



# Monthly Website Report

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<b>Site:</b>	<b>Mannering Colliery</b>
<b>Department:</b>	<b>Technical Services</b>
<b>Report Title:</b>	<b>Monthly Environmental Website Report - July 2019</b>
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<b>Distribution:</b>	<b>Delta Coal website</b>

# Monthly Website Report

Mannering Colliery Monthly Environmental Report

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# Report

## Manning Colliery Monthly Environmental Report

### Summary

Monitoring was undertaken in July 2019.

### Introduction

Great Southern Energy Pty Ltd (trading as Delta Coal) operates the Manning Colliery, an underground coal mine at the southern end of Lake Macquarie.

Manning Colliery operates under the following regulatory instruments;

- Section 66(6) of the Protection of the Environment Operations Act, 1997, to make monitoring data related to an Environment Protection Licence publically available and;
- Condition 7 & 10, schedule 5, of Development Approval 06\_0311 (as modified) to provide details of monitoring results and environmental performance.
- An Environment Protection Licence (191) issued under the Protection of the Environment Operations Act, 1997.
- A Water Access Licence 20AL217059 (WAL40461), Aquifer (450 megalitres)

This report provides environmental monitoring data from Manning Colliery for the period 1 July to 31 July 2019.

Details of the Manning Colliery EPL 191 are provided below.

Manning Colliery Information	
Premises name	Manning Colliery
Address	Ruttleys Road, Doyalson, NSW, 2262
Licensee	Great Southern Energy Pty Ltd
EPL #	191
EPL location	<a href="http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=50781&amp;SYSUID=1&amp;LICID=191">http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=50781&amp;SYSUID=1&amp;LICID=191</a>

The overall purpose of this report is to keep stakeholders informed of the environmental monitoring results at Manning Colliery and maintain a transparent and accountable reporting system.

### Scope

This report presents the results from the various environmental monitoring programs undertaken for Mannering Colliery. Results are presented for each specific month and annual data, averages and trends in data are shown to where relevant.

Where applicable, the results of the monitoring programs are compared with the relevant criteria (from the EPL or Development Consent) to determine compliance.

Monitoring results presented include;

- Water – quality
- Water – volume
- Air Quality; and
- Weather data

### Definitions

dB– decibels

dB(A) – noise level measurement units are decibels (dB). The A-weighting scale is used to approximate human perception of noise

g/m<sup>2</sup>/month – grams per square metre per month

kL– kilolitres

L<sub>Aeq</sub>–the average A-weighted noise energy (in dB) for a measurement period

mg/L – milligrams per litre

µg/L – micrograms per litre

µS/cm – microSiemens per centimetre

### References

Project Approval 06\_0311 (as modified)

Environment Protection Licence 191 (Licence version date: 1 April 2019)

Steel River Testing - Dust Deposition Report **July 2019**

Steel River Testing- Water Analysis Report **July 2019**

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## Mannering Colliery Monthly Environmental Report

### Monitoring Results

#### Water – Quality

Water Quality Results (reverted to weekly as per EPL PRP requirements)

July 2019			
<b>EPL</b>	191		
<b>Licensee</b>	LakeCoal Pty Ltd		
<b>Premises</b>	Mannering Colliery		
<b>Period</b>	01-Jul-19	to	31-Jul-19
<b>Location</b>	LDP001 (EPA ID # 1)		
<b>Date sampled</b>	Weekly		
<b>Date reported</b>	Refer report date		
<b>Monitoring requirement</b>	Weekly		
<b>pH limit</b>	6.5 - 8.5		
<b>TSS limit (mg/L)</b>	50		
<b>Oil and grease limit (mg/L)</b>	10		
<b>Exceedance (Yes/No)</b>	No		
Water Quality Results			
Date	pH	TSS	Oil and grease
Monday, 1 July 2019			
Tuesday, 2 July 2019			
Wednesday, 3 July 2019	7.8	3	<5
Thursday, 4 July 2019			
Friday, 5 July 2019			
Saturday, 6 July 2019			
Sunday, 7 July 2019			
Monday, 8 July 2019			
Tuesday, 9 July 2019	7.9	2	<5
Wednesday, 10 July 2019			
Thursday, 11 July 2019			
Friday, 12 July 2019			
Saturday, 13 July 2019			
Sunday, 14 July 2019			
Monday, 15 July 2019			
Tuesday, 16 July 2019	7.8	1	<5
Wednesday, 17 July 2019			
Thursday, 18 July 2019			
Friday, 19 July 2019			
Saturday, 20 July 2019			
Sunday, 21 July 2019			
Monday, 22 July 2019			
Tuesday, 23 July 2019			
Wednesday, 24 July 2019			
Thursday, 25 July 2019	7.7	3	<5
Friday, 26 July 2019			
Saturday, 27 July 2019			
Sunday, 28 July 2019			
Monday, 29 July 2019			
Tuesday, 30 July 2019			
Wednesday, 31 July 2019	7.8	1	<5
<b>Average</b>	7.8	2.0	<5
<b>Minimum</b>	7.7	1.0	<5
<b>Maximum</b>	7.9	3.0	<5

There were no exceedances of water quality criteria during the month.

