



Mannering Colliery Monthly Website Report – September 2020

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Report

Manning Colliery Monthly Environmental Report

Summary

Environmental monitoring results are presented in this report for monitoring undertaken during the period of September 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) publicly available;
- Condition 10 & 13, 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 1st to 30th September 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 **September 2020**

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

ALS – Water Analysis Report **September 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.

September 2020			
EPL	191		
Licensee	Great Southern Energy Pty Ltd		
Premises	Manning Colliery		
Period	01-Sep-20	to	30-Sep-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)
Tuesday, 1 September 2020			
Wednesday, 2 September 2020			
Thursday, 3 September 2020	7.8	2	<5
Friday, 4 September 2020			
Saturday, 5 September 2020			
Sunday, 6 September 2020			
Monday, 7 September 2020	7.7	7	<5
Tuesday, 8 September 2020			
Wednesday, 9 September 2020			
Thursday, 10 September 2020			
Friday, 11 September 2020			
Saturday, 12 September 2020			
Sunday, 13 September 2020			
Monday, 14 September 2020			
Tuesday, 15 September 2020			
Wednesday, 16 September 2020			
Thursday, 17 September 2020			
Friday, 18 September 2020	8	4	<5
Saturday, 19 September 2020			
Sunday, 20 September 2020			
Monday, 21 September 2020			
Tuesday, 22 September 2020	7.7	5	<5
Wednesday, 23 September 2020			
Thursday, 24 September 2020			
Friday, 25 September 2020			
Saturday, 26 September 2020			
Sunday, 27 September 2020			
Monday, 28 September 2020			
Tuesday, 29 September 2020			
Wednesday, 30 September 2020			
Average	7.8	4.5	<5
Minimum	7.7	2.0	<5
Maximum	8.0	7.0	<5

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The water quality analytical results during the reporting period did not exceed the water quality criteria imposed at the site. Monthly water quality results, primarily metals, at LDP001 are presented below for September 2020.

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID		LDP001
Client sampling date / time			22-Sep-2020 12:40	
Compound	CAS Number	LOR	Unit	ES2033379-001
				Result
EA010P: Conductivity by PC Titrator				
Electrical Conductivity @ 25°C	---	1	µS/cm	26200
ED040F: Dissolved Major Anions				
Sulfur as S	63705-05-5	1	mg/L	167
Silicon as SiO2	14464-46-1	0.1	mg/L	13.4
ED093T: Total Major Cations				
Calcium	7440-70-2	1	mg/L	284
Magnesium	7439-95-4	1	mg/L	286
Potassium	7440-09-7	1	mg/L	38
EG020F: Dissolved Metals by ICP-MS				
Aluminium	7429-90-5	10	µg/L	<10
Arsenic	7440-38-2	1	µg/L	3
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	53
Molybdenum	7439-98-7	1	µg/L	5
Nickel	7440-02-0	1	µg/L	6
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	50
Antimony	7440-36-0	1	µg/L	1
Arsenic	7440-38-2	1	µg/L	3
Beryllium	7440-41-7	1	µg/L	<1
Barium	7440-39-3	1	µg/L	288
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	635
Molybdenum	7439-98-7	1	µg/L	5
Nickel	7440-02-0	1	µg/L	4
Selenium	7782-49-2	10	µg/L	<10
Silver	7440-22-4	1	µg/L	2
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	140
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	1.08
EK067G: Total Phosphorus as P by Discrete Analyser				
Total Phosphorus as P	---	0.01	mg/L	0.02

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Water – Volume

Monthly water volumes at Mannering Colliery are summarised below.

September 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
01/09/2020	kL	768
02/09/2020	kL	297
03/09/2020	kL	277
04/09/2020	kL	0
05/09/2020	kL	811
06/09/2020	kL	1436
07/09/2020	kL	706
08/09/2020	kL	1168
09/09/2020	kL	257
10/09/2020	kL	1176
11/09/2020	kL	515
12/09/2020	kL	0
13/09/2020	kL	1468
14/09/2020	kL	1344
15/09/2020	kL	935
16/09/2020	kL	934
17/09/2020	kL	729
18/09/2020	kL	5
19/09/2020	kL	167
20/09/2020	kL	1537
21/09/2020	kL	569
22/09/2020	kL	1180
23/09/2020	kL	576
24/09/2020	kL	29
25/09/2020	kL	1
26/09/2020	kL	0
27/09/2020	kL	0
28/09/2020	kL	0
29/09/2020	kL	0
30/09/2020	kL	541

Average	kL	581
Minimum	kL	0
Maximum	kL	1537

The daily water volumes at LDP001 during September 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. Delta Coal notes that MC does not have calibrated volume sensors on underground piping, as such, discharge from LDP001 is utilised to estimate groundwater extraction. 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 (Total ML Water Year to Date)
July 2020	26.83	26.83
August 2020	29.04	55.87
September 2020	17.09	72.96
October 2020		
November 2020		
December 2020		
January 2021		
February 2021		
March 2021		
April 2021		
May 2021		
June 2021		

Air Quality

Monthly depositional dust results are shown below.

