Grab Sample
 Limit/s None Prescribed



PARAMETERS MEASURED								
Date Sampled	Date Received	Date Published	BOD ₅ (mg/L)	TSS (mg/L)	pH	Nitrogen (mg/L)	Phosphorus (mg/L)	Notes
30-Jan-18	8-Feb-18	13-Feb-18	1.7	1144.0	6.6	0.9	0.5	
8-Feb-18	15-Feb-18	15-Mar-18	24.0	388.0	6.5	4.9	2.7	
15-Mar-18	15-Mar-18	28-Mar-18	36.8	117.0	6.3	2.3	1.1	
17-Apr-18	17-Apr-18	24-May-18	27.0	330.0	6.5	3.6	1.2	
17-May-18	17-May-18	24-May-18	3.5	7.0	6.3	0.9	0.8	
14-Jun-18	14-Jun-18	22-Jun-18	34.0	124.0	6.4	1.0	1.0	
24-Jul-18	25-Jul-18	16-Aug-18	1.3	29.0	6.6	0.4	0.9	
15-Aug-18	15-Aug-18	18-Sep-18	1.8	28.0	6.6	0.6	0.5	

Sampling Point: Monitoring Point 11 - Stockpile Sediment Pond East
 Licencee Cape Byron Management Pty Ltd
 Location Broadwater Power Plant Fuel Stockpile
 EPL No 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
 Parameter/s Monitored See Table
 Frequency & Method Monthly Grab Sample
 Limit/s None Prescribed



PARAMETERS MEASURED								
Date Sampled	Date Received	Date Published	BOD ₅ (mg/L)	TSS (mg/L)	pH	Nitrogen (mg/L)	Phosphorus (mg/L)	Notes
30-Jan-18	8-Feb-18	13-Jan-18	2.9	7050.0	7.4	0.9	0.5	
8-Feb-18	15-Feb-18	15-Mar-18	3.0	12.0	7.7	0.8	0.5	
15-Mar-18	15-Mar-18	28-Mar-18	3.2	15.0	7.2	1.0	0.6	
17-Apr-18	17-Apr-18	24-May-18	4.8	17.0	7.5	1.1	0.7	
17-May-18	17-May-18	24-May-18	1.9	7.0	7.2	0.9	0.4	
14-Jun-18	14-Jun-18	22-Jun-18	6.7	13.0	6.8	1.0	0.3	
24-Jul-18	25-Jul-18	16-Aug-18	2.7	4.0	7.2	0.9	0.4	
15-Aug-18	15-Aug-18	18-Sep-18	2.4	13.0	7.3	0.8	0.2	

Sampling Point: Monitoring Point 12 - Reverse Osmosis Sidestream
Licencee: Cape Byron Management Pty Ltd
Location: Broadwater Cogeneration Power Plant
EPL No: 20425 <http://www.epa.nsw.gov.au/prpoeoapp/>
Parameters Measured: See Table
Frequency & Method: Biannual Grab Sample
Licence Limits: Not Prescribed



