



Manning Colliery Monthly Website Report

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Department:	Technical Services
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Monthly Website Report

Mannering Colliery Monthly Environmental Report

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Report

Mannering Colliery Monthly Environmental Report

Summary

Environmental monitoring results are presented in this report for monitoring undertaken in December 2019.

Introduction

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

Mannering 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 (EPL) publically available;
- Condition 7 & 10, Schedule 5, of Project Approval 06_0311 (as modified) to provide details of monitoring results and environmental performance;
- An Environment Protection Licence (EPL 191) issued under the *Protection of the Environment Operations Act 1997*; and
- A Water Access Licence (WAL40461), Aquifer Aquifer (Sydney Basin – North Coast Groundwater Source) for 450 unit shares (megalitres).

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

Details of the Mannering Colliery EPL 191 are provided below.

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

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

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Scope

This report presents the results from the various environmental monitoring programs undertaken for Manning Colliery. Results are presented monthly with annual data, averages and trends in data also shown where relevant.

Where applicable, the results of the monitoring programs are compared with the relevant criteria (from the EPL or Project Approval) to assess 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/m²/month – grams per square metre per month;

kL – kilolitre;

L_{Aeq} – the average A-weighted noise energy (in dB) for a measurement period;

ML – megalitre;

mg/L – milligrams per litre;

TSS – total suspended solids;

µg/L – micrograms per litre; and

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 **December 2019**

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

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Monitoring Results

Water – Quality

Weekly water quality results are presented below. Monitoring of these parameters reverted to weekly as per EPL PRP requirements.

December 2019			
EPL	191		
Licensee	LakeCoal Pty Ltd		
Premises	Mannering Colliery		
Period	01-Dec-19	to	31-Dec-19
Location	LDP001 (EPA ID # 1)		
Date sampled	Weekly		
Date reported	Refer report date		
Monitoring requirement	Weekly		
pH limit	6.5 - 8.5		
TSS limit (mg/L)	50		
Oil and grease limit (mg/L)	10		
Exceedance (Yes/No)	No		
Water Quality Results			
Date	pH	TSS (mg/L)	Oil and grease (mg/L)
Sunday, 1 December 2019			
Monday, 2 December 2019	7.8	<1	<5
Tuesday, 3 December 2019			
Wednesday, 4 December 2019			
Thursday, 5 December 2019			
Friday, 6 December 2019			
Saturday, 7 December 2019			
Sunday, 8 December 2019			
Monday, 9 December 2019	7.7	2	<5
Tuesday, 10 December 2019			
Wednesday, 11 December 2019			
Thursday, 12 December 2019			
Friday, 13 December 2019			
Saturday, 14 December 2019			
Sunday, 15 December 2019			
Monday, 16 December 2019			
Tuesday, 17 December 2019	7.8	5	<5
Wednesday, 18 December 2019			
Thursday, 19 December 2019			
Friday, 20 December 2019			
Saturday, 21 December 2019			
Sunday, 22 December 2019			
Monday, 23 December 2019			
Tuesday, 24 December 2019	7.8	4	<5
Wednesday, 25 December 2019			
Thursday, 26 December 2019			
Friday, 27 December 2019			
Saturday, 28 December 2019			
Sunday, 29 December 2019			
Monday, 30 December 2019	7.8	5	<5
Tuesday, 31 December 2019			
Average	7.8	4.0	<5
Minimum	7.7	2.0	<5
Maximum	7.8	5.0	<5

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

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Monthly water quality results, primarily metals, are presented below for December 2019.