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## Mannering Colliery Monthly Environmental Report

### Water – Quality

#### Analytical Results

Sub-Matrix: <b>WATER</b> (Matrix: <b>WATER</b> )		Client sample ID		<b>LDP001</b>
		Client sampling date / time		19-Jun-2019 12:45
Compound	CAS Number	LOR	Unit	ES1918859-001 Result
<b>EA010P: Conductivity by PC Titrator</b>				
Electrical Conductivity @ 25°C	----	1	µS/cm	<b>18900</b>
<b>ED040F: Dissolved Major Anions</b>				
Sulfur as S	63705-05-5	1	mg/L	<b>145</b>
Silicon as SiO <sub>2</sub>	14464-46-1	0.1	mg/L	<b>12.7</b>
<b>ED093T: Total Major Cations</b>				
Calcium	7440-70-2	1	mg/L	<b>268</b>
Magnesium	7439-95-4	1	mg/L	<b>312</b>
Potassium	7440-09-7	1	mg/L	<b>40</b>
<b>EG020F: Dissolved Metals by ICP-MS</b>				
Aluminium	7429-90-5	10	µg/L	<10
Arsenic	7440-38-2	1	µg/L	<b>1</b>
Beryllium	7440-41-7	1	µg/L	<1
Cadmium	7440-43-9	0.1	µg/L	<0.1
Cobalt	7440-48-4	1	µg/L	<1
Chromium	7440-47-3	1	µg/L	<1
Copper	7440-50-8	1	µg/L	<1
Manganese	7439-96-5	1	µg/L	<b>39</b>
Nickel	7440-02-0	1	µg/L	<b>4</b>
Lead	7439-92-1	1	µg/L	<1
Selenium	7782-49-2	10	µg/L	<10
Vanadium	7440-62-2	10	µg/L	<10
Zinc	7440-66-6	5	µg/L	<b>23</b>
Molybdenum	7439-98-7	1	µg/L	<b>8</b>
Silver	7440-22-4	1	µg/L	<1
<b>EG020T: Total Metals by ICP-MS</b>				
Aluminium	7429-90-5	10	µg/L	<10
Antimony	7440-36-0	1	µg/L	<1
Arsenic	7440-38-2	1	µg/L	<1
Boron	7440-42-8	50	µg/L	<b>440</b>
Barium	7440-39-3	1	µg/L	<b>253</b>
Beryllium	7440-41-7	1	µg/L	<1
Cadmium	7440-43-9	0.1	µg/L	<0.1
Cobalt	7440-48-4	1	µg/L	<1
Chromium	7440-47-3	1	µg/L	<1
<b>EG020T: Total Metals by ICP-MS - Continued</b>				
Copper	7440-50-8	1	µg/L	<1
Nickel	7440-02-0	1	µg/L	<b>4</b>
Lead	7439-92-1	1	µg/L	<1
Selenium	7782-49-2	10	µg/L	<10
Vanadium	7440-62-2	10	µg/L	<10
Zinc	7440-66-6	5	µg/L	<b>20</b>
Lithium	7439-93-2	1	µg/L	<b>482</b>
Molybdenum	7439-98-7	1	µg/L	<b>10</b>
Silver	7440-22-4	1	µg/L	<1
Tin	7440-31-5	1	µg/L	<1
Titanium	7440-32-6	10	µg/L	<10
Iron	7439-89-6	50	µg/L	<b>90</b>
<b>EG035F: Dissolved Mercury by FIMS</b>				
Mercury	7439-97-6	0.1	µg/L	<0.1
<b>EG035T: Total Recoverable Mercury by FIMS</b>				
Mercury	7439-97-6	0.1	µg/L	<0.1
<b>EK055G: Ammonia as N by Discrete Analyser</b>				
Ammonia as N	7664-41-7	0.01	mg/L	<b>0.95</b>
<b>EK067G: Total Phosphorus as P by Discrete Analyser</b>				
Total Phosphorus as P	----	0.01	mg/L	<b>0.09</b>

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## Mannering Colliery Monthly Environmental Report

### Water – Volume

July 2019	
EPL	191
Licensee	LakeCoal Pty Ltd
Premises	Mannering Colliery
Date Sampled	Daily
Date Reported	Refer report date
Discharge volume limit	4000 kilolitres per day
Sampling Point	LDP001 (EPA ID # 1)

