



Mannering Colliery Monthly Website Report - August

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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 the period of August 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 31st August 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.

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 **August 2020**

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

ALS – Water Analysis Report **August 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.

August 2020			
EPL	191		
Licensee	Great Southern Energy Pty Ltd		
Premises	Manningering Colliery		
Period	01-Aug-20	to	31-Aug-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)
Saturday, 1 August 2020			
Sunday, 2 August 2020			
Monday, 3 August 2020			
Tuesday, 4 August 2020			
Wednesday, 5 August 2020	7.8	2	<5
Thursday, 6 August 2020			
Friday, 7 August 2020			
Saturday, 8 August 2020			
Sunday, 9 August 2020			
Monday, 10 August 2020			
Tuesday, 11 August 2020			
Wednesday, 12 August 2020			
Thursday, 13 August 2020	7.7	2	<5
Friday, 14 August 2020			
Saturday, 15 August 2020			
Sunday, 16 August 2020			
Monday, 17 August 2020	7.7	4	<5
Tuesday, 18 August 2020			
Wednesday, 19 August 2020			
Thursday, 20 August 2020			
Friday, 21 August 2020			
Saturday, 22 August 2020			
Sunday, 23 August 2020			
Monday, 24 August 2020			
Tuesday, 25 August 2020			
Wednesday, 26 August 2020	7.8	3	<5
Thursday, 27 August 2020			
Friday, 28 August 2020			
Saturday, 29 August 2020			
Sunday, 30 August 2020			
Monday, 31 August 2020			
Average	7.8	2.8	<5
Minimum	7.7	2.0	<5
Maximum	7.8	4.0	<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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Monthly water quality results, primarily metals, at LDP001 are presented below for August 2020.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID			LDP001
Client sampling date / time				26-Aug-2020 13:35	
Compound	CAS Number	LOR	Unit	ES2030022-001	
					Result
EA010P: Conductivity by PC Titrator					
Electrical Conductivity @ 25°C	---	1	µS/cm	24800	
ED040F: Dissolved Major Anions					
Sulfur as S	63705-05-5	1	mg/L	182	
Silicon as SiO2	14464-46-1	0.1	mg/L	13.3	
ED093T: Total Major Cations					
Calcium	7440-70-2	1	mg/L	216	
Magnesium	7439-95-4	1	mg/L	297	
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	<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	46	
Molybdenum	7439-98-7	1	µg/L	2	
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	
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	204	
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	
Lithium	7439-93-2	1	µg/L	555	
Molybdenum	7439-98-7	1	µg/L	5	
Nickel	7440-02-0	1	µg/L	3	
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	400	
Iron	7439-89-6	50	µg/L	70	
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	1.09	
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 Manning Colliery are summarised below.

August 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
01/08/2020	kL	481
02/08/2020	kL	1643
03/08/2020	kL	1657
04/08/2020	kL	388
05/08/2020	kL	375
06/08/2020	kL	1910
07/08/2020	kL	1917
08/08/2020	kL	801
09/08/2020	kL	0
10/08/2020	kL	1058
11/08/2020	kL	337
12/08/2020	kL	808
13/08/2020	kL	422
14/08/2020	kL	1731
15/08/2020	kL	1676
16/08/2020	kL	1120
17/08/2020	kL	505
18/08/2020	kL	1869
19/08/2020	kL	1660
20/08/2020	kL	927
21/08/2020	kL	31
22/08/2020	kL	17
23/08/2020	kL	678
24/08/2020	kL	1100
25/08/2020	kL	648
26/08/2020	kL	1078
27/08/2020	kL	112
28/08/2020	kL	71
29/08/2020	kL	1564
30/08/2020	kL	1645
31/08/2020	kl	699
Average	kL	933
Minimum	kL	0
Maximum	kL	1917

The daily water volumes at LDP001 during August 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		
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.

