



# Mannering Colliery 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 Report – June 2020</b>
<b>Prepared by:</b>	<b>Lachlan McWha</b>
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# Report

## Manning Colliery Monthly Environmental Report

### Summary

Environmental monitoring results are presented in this report for monitoring undertaken during June 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 (Sydney Basin – North Coast Groundwater Source) for 450 unit shares (megalitres).

This report provides environmental monitoring data from Manning Colliery for the period 1<sup>st</sup> to 30<sup>th</sup> June 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	<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 monthly report is to keep stakeholders informed of the environmental monitoring results at Manning Colliery and maintain a transparent and accountable reporting system.

# Report

## Manning Colliery Monthly Environmental Report

### 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/m<sup>2</sup>/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 **June 2020**

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

ALS – Water Analysis Report **June 2020**

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## Manningering Colliery Monthly Environmental Report

### 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.

June 2020			
EPL	191		
Licensee	Great Southern Energy Pty Ltd		
Premises	Manningering Colliery		
Period	01-Jun-2020	to	30-Jun-2020
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)
Monday, 1 June 2020			
Tuesday, 2 June 2020	8	13	<5
Wednesday, 3 June 2020			
Thursday, 4 June 2020			
Friday, 5 June 2020			
Saturday, 6 June 2020			
Sunday, 7 June 2020			
Monday, 8 June 2020			
Tuesday, 9 June 2020			
Wednesday, 10 June 2020			
Thursday, 11 June 2020	8.1	8	<5
Friday, 12 June 2020			
Saturday, 13 June 2020			
Sunday, 14 June 2020			
Monday, 15 June 2020			
Tuesday, 16 June 2020			
Wednesday, 17 June 2020			
Thursday, 18 June 2020	8	2	<5
Friday, 19 June 2020			
Saturday, 20 June 2020			
Sunday, 21 June 2020			
Monday, 22 June 2020			
Tuesday, 23 June 2020			
Wednesday, 24 June 2020			
Thursday, 25 June 2020	8	3	<5
Friday, 26 June 2020			
Saturday, 27 June 2020			
Sunday, 28 June 2020			
Monday, 29 June 2020			
Tuesday, 30 June 2020			

<b>Average</b>	8.0	6.5	<5
<b>Minimum</b>	8.0	2.0	<5
<b>Maximum</b>	8.1	13.0	<5

The water quality analytical results during the reporting period did not exceed the water quality criteria imposed at the site.

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## Manning Colliery Monthly Environmental Report

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

### Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID			LDP001
Client sampling date / time				25-Jun-2020 11:30	
Compound	CAS Number	LOR	Unit	ES2021971-001	
					Result
<b>EA010P: Conductivity by PC Titrator</b>					
Electrical Conductivity @ 25°C	----	1	µS/cm	15500	
<b>ED040F: Dissolved Major Anions</b>					
Sulfur as S	63705-05-5	1	mg/L	94	
Silicon as SiO <sub>2</sub>	14464-46-1	0.1	mg/L	9.7	
<b>ED093T: Total Major Cations</b>					
Calcium	7440-70-2	1	mg/L	148	
Magnesium	7439-95-4	1	mg/L	189	
Potassium	7440-09-7	1	mg/L	24	
<b>EG020F: Dissolved Metals by ICP-MS</b>					
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	33	
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	1	
Vanadium	7440-62-2	10	µg/L	<10	
Zinc	7440-66-6	5	µg/L	6	
<b>EG020T: Total Metals by ICP-MS</b>					
Aluminium	7429-90-5	10	µg/L	120	
Antimony	7440-36-0	1	µg/L	3	
Arsenic	7440-38-2	1	µg/L	2	
Beryllium	7440-41-7	1	µg/L	<1	
Barium	7440-39-3	1	µg/L	209	
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	
<b>EG020T: Total Metals by ICP-MS - Continued</b>					
Lead	7439-92-1	1	µg/L	<1	
Lithium	7439-93-2	1	µg/L	400	
Molybdenum	7439-98-7	1	µg/L	6	
Nickel	7440-02-0	1	µg/L	2	
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	260	
Iron	7439-89-6	50	µg/L	60	
<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	0.60	
<b>EK067G: Total Phosphorus as P by Discrete Analyser</b>					
Total Phosphorus as P	—	0.01	mg/L	<0.02	

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### Water – Volume

Monthly water volumes at Manning Colliery are summarised below.

June 2020	
EPL	191
Licensee	Great Southern Energy Pty Ltd
Premises	Manning 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
01/06/2020	kL	2265
02/06/2020	kL	1348
03/06/2020	kL	422
04/06/2020	kL	842
05/06/2020	kL	0
06/06/2020	kL	0
07/06/2020	kL	1109
08/06/2020	kL	1478
09/06/2020	kL	580
10/06/2020	kL	1330
11/06/2020	kL	563
12/06/2020	kL	0
13/06/2020	kL	397
14/06/2020	kL	1666
15/06/2020	kL	1
16/06/2020	kL	0
17/06/2020	kL	0
18/06/2020	kL	217
19/06/2020	kL	247
20/06/2020	kL	1327
21/06/2020	kL	1461
22/06/2020	kL	1810
23/06/2020	kL	1052
24/06/2020	kL	444
25/06/2020	kL	474
26/06/2020	kL	0
27/06/2020	kL	657
28/06/2020	kL	1432
29/06/2020	kL	1190
30/06/2020	kL	884

Average	kL	773
Minimum	kL	0
Maximum	kL	2265

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)	Groundwater Discharge (ML)	Groundwater 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	21.3	277.8

### Air Quality

Monthly depositional dust results are shown below.