Pollutants	Units	Date Sampled	Date Received	Date Published	Results	Notes
Aluminium	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.070	
		14-Jun-18	14-Jun-18	12-Jul-18	0.490	
Ammonia	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.058	
		14-Jun-18	14-Jun-18	12-Jul-18	0.019	
Arsenic	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	<0.001	
		14-Jun-18	14-Jun-18	12-Jul-18	0.002	
Barium	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.021	
		14-Jun-18	14-Jun-18	12-Jul-18	0.102	
Bicarbonate	CaCO ₃ /kg	15-Mar-18	15-Mar-18	22-Jun-18	28.000	
		14-Jun-18	14-Jun-18	12-Jul-18	140.000	
Cadmium	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	<0.001	
		14-Jun-18	14-Jun-18	12-Jul-18	<0.001	
Calcium	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	4.600	
		14-Jun-18	14-Jun-18	12-Jul-18	49.704	
Chloride	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	13.000	
		14-Jun-18	14-Jun-18	12-Jul-18	141.432	
Chromium	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	<0.001	
		14-Jun-18	14-Jun-18	12-Jul-18	0.002	
Conductivity	dS/m	15-Mar-18	15-Mar-18	22-Jun-18	0.103	
		14-Jun-18	14-Jun-18	12-Jul-18	0.100	
Copper	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.001	
		14-Jun-18	14-Jun-18	12-Jul-18	0.002	
Hardness (as calcium)	CaCO ₃ /kg	15-Mar-18	15-Mar-18	22-Jun-18	29.000	
		14-Jun-18	14-Jun-18	12-Jul-18	207.000	
Iron	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.821	
		14-Jun-18	14-Jun-18	12-Jul-18	9.597	
Lead	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	<0.001	
		14-Jun-18	14-Jun-18	12-Jul-18	<0.001	
Magnesium	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	4.100	
		14-Jun-18	14-Jun-18	12-Jul-18	20.110	
Manganese	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.020	
		14-Jun-18	14-Jun-18	12-Jul-18	0.095	
Mercury	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	<0.0005	
		14-Jun-18	14-Jun-18	12-Jul-18	<0.0005	
Nickel	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	<0.001	
		14-Jun-18	14-Jun-18	12-Jul-18	<0.001	
Nitrate	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.087	
		14-Jun-18	14-Jun-18	12-Jul-18	0.043	
Nitrite	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.005	
		14-Jun-18	14-Jun-18	12-Jul-18	0.384	
Orthophosphate	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.022	
		14-Jun-18	14-Jun-18	12-Jul-18	0.066	
Potassium	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	1.100	
		14-Jun-18	14-Jun-18	12-Jul-18	15.392	
Selenium	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	<0.010	
		14-Jun-18	14-Jun-18	12-Jul-18	26.500	
Silica (total)	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	2.100	
		14-Jun-18	14-Jun-18	12-Jul-18	26.500	
Silver	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	<0.001	
		14-Jun-18	14-Jun-18	12-Jul-18	<0.001	
Sodium	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	6.900	
		14-Jun-18	14-Jun-18	12-Jul-18	123.277	
Sodium Adsorption Ratio	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.600	
		14-Jun-18	14-Jun-18	12-Jul-18	0.868	
Sulfate	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	11.000	
		14-Jun-18	14-Jun-18	12-Jul-18	33.000	
Total Dissolved Salts	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	70.000	
		14-Jun-18	14-Jun-18	12-Jul-18	47600.000	
Total Organic Carbon	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	7.200	
		14-Jun-18	14-Jun-18	12-Jul-18	32.050	
Total Suspended Solids	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	2.000	
		14-Jun-18	14-Jun-18	12-Jul-18	<1	
Zinc	mg/l	15-Mar-18	15-Mar-18	22-Jun-18	0.002	
		14-Jun-18	14-Jun-18	12-Jul-18	0.006	
pH		15-Mar-18	15-Mar-18	22-Jun-18	7.050	
		14-Jun-18	14-Jun-18	12-Jul-18	7.270	

Sampling Point:

Licencee
 Location
 EPL No
 Parameter/s Monitored
 Frequency & Method

Rain gauge

Cape Byron Management Pty Ltd
 Broadwater Cogeneration Power Plant
 20425
 Rainfall
 Continuous Auto Sampler