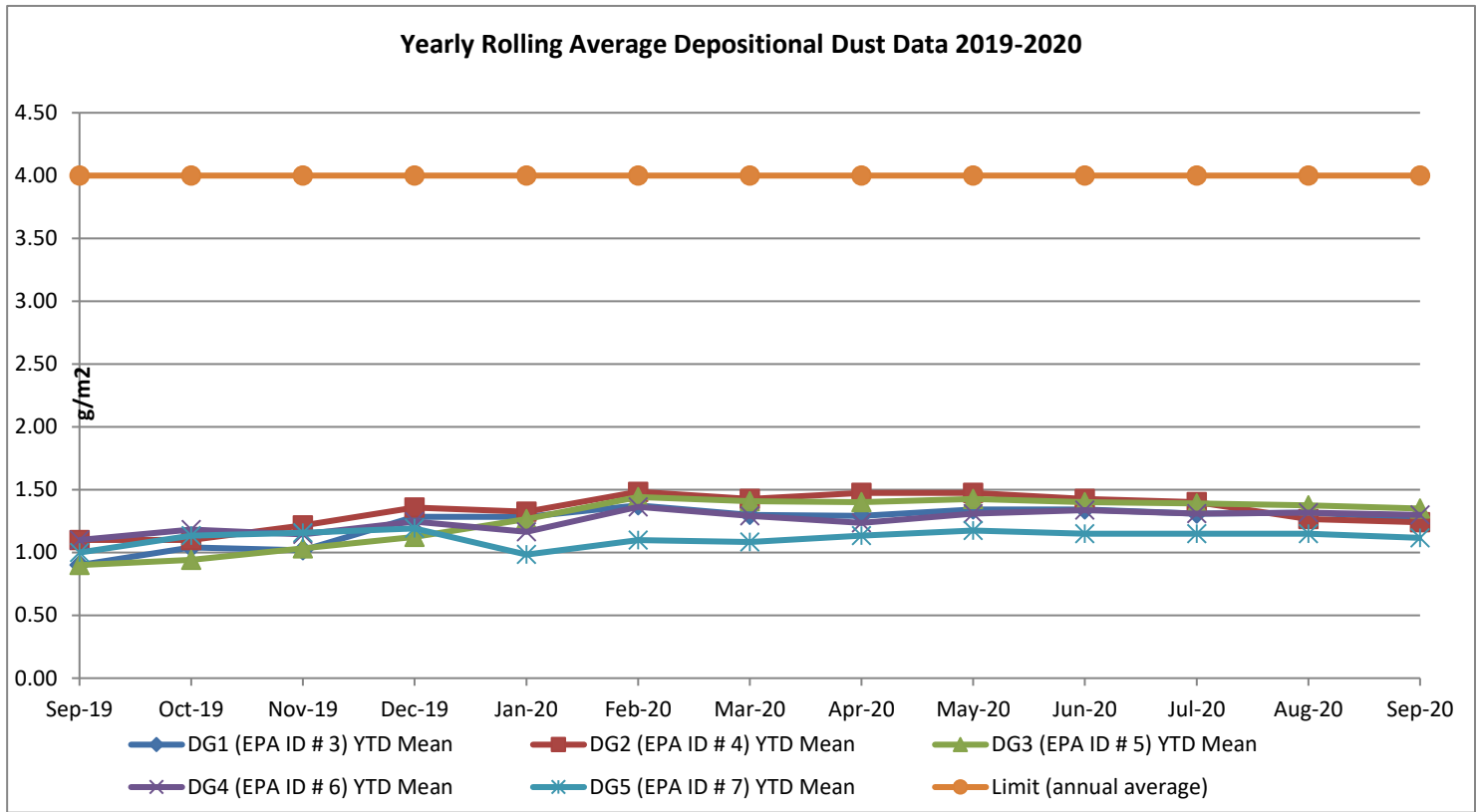
September 2020			
EPL Limit		191	
		Max. total deposited dust level	4g/m ² /month
		Max. increase in deposited dust level	2g/m ² /month
	Sampling Date	07/08/2020	to 07/09/2020
EPA ID no.	Site	Insoluble Matter (g/m ² /month)	
3	DG1	0.6	
4	DG2	0.8	
5	DG3	0.7	
6	DG4	1.1	
7	DG5	0.4	
Notes:			

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 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	08/10/2020		
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
Jul-20	232.8	3.7	23.3
Aug-20	55.2	2.1	25.2
Sep-20	29.2	5.3	30.2

Variable	September	Total	Valid
10m Temp	100%	8640	8637
2m Temp	100%	8640	8637
A1	100%	8640	8637
A1_Scaled	100%	8640	8637
Assumed Temp	100%	8640	8637
Barometric	100%	8640	8637
Config	100%	8640	8637
Daily Evap	100%	8640	8637
Daily Rain	100%	8640	8637
Delta T	100%	8640	8637
Dew Point	100%	8640	8637
Dig-In	100%	8640	8637
Dig-Latch	100%	8640	8637
ESN	100%	8640	8637
FDI	100%	8640	8637
Heat Index	100%	8640	8637
Humidity	100%	8640	8637
Mobile Signal	100%	8640	8637
Rain	100%	8640	8637
Raw Evap	100%	8640	8637
S Class	100%	8640	8637
Scalar WS	100%	8640	8637
Sigma	100%	8640	8637
Site	0.0%	8640	0
Solar Radiation	100%	8640	8637
Vector WD	100%	8640	8637
Vector WS	100%	8640	8637
Volts	100%	8640	8637
Wind Chill	100%	8640	8637
Wind Direction	100%	8640	8637
Wind Speed	100%	8640	8637
WS Avg	100%	8640	8637
WS Gust	100%	8640	8637