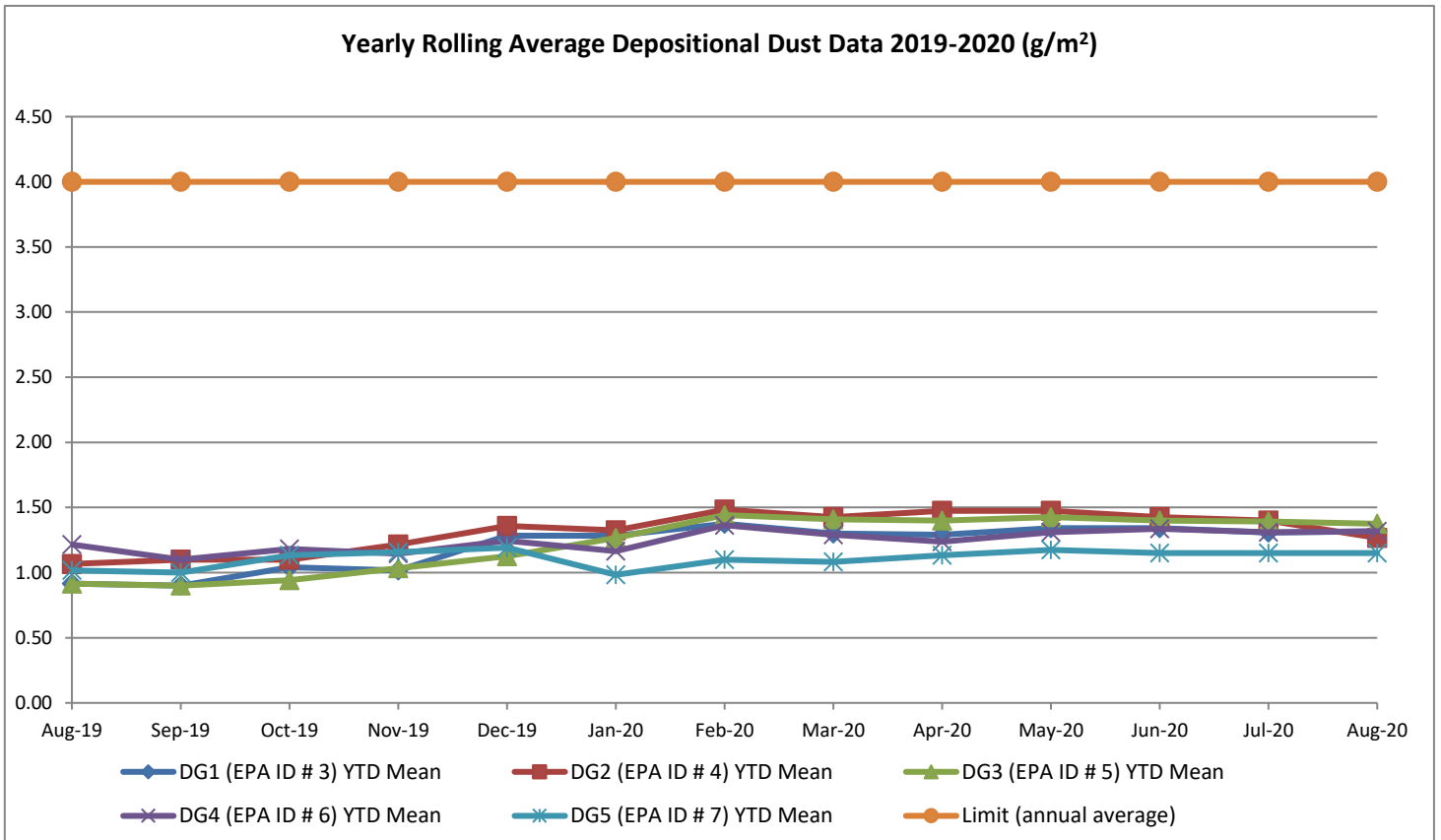
August 2020			
EPL Limit		191	
		Max. total deposited dust level	4g/m ² /month
		Max. increase in deposited dust level	2g/m ² /month
	Sampling Date	07/07/2020	to 07/08/2020
EPA ID no.	Site	Insoluble Matter (g/m ² /month)	
3	DG001	0.6	
4	DG002	0.4	
5	DG003	0.5	
6	DG004	0.5	
7	DG005	0.5	
Notes:			

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). A recent update of the Meteorological station undertaken in late July has had minor impacts on total data availability trend for August.

Monthly Weather Data			
Licensee	Great Southern Energy Pty Ltd		
Location	Manning Colliery Meteorological station		
Date published	Refer report date		
Date sampled	Daily		
Date obtained	02/09/2020		
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

Variable	August	Total	Valid
10m Temp	85.7%	8928	7650
2m Temp	85.7%	8928	7650
A1	85.7%	8928	7650
A1_Scaled	85.7%	8928	7650
Assumed Temp	85.6%	8928	7642
Barometric	85.7%	8928	7650
Config	85.7%	8928	7650
Daily Evap	85.6%	8928	7642
Daily Rain	85.7%	8928	7649
Delta T	85.6%	8928	7642
Dew Point	85.7%	8928	7650
Dig-In	85.7%	8928	7650
Dig-Latch	85.7%	8928	7650
ESN	85.7%	8928	7650
FDI	85.7%	8928	7649
Heat Index	85.6%	8928	7642
Humidity	85.7%	8928	7650
Mobile Signal	85.7%	8928	7650
Rain	85.7%	8928	7650
Raw Evap	85.6%	8928	7642
S Class	85.7%	8928	7650
Scalar WS	85.7%	8928	7650
Sigma	85.7%	8928	7650
Site	0.0%	8928	0
Solar Radiation	85.7%	8928	7650
Vector WD	85.7%	8928	7650
Vector WS	85.7%	8928	7650
Volts	85.7%	8928	7650
Wind Chill	69.3%	8928	6191
Wind Direction	85.7%	8928	7650
Wind Speed	85.7%	8928	7650
WS Avg	85.7%	8928	7650
WS Gust	85.7%	8928	7650