TIPPING GAUGE CONTINUOUS RAINFALL MONITORING					
Period From		Period To		Daily Rain	
Date	Time	Date	Time	Total (mm)	Max Intensity (mm/min)
Monday, 1 January 2018	9:01am	Tuesday, 2 January 2018	9:00am	0	0
Tuesday, 2 January 2018	9:01am	Wednesday, 3 January 2018	9:00am	16.2	2
Wednesday, 3 January 2018	9:01am	Thursday, 4 January 2018	9:00am	23.8	1.2
Thursday, 4 January 2018	9:01am	Friday, 5 January 2018	9:00am	0	0
Friday, 5 January 2018	9:01am	Saturday, 6 January 2018	9:00am	0	0
Saturday, 6 January 2018	9:01am	Sunday, 7 January 2018	9:00am	0	0
Sunday, 7 January 2018	9:01am	Monday, 8 January 2018	9:00am	0	0
Monday, 8 January 2018	9:01am	Tuesday, 9 January 2018	9:00am	0	0
Tuesday, 9 January 2018	9:01am	Wednesday, 10 January 2018	9:00am	0	0
Wednesday, 10 January 2018	9:01am	Thursday, 11 January 2018	9:00am	0	0
Thursday, 11 January 2018	9:01am	Friday, 12 January 2018	9:00am	0	0
Friday, 12 January 2018	9:01am	Saturday, 13 January 2018	9:00am	0	0
Saturday, 13 January 2018	9:01am	Sunday, 14 January 2018	9:00am	0	0
Sunday, 14 January 2018	9:01am	Monday, 15 January 2018	9:00am	0	0
Monday, 15 January 2018	9:01am	Tuesday, 16 January 2018	9:00am	0	0
Tuesday, 16 January 2018	9:01am	Wednesday, 17 January 2018	9:00am	0	0
Wednesday, 17 January 2018	9:01am	Thursday, 18 January 2018	9:00am	0	0
Thursday, 18 January 2018	9:01am	Friday, 19 January 2018	9:00am	0	0
Friday, 19 January 2018	9:01am	Saturday, 20 January 2018	9:00am	0	0
Saturday, 20 January 2018	9:01am	Sunday, 21 January 2018	9:00am	0.2	0.2
Sunday, 21 January 2018	9:01am	Monday, 22 January 2018	9:00am	2.4	0.4
Monday, 22 January 2018	9:01am	Tuesday, 23 January 2018	9:00am	0	0
Tuesday, 23 January 2018	9:01am	Wednesday, 24 January 2018	9:00am	0	0
Wednesday, 24 January 2018	9:01am	Thursday, 25 January 2018	9:00am	0	0
Thursday, 25 January 2018	9:01am	Friday, 26 January 2018	9:00am	0	0
Friday, 26 January 2018	9:01am	Saturday, 27 January 2018	9:00am	0	0
Saturday, 27 January 2018	9:01am	Sunday, 28 January 2018	9:00am	0	0
Sunday, 28 January 2018	9:01am	Monday, 29 January 2018	9:00am	0	0
Monday, 29 January 2018	9:01am	Tuesday, 30 January 2018	9:00am	1.6	0.4
Tuesday, 30 January 2018	9:01am	Wednesday, 31 January 2018	9:00am	4.6	0.6
Wednesday, 31 January 2018	9:01am	Thursday, 1 February 2018	9:00am	0.2	0.2
Thursday, 1 February 2018	9:01am	Friday, 2 February 2018	9:00am	15.8	0.2
Friday, 2 February 2018	9:01am	Saturday, 3 February 2018	9:00am	19	0.4
Saturday, 3 February 2018	9:01am	Sunday, 4 February 2018	9:00am	16.4	0.4
Sunday, 4 February 2018	9:01am	Monday, 5 February 2018	9:00am	8.6	1.2