June 2020			
<b>EPL Limit</b>		191	
		Max. total deposited dust level	4g/m <sup>2</sup> /month
		Max. increase in deposited dust level	2g/m <sup>2</sup> /month
	Sampling Date	08/05/2020	to 05/06/2020
EPA ID no.	Site	Insoluble Matter (g/m <sup>2</sup> /month)	
3	DG001	0.7	
4	DG002	0.5	
5	DG003	0.4	
6	DG004	0.9	
7	DG005	0.5	
Notes:			

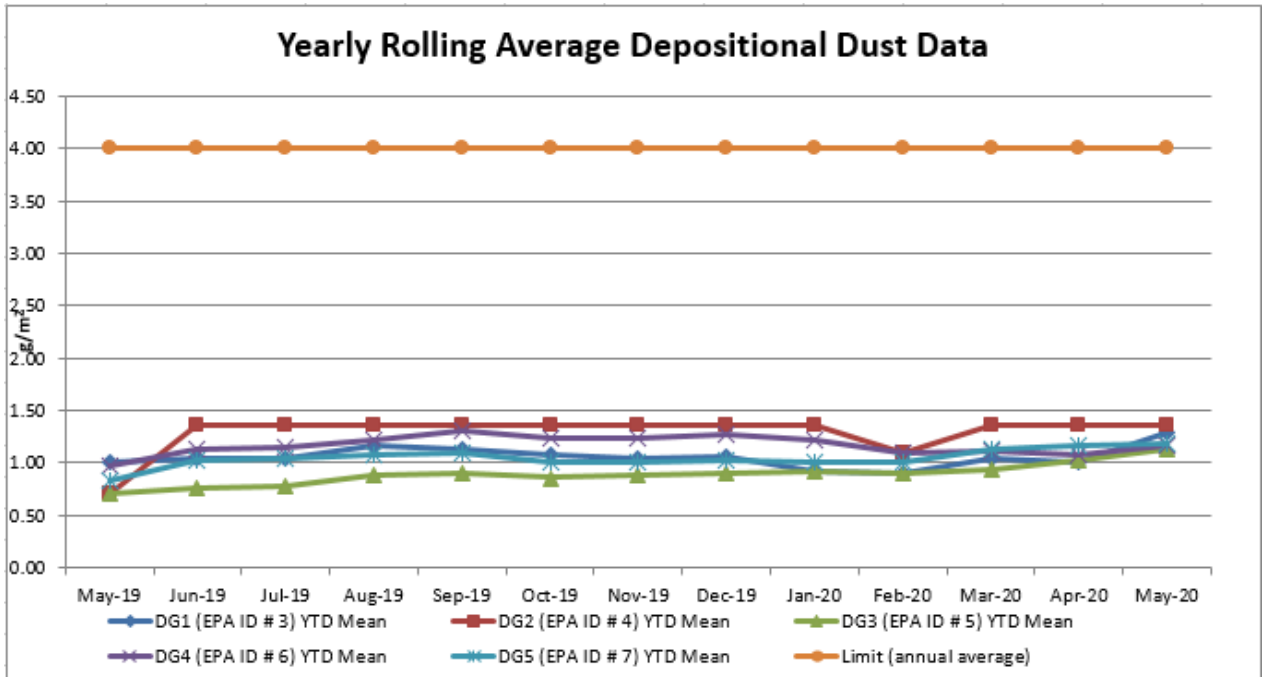
There were no exceedances of the annual average air quality limits during the reporting period.



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## Manning Colliery Monthly Environmental Report

Rolling annual average depositional dust results



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## Manning Colliery Monthly Environmental Report

### Weather Data

A summary of weather data recorded by a meteorological monitoring station at the adjacent Manning Colliery is presented below for the year to date. (EPA ID no. 26).

Monthly Weather Data			
Licensee	Great Southern Energy Pty Ltd		
Location	Manning Colliery Meteorological station		
Date published	Refer report date		
Date sampled	Daily		
Date obtained	03/07/2020		
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
Jun-20	67.6	4.5	22.7

Variable	June	Total	Valid
A/C Temp	100%	8640	8640
A1	100%	8640	8640
A1_Scaled	100%	8640	8640
Bypass Flow	100%	8640	8640
Cap Temp	100%	8640	8640
Case Temp	100%	8640	8640
Config	100%	8640	8640
Dew Point	100%	8640	8640
Dig-In	100%	8640	8640
Dig-Latch	100%	8640	8640
ESN	100%	8640	8640
Filter Freq	100%	8640	8640
Filter Load	100%	8640	8640
Humidity	100%	8640	8640
MC	100%	8640	8640
MC 12Hr	100%	8640	8640
MC 1Hr	100%	8640	8640
MC 24Hr	100%	8640	8640
MC 30min	100%	8640	8640
MC 8Hr	100%	8640	8640
MC Total	100%	8640	8640
Mobile Signal	100%	8640	8640
Noise	100%	8640	8640
PM10 Flow	100%	8640	8640
Pressure	100%	8640	8640
Site	0.0%	8640	0
Temperature	100%	8640	8640
Tube Temp	100%	8640	8640
Vac Pressure	100%	8640	8640
Volts	100%	8640	8640