



Manning Colliery Monthly Website Report

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Department:	Technical Services
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Report

Mannering Colliery Monthly Environmental Report

Summary

Environmental monitoring results are presented in this report for monitoring undertaken in November 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 30 November 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 Mannering 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 **November 2019**

Steel River Testing - Water Analysis Report **November 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.

November 2019			
EPL	191		
Licensee	Delta Coal Pty Ltd		
Premises	Mannering Colliery		
Period	01-Nov-19	to	30-Nov-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)	Yes		
Water Quality Results			
Date	pH	TSS (mg/L)	Oil and grease (mg/L)
Friday, 1 November 2019			
Saturday, 2 November 2019			
Sunday, 3 November 2019			
Monday, 4 November 2019	8.6	4	<5
Tuesday, 5 November 2019			
Wednesday, 6 November 2019			
Thursday, 7 November 2019			
Friday, 8 November 2019	8.2		
Saturday, 9 November 2019			
Sunday, 10 November 2019			
Monday, 11 November 2019			
Tuesday, 12 November 2019	7.9	2	<5
Wednesday, 13 November 2019			
Thursday, 14 November 2019			
Friday, 15 November 2019			
Saturday, 16 November 2019			
Sunday, 17 November 2019			
Monday, 18 November 2019			
Tuesday, 19 November 2019	7.8	4	<5
Wednesday, 20 November 2019			
Thursday, 21 November 2019			
Friday, 22 November 2019			
Saturday, 23 November 2019			
Sunday, 24 November 2019			
Monday, 25 November 2019			
Tuesday, 26 November 2019			
Wednesday, 27 November 2019	7.7	1	<5
Thursday, 28 November 2019			
Friday, 29 November 2019			
Saturday, 30 November 2019			
Average	8.0	2.8	<5
Minimum	7.7	1.0	<5
Maximum	8.6	4.0	<5

There was one exceedance of pH recorded on 4th November. The water quality was tested again for pH on the 8th November and was within the pH limit.

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

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID		LDP001
Client sampling date / time				19-Nov-2019 00:00
Compound	CAS Number	LOR	Unit	ES1938225-001
				Result
EA010P: Conductivity by PC Titrator				
Electrical Conductivity @ 25°C	----	1	µS/cm	26400
ED040F: Dissolved Major Anions				
Sulfur as S	63705-05-5	1	mg/L	131
Silicon as SiO2	14464-46-1	0.1	mg/L	12.6
ED093T: Total Major Cations				
Calcium	7440-70-2	1	mg/L	205
Magnesium	7439-95-4	1	mg/L	301
Potassium	7440-09-7	1	mg/L	37
EG020F: Dissolved Metals by ICP-MS				
Aluminium	7429-90-5	10	µg/L	<10
Arsenic	7440-38-2	1	µg/L	<1
Beryllium	7440-41-7	1	µg/L	<1
Cadmium	7440-43-9	0.1	µg/L	<0.1
Chromium	7440-47-3	1	µg/L	<1
Cobalt	7440-48-4	1	µg/L	<1
Copper	7440-50-8	1	µg/L	<1
Lead	7439-92-1	1	µg/L	<1
Manganese	7439-96-5	1	µg/L	37
Molybdenum	7439-98-7	1	µg/L	6
Nickel	7440-02-0	1	µg/L	3
Selenium	7782-49-2	10	µg/L	<10
Silver	7440-22-4	1	µg/L	4
Vanadium	7440-62-2	10	µg/L	<10
Zinc	7440-66-6	5	µg/L	<5
EG020T: Total Metals by ICP-MS				
Aluminium	7429-90-5	10	µg/L	10
Antimony	7440-36-0	1	µg/L	2
Arsenic	7440-38-2	1	µg/L	<1
Beryllium	7440-41-7	1	µg/L	<1
Barium	7440-39-3	1	µg/L	391
Cadmium	7440-43-9	0.1	µg/L	<0.1
Chromium	7440-47-3	1	µg/L	<1
Cobalt	7440-48-4	1	µg/L	<1
Copper	7440-50-8	1	µg/L	<1
EG020T: Total Metals by ICP-MS - Continued				
Lead	7439-92-1	1	µg/L	<1
Lithium	7439-93-2	1	µg/L	652
Molybdenum	7439-98-7	1	µg/L	9
Nickel	7440-02-0	1	µg/L	5
Selenium	7782-49-2	10	µg/L	<10
Silver	7440-22-4	1	µg/L	5
Tin	7440-31-5	1	µg/L	<1
Titanium	7440-32-6	10	µg/L	<10
Vanadium	7440-62-2	10	µg/L	<10
Zinc	7440-66-6	5	µg/L	21
Boron	7440-42-8	50	µg/L	410
Iron	7439-89-6	50	µg/L	<50
EG035F: Dissolved Mercury by FIMS				
Mercury	7439-97-6	0.1	µg/L	<0.1
EG035T: Total Recoverable Mercury by FIMS				
Mercury	7439-97-6	0.1	µg/L	<0.1
EK055G: Ammonia as N by Discrete Analyser				
Ammonia as N	7664-41-7	0.01	mg/L	0.94
EK067G: Total Phosphorus as P by Discrete Analyser				
Total Phosphorus as P	----	0.01	mg/L	<0.05