Monday, 5 February 2018	9:01am	Tuesday, 6 February 2018	9:00am	8	1.2
Tuesday, 6 February 2018	9:01am	Wednesday, 7 February 2018	9:00am	0.4	0.2
Wednesday, 7 February 2018	9:01am	Thursday, 8 February 2018	9:00am	0.2	0.2
Thursday, 8 February 2018	9:01am	Friday, 9 February 2018	9:00am	0.6	0.2
Friday, 9 February 2018	9:01am	Saturday, 10 February 2018	9:00am	0.2	0.2
Saturday, 10 February 2018	9:01am	Sunday, 11 February 2018	9:00am	0	0
Sunday, 11 February 2018	9:01am	Monday, 12 February 2018	9:00am	0.2	0.2
Monday, 12 February 2018	9:01am	Tuesday, 13 February 2018	9:00am	0.4	0.2
Tuesday, 13 February 2018	9:01am	Wednesday, 14 February 2018	9:00am	0	0
Wednesday, 14 February 2018	9:01am	Thursday, 15 February 2018	9:00am	0	0
Thursday, 15 February 2018	9:01am	Friday, 16 February 2018	9:00am	0	0
Friday, 16 February 2018	9:01am	Saturday, 17 February 2018	9:00am	0	0
Saturday, 17 February 2018	9:01am	Sunday, 18 February 2018	9:00am	0	0
Sunday, 18 February 2018	9:01am	Monday, 19 February 2018	9:00am	0	0
Monday, 19 February 2018	9:01am	Tuesday, 20 February 2018	9:00am	0	0
Tuesday, 20 February 2018	9:01am	Wednesday, 21 February 2018	9:00am	0	0
Wednesday, 21 February 2018	9:01am	Thursday, 22 February 2018	9:00am	5	0.6
Thursday, 22 February 2018	9:01am	Friday, 23 February 2018	9:00am	0	0
Friday, 23 February 2018	9:01am	Saturday, 24 February 2018	9:00am	10.8	0.4
Saturday, 24 February 2018	9:01am	Sunday, 25 February 2018	9:00am	23.8	1
Sunday, 25 February 2018	9:01am	Monday, 26 February 2018	9:00am	26.6	1.4
Monday, 26 February 2018	9:01am	Tuesday, 27 February 2018	9:00am	0.2	0.2
Tuesday, 27 February 2018	9:01am	Wednesday, 28 February 2018	9:00am	12.8	0.4
Wednesday, 28 February 2018	9:01am	Thursday, 1 March 2018	9:00am	0	0
Thursday, 1 March 2018	9:01am	Friday, 2 March 2018	9:00am	0	0
Friday, 2 March 2018	9:01am	Saturday, 3 March 2018	9:00am	0	0
Saturday, 3 March 2018	9:01am	Sunday, 4 March 2018	9:00am	0.6	0.2
Sunday, 4 March 2018	9:01am	Monday, 5 March 2018	9:00am	0.2	0.2
Monday, 5 March 2018	9:01am	Tuesday, 6 March 2018	9:00am	0	0
Tuesday, 6 March 2018	9:01am	Wednesday, 7 March 2018	9:00am	36.4	0.6
Wednesday, 7 March 2018	9:01am	Thursday, 8 March 2018	9:00am	40.4	1.8
Thursday, 8 March 2018	9:01am	Friday, 9 March 2018	9:00am	0.8	0.2
Friday, 9 March 2018	9:01am	Saturday, 10 March 2018	9:00am	12	0.8
Saturday, 10 March 2018	9:01am	Sunday, 11 March 2018	9:00am	0.2	0.2
Sunday, 11 March 2018	9:01am	Monday, 12 March 2018	9:00am	2.4	0.2
Monday, 12 March 2018	9:01am	Tuesday, 13 March 2018	9:00am	3.4	0.4

