



Manning Colliery Monthly Website Report

Site:	Manning Colliery
Department:	Technical Services
Report Title:	Monthly Environmental Website Report - March 2020
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Report Date:	7 April 2020
Distribution:	Delta Coal website

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Report

Mannering Colliery Monthly Environmental Report

Summary

Environmental monitoring results are presented in this report for monitoring undertaken during March 2020.

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 March 2020.

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 monthly 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

g/m²/month – grams per square metre per month;

kL – kilolitre;

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: 25 November 2019)

Steel River Testing - Dust Deposition Report **March 2020**

Steel River Testing - Water Analysis Report **March 2020**

ALS – Water Analysis Report **March 2020**

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Monitoring Results

Water – Quality

Weekly water quality results for discharge point LDP001 are presented below. Monitoring of these parameters have reverted to weekly as per EPL PRP requirements.

March 2020			
EPL	131		
Licensee	Great Southern Energy Pty Ltd		
Premises	Manning Colliery		
Period	01-Mar-20	to	31-Mar-20
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	Oil and grease
Sunday, 1 March 2020			
Monday, 2 March 2020			
Tuesday, 3 March 2020			
Wednesday, 4 March 2020	7.8	<1	<5
Thursday, 5 March 2020			
Friday, 6 March 2020			
Saturday, 7 March 2020			
Sunday, 8 March 2020			
Monday, 9 March 2020	7.8	2	<5
Tuesday, 10 March 2020			
Wednesday, 11 March 2020			
Thursday, 12 March 2020			
Friday, 13 March 2020			
Saturday, 14 March 2020			
Sunday, 15 March 2020			
Monday, 16 March 2020			
Tuesday, 17 March 2020	8.3	2	<5
Wednesday, 18 March 2020			
Thursday, 19 March 2020	7.8	2	<5
Friday, 20 March 2020			
Saturday, 21 March 2020			
Sunday, 22 March 2020			
Monday, 23 March 2020	7.8	6	<5
Tuesday, 24 March 2020			
Wednesday, 25 March 2020			
Thursday, 26 March 2020			
Friday, 27 March 2020			
Saturday, 28 March 2020			
Sunday, 29 March 2020			
Monday, 30 March 2020	7.7	9	<5
Tuesday, 31 March 2020			
Average	7.9	4.2	<5
Minimum	7.7	2.0	<5
Maximum	8.3	9.0	<5

The water quality criteria during the reporting period were below the relevant limits.

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Monthly water quality results, primarily metals, at LDP001 are presented below for March 2020.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID		LDP001
		Client sampling date / time		20-Mar-2020 13:00
Compound	CAS Number	LOR	Unit	ES2009884-001
				Result
EA010P: Conductivity by PC Titrator				
Electrical Conductivity @ 25°C	---	1	µS/cm	30100
ED040F: Dissolved Major Anions				
Sulfur as S	63705-05-5	1	mg/L	182
Silicon as SiO ₂	14464-46-1	0.1	mg/L	14.9
ED093T: Total Major Cations				
Calcium	7440-70-2	1	mg/L	231
Magnesium	7439-95-4	1	mg/L	312
Potassium	7440-09-7	1	mg/L	40
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	34
Molybdenum	7439-98-7	1	µg/L	6
Nickel	7440-02-0	1	µg/L	4
Selenium	7782-49-2	10	µg/L	<10
Silver	7440-22-4	1	µg/L	2
Vanadium	7440-62-2	10	µg/L	<10
Zinc	7440-66-6	5	µg/L	6
EG020T: Total Metals by ICP-MS				
Aluminium	7429-90-5	10	µg/L	<10
Antimony	7440-36-0	1	µg/L	<1
Arsenic	7440-38-2	1	µg/L	1
Beryllium	7440-41-7	1	µg/L	<1
Barium	7440-39-3	1	µg/L	226
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
EG020T: Total Metals by ICP-MS - Continued				
Lead	7439-92-1	1	µg/L	<1
Lithium	7439-93-2	1	µg/L	633
Molybdenum	7439-98-7	1	µg/L	7
Nickel	7440-02-0	1	µg/L	4
Selenium	7782-49-2	10	µg/L	<10
Silver	7440-22-4	1	µg/L	<1
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	<5
Boron	7440-42-8	50	µg/L	380
Iron	7439-89-6	50	µg/L	60
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	1.04
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 at Mannering Colliery are summarised below.

