



Mannering Colliery Monthly Website Report

Site:	Mannering Colliery
Department:	Technical Services
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Manning Colliery Monthly Environmental Report

Summary

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

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 (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 Manning Colliery for the period 1st to 31st May 2020.

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	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 Manning 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

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 **May 2020**

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

ALS – Water Analysis Report **May 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.

May 2020			
EPL	191		
Licensee	Great Southern Energy Pty Ltd		
Premises	Manningering Colliery		
Period	01-May-20	to	31-May-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 (mg/L)	Oil and grease (mg/L)
Friday, 1 May 2020			
Saturday, 2 May 2020			
Sunday, 3 May 2020			
Monday, 4 May 2020			
Tuesday, 5 May 2020			
Wednesday, 6 May 2020	8.5	3	
Thursday, 7 May 2020			<5
Friday, 8 May 2020			
Saturday, 9 May 2020			
Sunday, 10 May 2020			
Monday, 11 May 2020			
Tuesday, 12 May 2020	7.8	5	<5
Wednesday, 13 May 2020			
Thursday, 14 May 2020			
Friday, 15 May 2020			
Saturday, 16 May 2020			
Sunday, 17 May 2020			
Monday, 18 May 2020			
Tuesday, 19 May 2020	7.8	6	<5
Wednesday, 20 May 2020			
Thursday, 21 May 2020			
Friday, 22 May 2020			
Saturday, 23 May 2020			
Sunday, 24 May 2020			
Monday, 25 May 2020			
Tuesday, 26 May 2020	7.8	3	<5
Wednesday, 27 May 2020			
Thursday, 28 May 2020			
Friday, 29 May 2020			
Saturday, 30 May 2020			
Sunday, 31 May 2020			
Average	8.0	4.3	<5
Minimum	7.8	3.0	<5
Maximum	8.5	6.0	<5

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

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

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID			LDP001
Client sampling date / time				19-May-2020 11:35	
Compound	CAS Number	LOR	Unit	ES2017078-001	
					Result
EA010P: Conductivity by PC Titrator					
Electrical Conductivity @ 25°C	—	1	µS/cm	23100	
ED040F: Dissolved Major Anions					
Sulfur as S	63705-05-5	1	mg/L	100	
Silicon as SiO2	14464-46-1	0.1	mg/L	11.5	
Silicon	7440-21-3	0.05	mg/L	5.35	
ED093T: Total Major Cations					
Calcium	7440-70-2	1	mg/L	177	
Magnesium	7439-95-4	1	mg/L	251	
Potassium	7440-09-7	1	mg/L	33	
EG020F: Dissolved Metals by ICP-MS					
Aluminium	7429-90-5	10	µg/L	<10	
Arsenic	7440-38-2	1	µg/L	2	
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	32	
Molybdenum	7439-98-7	1	µg/L	6	
Nickel	7440-02-0	1	µg/L	5	
Selenium	7782-49-2	10	µg/L	10	
Silver	7440-22-4	1	µg/L	9	
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	50	
Antimony	7440-36-0	1	µg/L	4	
Arsenic	7440-38-2	1	µg/L	2	
Beryllium	7440-41-7	1	µg/L	<1	
Barium	7440-39-3	1	µg/L	304	
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					
Copper	7440-50-8	1	µg/L	<1	
Lead	7439-92-1	1	µg/L	<1	
Lithium	7439-93-2	1	µg/L	677	
Molybdenum	7439-98-7	1	µg/L	8	
Nickel	7440-02-0	1	µg/L	3	
Selenium	7782-49-2	10	µg/L	<10	
Silver	7440-22-4	1	µg/L	7	
Tin	7440-31-5	1	µg/L	3	
Titanium	7440-32-6	10	µg/L	<10	
Vanadium	7440-62-2	10	µg/L	<10	
Zinc	7440-66-6	5	µg/L	6	
Boron	7440-42-8	50	µg/L	340	
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	0.87	
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.

May 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
01/05/2020	kL	470
02/05/2020	kL	0
03/05/2020	kL	1193
04/05/2020	kL	1488
05/05/2020	kL	1169
06/05/2020	kL	1496
07/05/2020	kL	1260
08/05/2020	kL	434
09/05/2020	kL	0
10/05/2020	kL	1024
11/05/2020	kL	1495
12/05/2020	kL	1240
13/05/2020	kL	702
14/05/2020	kL	414
15/05/2020	kL	979
16/05/2020	kL	203
17/05/2020	kL	0
18/05/2020	kL	1553
19/05/2020	kL	2089
20/05/2020	kL	608
21/05/2020	kL	945
22/05/2020	kL	400
23/05/2020	kL	0
24/05/2020	kL	711
25/05/2020	kL	1449
26/05/2020	kL	1135
27/05/2020	kL	1252
28/05/2020	kL	284
29/05/2020	kL	0
30/05/2020	kL	0
31/05/2020	kl	1255

Average	kL	814
Minimum	kL	0
Maximum	kL	2089

The daily water volumes at LDP001 during May 2020 were below the relevant limit.

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Water – Groundwater Discharge

Groundwater discharged from underground workings to the MC Pollution Control Dams within the surface operational area has been detailed below. Manning Colliery operates Water Access License permitting the extraction of 450 megalitres per financial year.