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Water – Volume

Monthly water volumes are summarised below.

November 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
01/11/2019	kL	1
02/11/2019	kL	0
03/11/2019	kL	11
04/11/2019	kL	857
05/11/2019	kL	1703
06/11/2019	kL	1675
07/11/2019	kL	1661
08/11/2019	kL	760
09/11/2019	kL	0
10/11/2019	kL	0
11/11/2019	kL	1332
12/11/2019	kL	1614
13/11/2019	kL	1142
14/11/2019	kL	1563
15/11/2019	kL	2116
16/11/2019	kL	159
17/11/2019	kL	0
18/11/2019	kL	1562
19/11/2019	kL	1648
20/11/2019	kL	1006
21/11/2019	kL	1382
22/11/2019	kL	108
23/11/2019	kL	0
24/11/2019	kL	686
25/11/2019	kL	1551
26/11/2019	kL	1531
27/11/2019	kL	590
28/11/2019	kL	1172
29/11/2019	kL	54
30/11/2019	kL	0

Average	kL	863
Minimum	kL	0
Maximum	kL	2116

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

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Air Quality

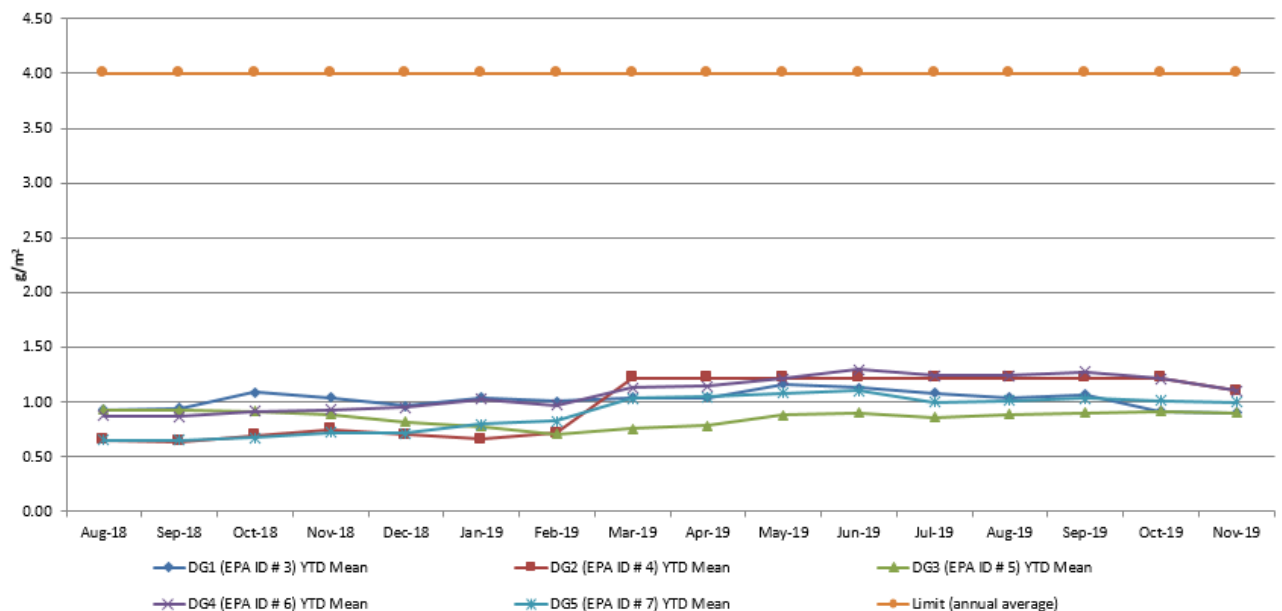
Monthly depositional dust results are shown below.

November 2019	
EPL	191
Limit	4g/m ² /month
Sampling	04/10/2019 to 05/11/2019
Site	Insoluble Matter (g/m ² /month)
DDG001	1.7
DDG002	2.1
DDG003	2.1
DDG004	1.9
DDG005	1.8
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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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			