Day	Unit	Volume
01/07/2019	kL	854
02/07/2019	kL	144
03/07/2019	kL	479
04/07/2019	kL	1277
05/07/2019	kL	1333
06/07/2019	kL	0
07/07/2019	kL	107
08/07/2019	kL	1092
09/07/2019	kL	1594
10/07/2019	kL	569
11/07/2019	kL	1294
12/07/2019	kL	1591
13/07/2019	kL	560
14/07/2019	kL	0
15/07/2019	kL	1272
16/07/2019	kL	1570
17/07/2019	kL	946
18/07/2019	kL	1252
19/07/2019	kL	102
20/07/2019	kL	0
21/07/2019	kL	337
22/07/2019	kL	903
23/07/2019	kL	0
24/07/2019	kL	787
25/07/2019	kL	216
26/07/2019	kL	51
27/07/2019	kL	1595
28/07/2019	kL	612
29/07/2019	kL	787
30/07/2019	kL	1105
31/07/2019	kL	1612

Average	kL	776
Minimum	kL	0
Maximum	kL	1612

There were no exceedances of the volumetric limits at the Licenced Discharge Point during the month.

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## Mannering Colliery Monthly Environmental Report

### Air Quality

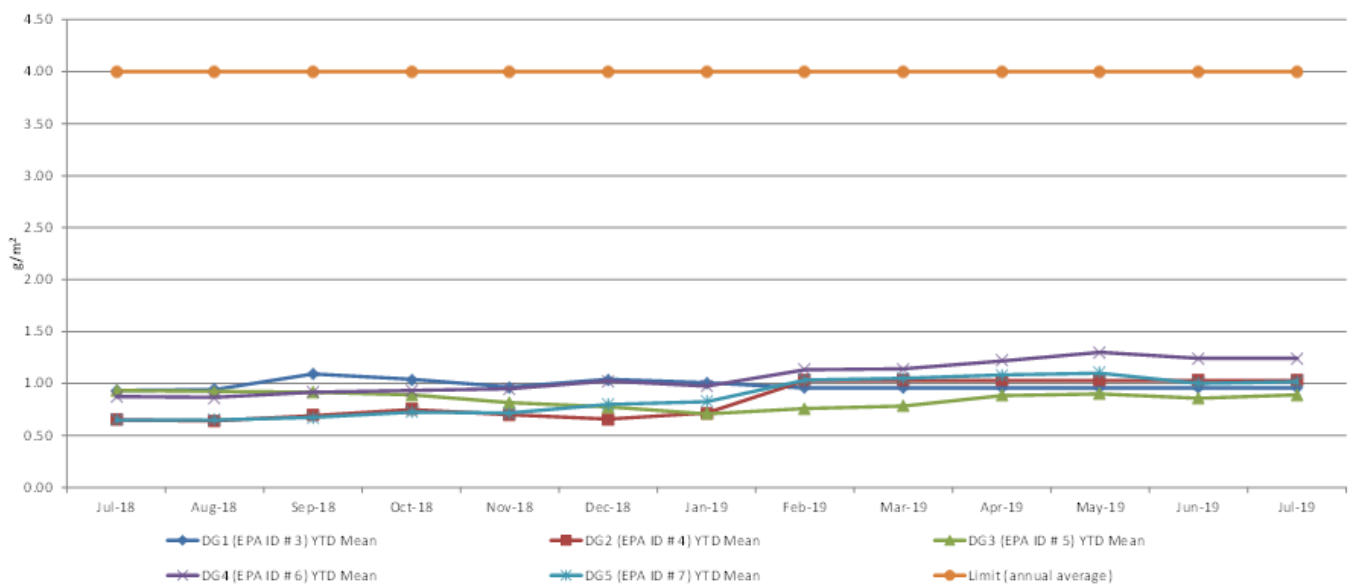
#### Monthly depositional dust results

July 2019			
EPL		191	
Limit		4g/m <sup>2</sup> /month	
Sampling Date		07/06/2019 to 08/07/2019	
Site	Insoluble Matter (g/m2/month)		
DDG001	0.6		
DDG002	0.4		
DDG003	0.3		
DDG004	0.6		
DDG005	0.4		
Notes:			

There were no exceedances of the annual average air quality limits during the reporting period.

#### Rolling annual average depositional dust results

Yearly Rolling Average Depositional Dust Data





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## Mannering Colliery Monthly Environmental Report

### Weather Data

A summary of weather data recorded by an adjacent site meteorological monitoring station at the Colliery is presented below for the year to date.

Monthly Weather Data			
2019			
EPL	191		
Licensee	LakeCoal Pty Ltd		
Premises	Mannering Colliery		
Location	W1 (on-site weather station)		
Date published	Refer report date		
Date sampled	Daily		
Date obtained			
Month	Total Rainfall/Month mm	Min Temp	Max Temp
Jan-19	60.6	18.6	39.6
Feb-19	88.6	22.7	37.4
Mar-19	204	10.1	37.1
Apr-19	73.2	8.3	32.8
May-19	11.0	3.9	26.3
Jun-19	158.8	3.9	25.0
Jul-19	47.2	4.0	23.3
Aug-19			
Sep-19			
Oct-19			
Nov-19			
Dec-19			