MC Groundwater Pumped to Surface Totals FY2019-2020		
Date (month)	Discharge (ML)	Discharge (ML YTD)
Jul-19	22.2	22.2
Aug-19	24.9	47.1
Sep-19	24.1	71.2
Oct-19	24.5	95.8
Nov-19	25.5	121.2
Dec-19	19.3	140.5
Jan-20	24.3	164.8
Feb-20	25.9	190.7
Mar-20	19.7	210.5
Apr-20	23.2	233.6
May-20	22.9	256.5
Jun-20		

Air Quality

Monthly depositional dust results are shown below.

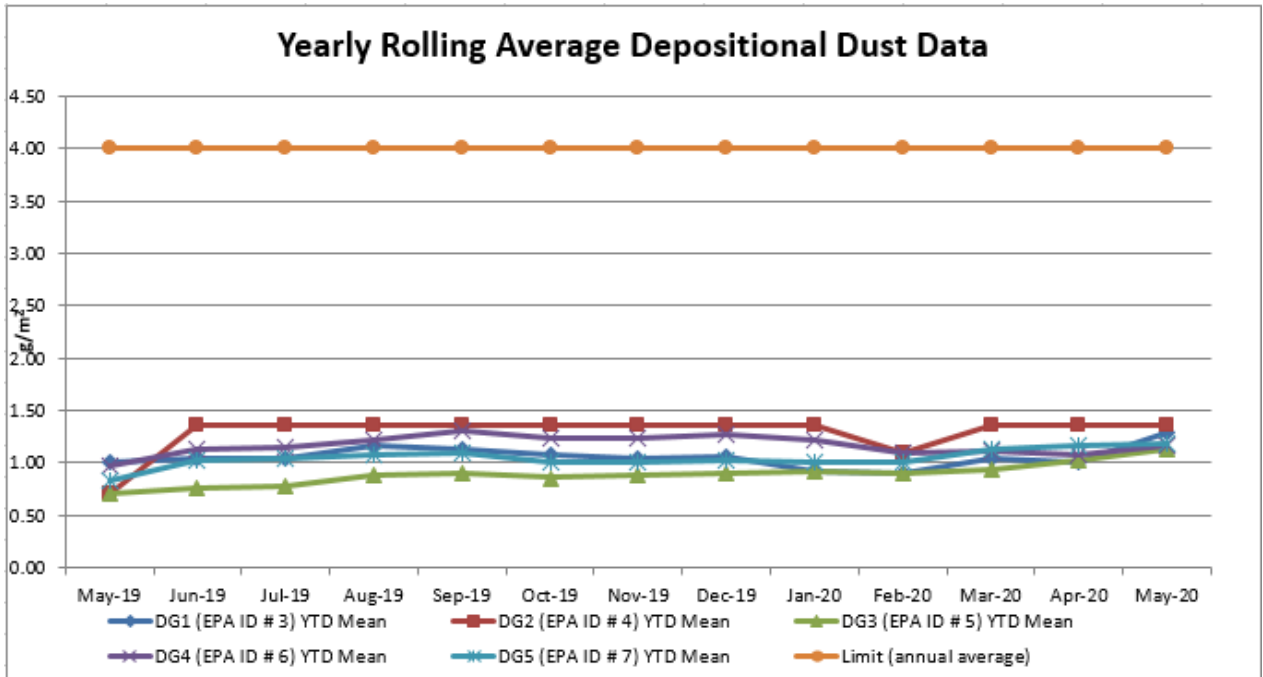
May 2020			
EPL Limit		191	
		Max. total deposited dust level	4g/m ² /month
		Max. increase in deposited dust level	2g/m ² /month
Sampling Date		09/04/2020	to 08/05/2020
EPA ID no.	Site	Insoluble Matter (g/m ² /month)	
3	DDG001	0.8	
4	DDG002	0.7	
5	DDG003	0.6	
6	DDG004	1.1	
7	DDG005	0.8	
Notes: N/A			

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

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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 Manning Colliery is presented below for the year to date.

Monthly Weather Data			
Licensee	Great Southern Energy Pty Ltd		
Location	Manning Colliery Meteorological station		
Date published	Refer report date		
Date sampled	Daily		
Date obtained	01/06/2020		
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	46	9	28
May-20	88	5	27

A summary of valid data for Manning weather station is presented below for the year to date.

Variable	May	Total	Valid
A/C Temp	100%	8928	8927
A1	100%	8928	8927
A1_Scaled	100%	8928	8927
Bypass Flow	100%	8928	8927
Cap Temp	100%	8928	8927
Case Temp	100%	8928	8927
Config	100%	8928	8927
Dew Point	100%	8928	8927
Dig-In	100%	8928	8927
Dig-Latch	100%	8928	8927
ESN	100%	8928	8927
Filter Freq	100%	8928	8927
Filter Load	100%	8928	8927
Humidity	100%	8928	8927
MC	100%	8928	8927
MC 12Hr	100%	8928	8927
MC 1Hr	100%	8928	8927
MC 24Hr	100%	8928	8927
MC 30min	100%	8928	8927
MC 8Hr	100%	8928	8927
MC Total	100%	8928	8927
Mobile Signal	100%	8928	8927
Noise	100%	8928	8927
PM10 Flow	100%	8928	8927
Pressure	100%	8928	8927
Site	0.0%	8928	0
Temperature	100%	8928	8927
Tube Temp	100%	8928	8927
Vac Pressure	100%	8928	8927
Volts	100%	8928	8927