Sampling Point:

Licencee
 Location
 EPL No
 Parameter/s Monitored
 Frequency & Method

Rain gauge

Cape Byron Management Pty Ltd
 Broadwater Cogeneration Power Plant
 20425
 Rainfall
 Continuous Auto Sampler



TIPPING GAUGE CONTINUOUS RAINFALL MONITORING					
Period From		Period To		Daily Rain	
Date	Time	Date	Time	Total (mm)	Max Intensity (mm/min)
Tuesday, 13 March 2018	9:01am	Wednesday, 14 March 2018	9:00am	3.4	0.4
Wednesday, 14 March 2018	9:01am	Thursday, 15 March 2018	9:00am	3.2	1
Thursday, 15 March 2018	9:01am	Friday, 16 March 2018	9:00am	0	0
Friday, 16 March 2018	9:01am	Saturday, 17 March 2018	9:00am	0	0
Saturday, 17 March 2018	9:01am	Sunday, 18 March 2018	9:00am	0.2	0.2
Sunday, 18 March 2018	9:01am	Monday, 19 March 2018	9:00am	0	0
Monday, 19 March 2018	9:01am	Tuesday, 20 March 2018	9:00am	0.2	0.2
Tuesday, 20 March 2018	9:01am	Wednesday, 21 March 2018	9:00am	0	0
Wednesday, 21 March 2018	9:01am	Thursday, 22 March 2018	9:00am	0	0
Thursday, 22 March 2018	9:01am	Friday, 23 March 2018	9:00am	6.4	0.6
Friday, 23 March 2018	9:01am	Saturday, 24 March 2018	9:00am	16.6	1.6
Saturday, 24 March 2018	9:01am	Sunday, 25 March 2018	9:00am	17.4	1
Sunday, 25 March 2018	9:01am	Monday, 26 March 2018	9:00am	0.2	0.2
Monday, 26 March 2018	9:01am	Tuesday, 27 March 2018	9:00am	0.2	0.2
Tuesday, 27 March 2018	9:01am	Wednesday, 28 March 2018	9:00am	0	0
Wednesday, 28 March 2018	9:01am	Thursday, 29 March 2018	9:00am	6.2	0.4
Thursday, 29 March 2018	9:01am	Friday, 30 March 2018	9:00am	0.6	0.2
Friday, 30 March 2018	9:01am	Saturday, 31 March 2018	9:00am	3	0.6
Saturday, 31 March 2018	9:01am	Sunday, 1 April 2018	9:00am	0	0
Sunday, 1 April 2018	9:01am	Monday, 2 April 2018	9:00am	2.2	0.4
Monday, 2 April 2018	9:01am	Tuesday, 3 April 2018	9:00am	0.2	0.2
Tuesday, 3 April 2018	9:01am	Wednesday, 4 April 2018	9:00am	1.4	0.4
Wednesday, 4 April 2018	9:01am	Thursday, 5 April 2018	9:00am	0.8	0.2
Thursday, 5 April 2018	9:01am	Friday, 6 April 2018	9:00am	0.8	0.2
Friday, 6 April 2018	9:01am	Saturday, 7 April 2018	9:00am	0.8	0.2
Saturday, 7 April 2018	9:01am	Sunday, 8 April 2018	9:00am	0.2	0.2
Sunday, 8 April 2018	9:01am	Monday, 9 April 2018	9:00am	0.2	0.2
Monday, 9 April 2018	9:01am	Tuesday, 10 April 2018	9:00am	0.2	0.2
Tuesday, 10 April 2018	9:01am	Wednesday, 11 April 2018	9:00am	0	0
Wednesday, 11 April 2018	9:01am	Thursday, 12 April 2018	9:00am	0.8	0.2
Thursday, 12 April 2018	9:01am	Friday, 13 April 2018	9:00am	0.2	0.2
Friday, 13 April 2018	9:01am	Saturday, 14 April 2018	9:00am	0	0
Saturday, 14 April 2018	9:01am	Sunday, 15 April 2018	9:00am	0	0
Sunday, 15 April 2018	9:01am	Monday, 16 April 2018	9:00am	0.2	0.2
Monday, 16 April 2018	9:01am	Tuesday, 17 April 2018	9:00am	0	0
Tuesday, 17 April 2018	9:01am	Wednesday, 18 April 2018	9:00am	0	0
Wednesday, 18 April 2018	9:01am	Thursday, 19 April 2018	9:00am	9.6	0.8
Thursday, 19 April 2018	9:01am	Friday, 20 April 2018	9:00am	0	0
Friday, 20 April 2018	9:01am	Saturday, 21 April 2018	9:00am	0	0
Saturday, 21 April 2018	9:01am	Sunday, 22 April 2018	9:00am	0.8	0.2
Sunday, 22 April 2018	9:01am	Monday, 23 April 2018	9:00am	41.8	1.2
Monday, 23 April 2018	9:01am	Tuesday, 24 April 2018	9:00am	10.2	0.2
Tuesday, 24 April 2018	9:01am	Wednesday, 25 April 2018	9:00am	1.4	0.4
Wednesday, 25 April 2018	9:01am	Thursday, 26 April 2018	9:00am	31.4	0.8
Thursday, 26 April 2018	9:01am	Friday, 27 April 2018	9:00am	0.2	0.2
Friday, 27 April 2018	9:01am	Saturday, 28 April 2018	9:00am	0.2	0.2
Saturday, 28 April 2018	9:01am	Sunday, 29 April 2018	9:00am	3.6	0.4
Sunday, 29 April 2018	9:01am	Monday, 30 April 2018	9:00am	12	0.6
Monday, 30 April 2018	9:01am	Tuesday, 1 May 2018	9:00am	11.6	0.6
Tuesday, 1 May 2018	9:01am	Wednesday, 2 May 2018	9:00am	12.8	1
Wednesday, 2 May 2018	9:01am	Thursday, 3 May 2018	9:00am	0.2	0.2
Thursday, 3 May 2018	9:01am	Friday, 4 May 2018	9:00am	0	0
Friday, 4 May 2018	9:01am	Saturday, 5 May 2018	9:00am	0.2	0.2
Saturday, 5 May 2018	9:01am	Sunday, 6 May 2018	9:00am	0	0
Sunday, 6 May 2018	9:01am	Monday, 7 May 2018	9:00am	0	0
Monday, 7 May 2018	9:01am	Tuesday, 8 May 2018	9:00am	0	0
Tuesday, 8 May 2018	9:01am	Wednesday, 9 May 2018	9:00am	13.6	0.8
Wednesday, 9 May 2018	9:01am	Thursday, 10 May 2018	9:00am	14	1.2
Thursday, 10 May 2018	9:01am	Friday, 11 May 2018	9:00am	0.4	0.2
Friday, 11 May 2018	9:01am	Saturday, 12 May 2018	9:00am	0	0
Saturday, 12 May 2018	9:01am	Sunday, 13 May 2018	9:00am	0	0
Sunday, 13 May 2018	9:01am	Monday, 14 May 2018	9:00am	0	0
Monday, 14 May 2018	9:01am	Tuesday, 15 May 2018	9:00am	0	0