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID		Mannering LDP001
		Client sampling date / time		24-Dec-2019 10:50
Compound	CAS Number	LOR	Unit	ES1942682-001
				Result
EA010P: Conductivity by PC Titrator				
Electrical Conductivity @ 25°C	----	1	µS/cm	29900
ED040F: Dissolved Major Anions				
Sulfur as S	63705-05-5	1	mg/L	149
Silicon as SiO ₂	14464-46-1	0.1	mg/L	13.6
ED093F: Dissolved Major Cations				
Calcium	7440-70-2	1	mg/L	247
Magnesium	7439-95-4	1	mg/L	326
Potassium	7440-09-7	1	mg/L	42
EG020F: Dissolved Metals by ICP-MS				
Aluminium	7429-90-5	0.01	mg/L	<0.10
Antimony	7440-36-0	0.001	mg/L	<0.010
Arsenic	7440-38-2	0.001	mg/L	<0.010
Beryllium	7440-41-7	0.001	mg/L	<0.010
Barium	7440-39-3	0.001	mg/L	0.257
Cadmium	7440-43-9	0.0001	mg/L	<0.0010
Chromium	7440-47-3	0.001	mg/L	<0.010
Copper	7440-50-8	0.001	mg/L	<0.010
Cobalt	7440-48-4	0.001	mg/L	<0.010
Nickel	7440-02-0	0.001	mg/L	<0.010
Lead	7439-92-1	0.001	mg/L	<0.010
Zinc	7440-66-6	0.005	mg/L	<0.050
Lithium	7439-93-2	0.001	mg/L	0.844
Manganese	7439-96-5	0.001	mg/L	0.051
Molybdenum	7439-98-7	0.001	mg/L	<0.010
Selenium	7782-49-2	0.01	mg/L	<0.10
Silver	7440-22-4	0.001	mg/L	<0.010
Tin	7440-31-5	0.001	mg/L	<0.010
Vanadium	7440-62-2	0.01	mg/L	<0.10
Boron	7440-42-8	0.05	mg/L	0.54
Iron	7439-89-6	0.05	mg/L	<0.50
EG035F: Dissolved Mercury by FIMS				
Mercury	7439-97-6	0.0001	mg/L	<0.0001
EK055G: Ammonia as N by Discrete Analyser				
Ammonia as N	7664-41-7	0.01	mg/L	1.15
EA010P: Conductivity by PC Titrator				
Electrical Conductivity @ 25°C	----	1	µS/cm	29900
ED040F: Dissolved Major Anions				
Sulfur as S	63705-05-5	1	mg/L	149
Silicon as SiO ₂	14464-46-1	0.1	mg/L	13.6
ED093F: Dissolved Major Cations				
Calcium	7440-70-2	1	mg/L	247
Magnesium	7439-95-4	1	mg/L	326
Potassium	7440-09-7	1	mg/L	42
EG020F: Dissolved Metals by ICP-MS				
Aluminium	7429-90-5	0.01	mg/L	<0.10
Antimony	7440-36-0	0.001	mg/L	<0.010
Arsenic	7440-38-2	0.001	mg/L	<0.010
Beryllium	7440-41-7	0.001	mg/L	<0.010
Barium	7440-39-3	0.001	mg/L	0.257
Cadmium	7440-43-9	0.0001	mg/L	<0.0010
Chromium	7440-47-3	0.001	mg/L	<0.010
Copper	7440-50-8	0.001	mg/L	<0.010
Cobalt	7440-48-4	0.001	mg/L	<0.010
Nickel	7440-02-0	0.001	mg/L	<0.010
Lead	7439-92-1	0.001	mg/L	<0.010
Zinc	7440-66-6	0.005	mg/L	<0.050
Lithium	7439-93-2	0.001	mg/L	0.844
Manganese	7439-96-5	0.001	mg/L	0.051
Molybdenum	7439-98-7	0.001	mg/L	<0.010
Selenium	7782-49-2	0.01	mg/L	<0.10
Silver	7440-22-4	0.001	mg/L	<0.010
Tin	7440-31-5	0.001	mg/L	<0.010
Vanadium	7440-62-2	0.01	mg/L	<0.10
Boron	7440-42-8	0.05	mg/L	0.54
Iron	7439-89-6	0.05	mg/L	<0.50
EG035F: Dissolved Mercury by FIMS				
Mercury	7439-97-6	0.0001	mg/L	<0.0001
EK055G: Ammonia as N by Discrete Analyser				
Ammonia as N	7664-41-7	0.01	mg/L	1.15
EK067G: Total Phosphorus as P by Discrete Analyser				
Total Phosphorus as P	----	0.01	mg/L	0.30

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Water – Volume

Monthly water volumes are summarised below.