March 2020		
EPL	191	
Licensee	Great Southern Energy 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
01/03/2020	kL	9
02/03/2020	kL	1381
03/03/2020	kL	1510
04/03/2020	kL	921
05/03/2020	kL	1065
06/03/2020	kL	1251
07/03/2020	kL	0
08/03/2020	kL	465
09/03/2020	kL	2032
10/03/2020	kL	1084
11/03/2020	kL	166
12/03/2020	kL	727
13/03/2020	kL	675
14/03/2020	kL	0
15/03/2020	kL	420
16/03/2020	kL	783
17/03/2020	kL	1056
18/03/2020	kL	26
19/03/2020	kL	469
20/03/2020	kL	540
21/03/2020	kL	131
22/03/2020	kL	146
23/03/2020	kL	998
24/03/2020	kL	1240
25/03/2020	kL	840
26/03/2020	kL	982
27/03/2020	kL	366
28/03/2020	kL	323
29/03/2020	kL	762
30/03/2020	kL	1642
31/03/2020	kL	1408

Average	kL	755
Minimum	kL	0
Maximum	kL	2032

The daily water volumes at LDP001 during March 2020 were below the relevant limits.

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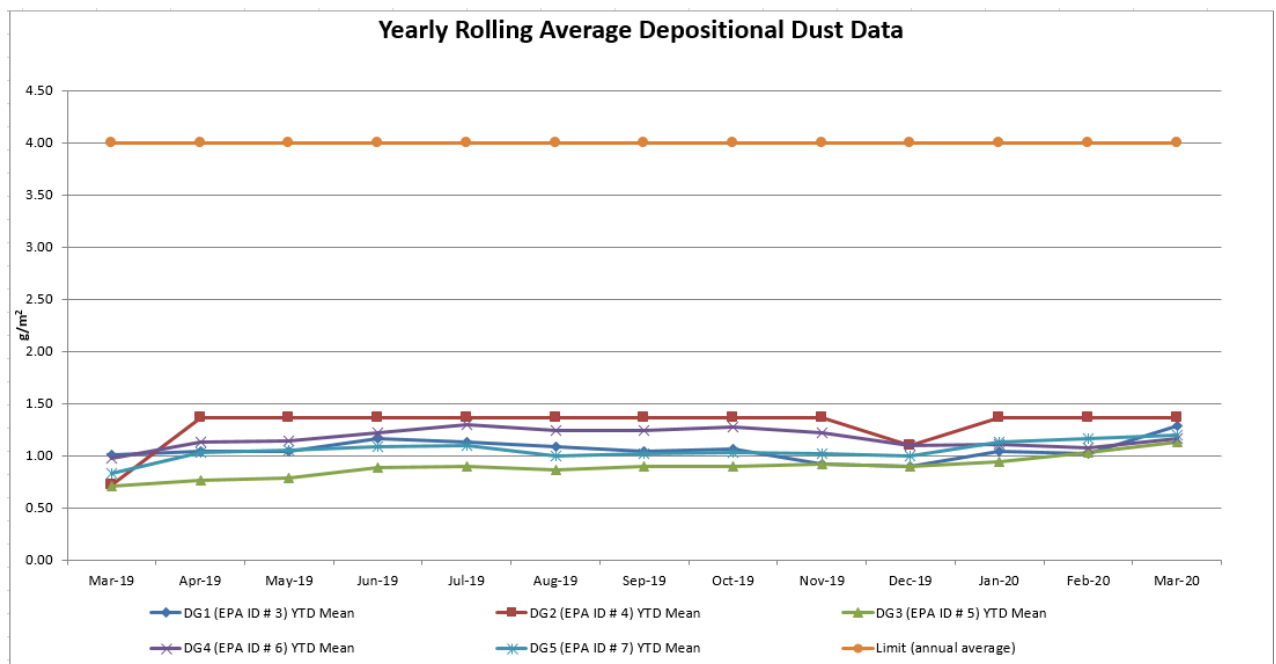
Air Quality

Monthly depositional dust results are shown below.

March 2020			
EPL		191	
Limit		Max. total deposited dust level	4g/m ² /month
		Max. increase in deposited dust level	2g/m ² /month
Sampling Date		06/02/2020 to	09/03/2020
EPA ID no.	Site	Insoluble Matter (g/m2/month)	
3	DDG001	0.9	
4	DDG002	0.6	
5	DDG003	1.3	
6	DDG004	0.8	
7	DDG005	1.2	
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 (EPA ID no. 8) monitoring station at Mannering Colliery is presented below for the year to date.

Monthly Weather Data			
Licensee	Great Southern Energy Pty Ltd		
Location	Mannering Colliery Meteorological station		
Date published	Refer report date		
Date sampled	Daily		
Date obtained	06/03/2020		
Month	Total Rainfall/Month mm	Min Temp	Max Temp
Jan-20	28	18	44
Feb-20	350	16	37
Mar-20	159	12	38
Apr-20			
May-20			
Jun-20			
Jul-20			
Aug-20			
Sep-20			
Oct-20			
Nov-20			
Dec-20			