Sampling Point:

Licencee
 Location
 EPL No
 Parameter/s Monitored
 Frequency & Method

Rain gauge

Cape Byron Management Pty Ltd
 Broadwater Cogeneration Power Plant
 20425
 Rainfall
 Continuous Auto Sampler



TIPPING GAUGE CONTINUOUS RAINFALL MONITORING					
Period From		Period To		Daily Rain	
Date	Time	Date	Time	Total (mm)	Max Intensity (mm/min)
Tuesday, 15 May 2018	9:01am	Wednesday, 16 May 2018	9:00am	0	0
Wednesday, 16 May 2018	9:01am	Thursday, 17 May 2018	9:00am	0	0
Thursday, 17 May 2018	9:01am	Friday, 18 May 2018	9:00am	8.8	0.4
Friday, 18 May 2018	9:01am	Saturday, 19 May 2018	9:00am	0.8	0.2
Saturday, 19 May 2018	9:01am	Sunday, 20 May 2018	9:00am	0.4	0.2
Sunday, 20 May 2018	9:01am	Monday, 21 May 2018	9:00am	0	0
Monday, 21 May 2018	9:01am	Tuesday, 22 May 2018	9:00am	0.2	0.2
Tuesday, 22 May 2018	9:01am	Wednesday, 23 May 2018	9:00am	0	0
Wednesday, 23 May 2018	9:01am	Thursday, 24 May 2018	9:00am	0	0
Thursday, 24 May 2018	9:01am	Friday, 25 May 2018	9:00am	5.2	0.4
Friday, 25 May 2018	9:01am	Saturday, 26 May 2018	9:00am	0	0
Saturday, 26 May 2018	9:01am	Sunday, 27 May 2018	9:00am	16.4	1
Sunday, 27 May 2018	9:01am	Monday, 28 May 2018	9:00am	0.8	0.2
Monday, 28 May 2018	9:01am	Tuesday, 29 May 2018	9:00am	6	0.4
Tuesday, 29 May 2018	9:01am	Wednesday, 30 May 2018	9:00am	1.8	0.2
Wednesday, 30 May 2018	9:01am	Thursday, 31 May 2018	9:00am	0.2	0.2
Thursday, 31 May 2018	9:01am	Friday, 1 June 2018	9:00am	0	0
Friday, 1 June 2018	9:01am	Saturday, 2 June 2018	9:00am	0	0
Saturday, 2 June 2018	9:01am	Sunday, 3 June 2018	9:00am	0	0
Sunday, 3 June 2018	9:01am	Monday, 4 June 2018	9:00am	0	0
Monday, 4 June 2018	9:01am	Tuesday, 5 June 2018	9:00am	1.6	0.2
Tuesday, 5 June 2018	9:01am	Wednesday, 6 June 2018	9:00am	4.4	0.4
Wednesday, 6 June 2018	9:01am	Thursday, 7 June 2018	9:00am	2.6	0.4
Thursday, 7 June 2018	9:01am	Friday, 8 June 2018	9:00am	33.4	1.2
Friday, 8 June 2018	9:01am	Saturday, 9 June 2018	9:00am	1	0.2
Saturday, 9 June 2018	9:01am	Sunday, 10 June 2018	9:00am	0.2	0.2
Sunday, 10 June 2018	9:01am	Monday, 11 June 2018	9:00am	17.6	1.2
Monday, 11 June 2018	9:01am	Tuesday, 12 June 2018	9:00am	0	0
Tuesday, 12 June 2018	9:01am	Wednesday, 13 June 2018	9:00am	0.2	0.2
Wednesday, 13 June 2018	9:01am	Thursday, 14 June 2018	9:00am	0.2	0.2
Thursday, 14 June 2018	9:01am	Friday, 15 June 2018	9:00am	0	0
Friday, 15 June 2018	9:01am	Saturday, 16 June 2018	9:00am	0	0
Saturday, 16 June 2018	9:01am	Sunday, 17 June 2018	9:00am	0	0
Sunday, 17 June 2018	9:01am	Monday, 18 June 2018	9:00am	0	0
Monday, 18 June 2018	9:01am	Tuesday, 19 June 2018	9:00am	0	0
Tuesday, 19 June 2018	9:01am	Wednesday, 20 June 2018	9:00am	0	0
Wednesday, 20 June 2018	9:01am	Thursday, 21 June 2018	9:00am	0	0
Thursday, 21 June 2018	9:01am	Friday, 22 June 2018	9:00am	0	0