December 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
01/12/2019	kL	367
02/12/2019	kL	606
03/12/2019	kL	1479
04/12/2019	kL	736
05/12/2019	kL	922
06/12/2019	kL	753
07/12/2019	kL	15
08/12/2019	kL	0
09/12/2019	kL	938
10/12/2019	kL	606
11/12/2019	kL	1015
12/12/2019	kL	606
13/12/2019	kL	0
14/12/2019	kL	0
15/12/2019	kL	0
16/12/2019	kL	606
17/12/2019	kL	1492
18/12/2019	kL	1536
19/12/2019	kL	667
20/12/2019	kL	606
21/12/2019	kL	0
22/12/2019	kL	0
23/12/2019	kL	402
24/12/2019	kL	606
25/12/2019	kL	606
26/12/2019	kL	0
27/12/2019	kL	0
28/12/2019	kL	606
29/12/2019	kL	982
30/12/2019	kL	1334
31/12/2019	kL	1308

Average	kL	606
Minimum	kL	0
Maximum	kL	1536

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

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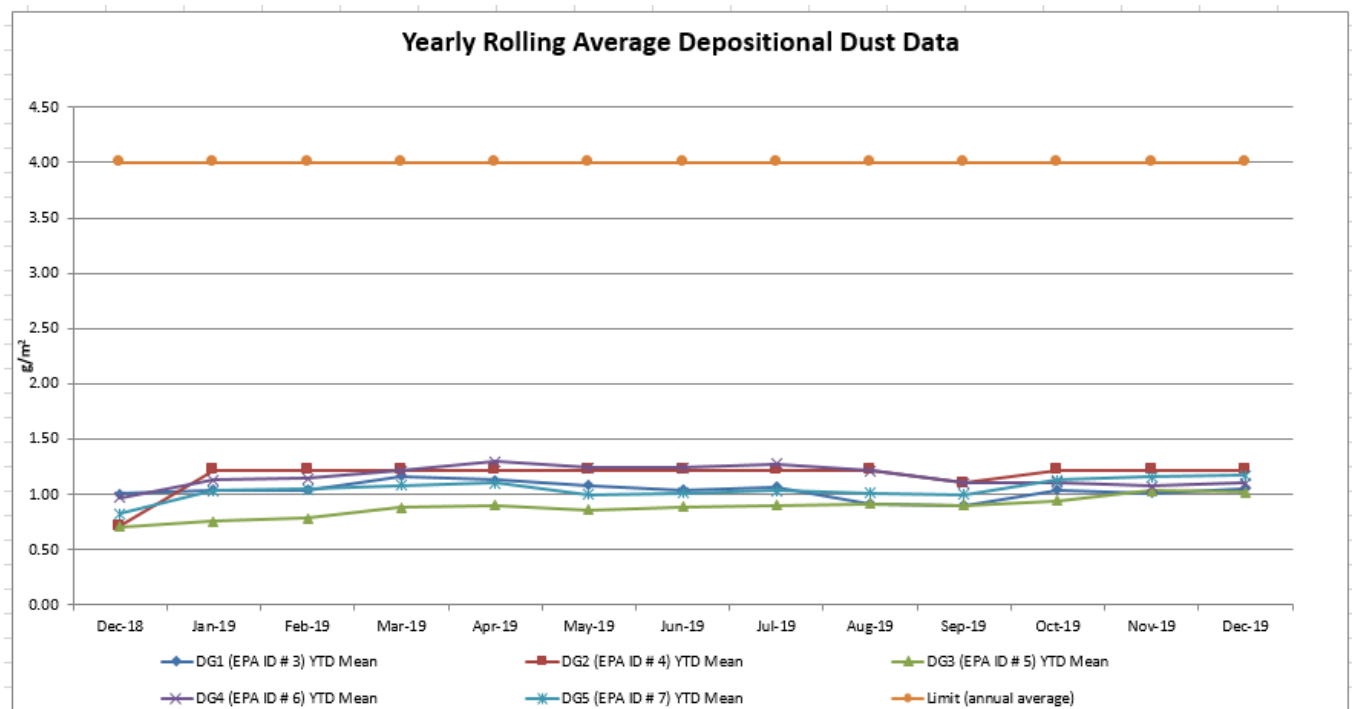
Air Quality

Monthly depositional dust results are shown below.

December 2019		
EPL	191	
Limit	4g/m ² /month	
Sampling	05/11/2019 to 05/12/2019	
Site	Insoluble Matter (g/m ² /month)	
DDG001	3.8	
DDG002	2.9	
DDG003	2.3	
DDG004	1.9	
DDG005	1.4	
Notes:		

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

Rolling annual average depositional dust results



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Weather Data

A summary of weather data recorded by the meteorological monitoring station at Mannering 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	194.0	2.0	25.4
Sep-19	92	5.5	29.6
Oct-19	57	9.1	34.9
Nov-19	25	10.5	36.7
Dec-19	1.6	13.6	41.4