Licencee Cape Byron Management Pty Ltd
 Location Broadwater Cogeneration Power Plant
 EPL No 20425



CORRECTIONS LOG							
Date Sampled	Monitoring Point	Pollutant/Parameter	Original Data	Corrected Data	Date Corrected	Date Originally Published	Reason
24-Apr-17	EPA Point 8	CW outlet minimum temp	0.0	21.0	07-Jun-17	15-May-17	The DCS online monitoring system captured data points when the plant was shutdown that was incorrectly used to obtain values
24-Apr-17	EPA Point 8	CW outlet average temp	30.0	32.0	07-Jun-17	15-May-17	The DCS online monitoring system captured data points when the plant was shutdown that was incorrectly used to obtain values
5-Dec-16	EPA Point 9	CW inlet minimum temp	18.6	26.8	13-Jun-17	23-Jan-17	The DCS online monitoring system captured data points when the plant was shutdown that was incorrectly used to obtain values
5-Dec-16	EPA Point 9	CW inlet average temp	28.8	27.8	13-Jun-17	23-Jan-17	The DCS online monitoring system captured data points when the plant was shutdown that was incorrectly used to obtain values
5-Dec-16	EPA Point 9	CW inlet maximum temp	48.0	29.1	13-Jun-17	23-Jan-17	The DCS online monitoring system captured data points when the plant was shutdown that was incorrectly used to obtain values
2-Jan-17	EPA Point 9	CW inlet minimum temp	23.0	25.1	13-Jun-17	23-Jan-17	The DCS online monitoring system captured data points when the plant was shutdown that was incorrectly used to obtain values
2-Jan-17	EPA Point 9	CW inlet maximum temp	45.7	30.6	13-Jun-17	23-Jan-17	The DCS online monitoring system captured data points when the plant was shutdown that was incorrectly used to obtain values
13-Mar-17	EPA Point 9	CW inlet minimum temp	23.5	20.2	13-Jun-17	13-Apr-17	The DCS online monitoring system captured data points when the plant was shutdown that was incorrectly used to obtain values
13-Mar-17	EPA Point 9	CW inlet average temp	25.1	25.7	13-Jun-17	13-Apr-17	The DCS online monitoring system captured data points when the plant was shutdown that was incorrectly used to obtain values
13-Mar-17	EPA Point 9	CW inlet maximum temp	44.2	26.5	13-Jun-17	13-Apr-17	The DCS online monitoring system captured data points when the plant was shutdown that was incorrectly used to obtain values