



Monthly Website Report

Site:	Mannering Colliery
Department:	Technical Services
Report Title:	Monthly Environmental Website Report - June 2019
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Monthly Website Report

Mannering Colliery Monthly Environmental Report

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Summary

Monitoring was undertaken in June 2019.

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 publically available and;
- Condition 7 & 10, schedule 5, of Development Approval 06_0311 (as modified) to provide details of monitoring results and environmental performance.
- An Environment Protection Licence (191) issued under the Protection of the Environment Operations Act, 1997.
- A Water Access Licence 20AL217059 (WAL40461), Aquifer (450 megalitres)

This report provides environmental monitoring data from Mannering Colliery for the period 1 June to 30 June 2019.

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 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 for each specific month and annual data, averages and trends in data are shown to where relevant.

Where applicable, the results of the monitoring programs are compared with the relevant criteria (from the EPL or Development Consent) to determine compliance.

Monitoring results presented include;

- Water – quality
- Water – volume
- Air Quality; and
- Weather data

Definitions

dB– decibels

dB(A) – noise level measurement units are decibels (dB). The A-weighting scale is used to approximate human perception of noise

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

kL– kilolitres

L_{Aeq}–the average A-weighted noise energy (in dB) for a measurement period

mg/L – milligrams per litre

µg/L – micrograms per litre

µS/cm – microSiemens per centimetre

References

Project Approval 06_0311 (as modified)

Environment Protection Licence 191 (Licence version date: 1 April 2019)

Steel River Testing - Dust Deposition Report **June 2019**

Steel River Testing- Water Analysis Report **June 2019**

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Monitoring Results

Water – Quality

Water Quality Results (reverted to weekly as per EPL PRP requirements)

June 2019			
EPL	191		
Licensee	LakeCoal Pty Ltd		
Premises	Mannerling Colliery		
Period	01-Jun-19	to	30-Jun-19
Location	LDPO01 (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)	Yes		
Water Quality Results			
Date	pH	TSS	Oil and grease
Saturday, 1 June 2019			
Sunday, 2 June 2019			
Monday, 3 June 2019			
Tuesday, 4 June 2019	8.2	13	<5
Wednesday, 5 June 2019			
Thursday, 6 June 2019			
Friday, 7 June 2019			
Saturday, 8 June 2019			
Sunday, 9 June 2019			
Monday, 10 June 2019			
Tuesday, 11 June 2019			
Wednesday, 12 June 2019	7.8	5	<5
Thursday, 13 June 2019			
Friday, 14 June 2019			
Saturday, 15 June 2019			
Sunday, 16 June 2019			
Monday, 17 June 2019			
Tuesday, 18 June 2019			
Wednesday, 19 June 2019	7.7	5	<5
Thursday, 20 June 2019			
Friday, 21 June 2019			
Saturday, 22 June 2019			
Sunday, 23 June 2019			
Monday, 24 June 2019			
Tuesday, 25 June 2019			
Wednesday, 26 June 2019	7.4	6	<5
Thursday, 27 June 2019			
Friday, 28 June 2019			
Saturday, 29 June 2019			
Average	7.8	7.3	<5
Minimum	7.4	5.0	<5
Maximum	8.2	13.0	<5

There were no exceedances of water quality criteria during the month.

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Water – Quality

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)		Client sample ID		LDP001
		Client sampling date / time		19-Jun-2019 12:45
Compound	CAS Number	LOR	Unit	ES1918859-001
				Result
EA010P: Conductivity by PC Titrator				
Electrical Conductivity @ 25°C	----	1	µS/cm	18900
ED040F: Dissolved Major Anions				
Sulfur as S	63705-05-5	1	mg/L	145
Silicon as SiO ₂	14464-46-1	0.1	mg/L	12.7
ED093T: Total Major Cations				
Calcium	7440-70-2	1	mg/L	268
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
Cobalt	7440-48-4	1	µg/L	<1
Chromium	7440-47-3	1	µg/L	<1
Copper	7440-50-8	1	µg/L	<1
Manganese	7439-96-5	1	µg/L	39
Nickel	7440-02-0	1	µg/L	4
Lead	7439-92-1	1	µg/L	<1
Selenium	7782-49-2	10	µg/L	<10
Vanadium	7440-62-2	10	µg/L	<10
Zinc	7440-66-6	5	µg/L	23
Molybdenum	7439-98-7	1	µg/L	8
Silver	7440-22-4	1	µg/L	<1
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
Boron	7440-42-8	50	µg/L	440
Barium	7440-39-3	1	µg/L	253
Beryllium	7440-41-7	1	µg/L	<1
Cadmium	7440-43-9	0.1	µg/L	<0.1
Cobalt	7440-48-4	1	µg/L	<1
Chromium	7440-47-3	1	µg/L	<1
EG020T: Total Metals by ICP-MS - Continued				
Copper	7440-50-8	1	µg/L	<1
Nickel	7440-02-0	1	µg/L	4
Lead	7439-92-1	1	µg/L	<1
Selenium	7782-49-2	10	µg/L	<10
Vanadium	7440-62-2	10	µg/L	<10
Zinc	7440-66-6	5	µg/L	20
Lithium	7439-93-2	1	µg/L	482
Molybdenum	7439-98-7	1	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
Iron	7439-89-6	50	µg/L	90
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	0.95
EK067G: Total Phosphorus as P by Discrete Analyser				
Total Phosphorus as P	----	0.01	mg/L	0.09

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Water – Volume

June 2019		
EPL	191	
Licensee	LakeCoal 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
01/06/2019	kL	673
02/06/2019	kL	1178
03/06/2019	kL	1218
04/06/2019	kL	864
05/06/2019	kL	2408
06/06/2019	kL	891
07/06/2019	kL	0
08/06/2019	kL	1006
09/06/2019	kL	1145
10/06/2019	kL	463
11/06/2019	kL	318
12/06/2019	kL	1503
13/06/2019	kL	822
14/06/2019	kL	409
15/06/2019	kL	0
16/06/2019	kL	805
17/06/2019	kL	1037
18/06/2019	kL	1759
19/06/2019	kL	867
20/06/2019	kL	693
21/06/2019	kL	223
22/06/2019	kL	0
23/06/2019	kL	1034
24/06/2019	kL	2101
25/06/2019	kL	2221
26/06/2019	kL	709
27/06/2019	kL	1592
28/06/2019	kL	858
29/06/2019	kL	0
30/06/2019	kL	1044

Average	kL	928
Minimum	kL	0
Maximum	kL	2408

There were no exceedances of the volumetric limits at the Licenced Discharge Point during the month.

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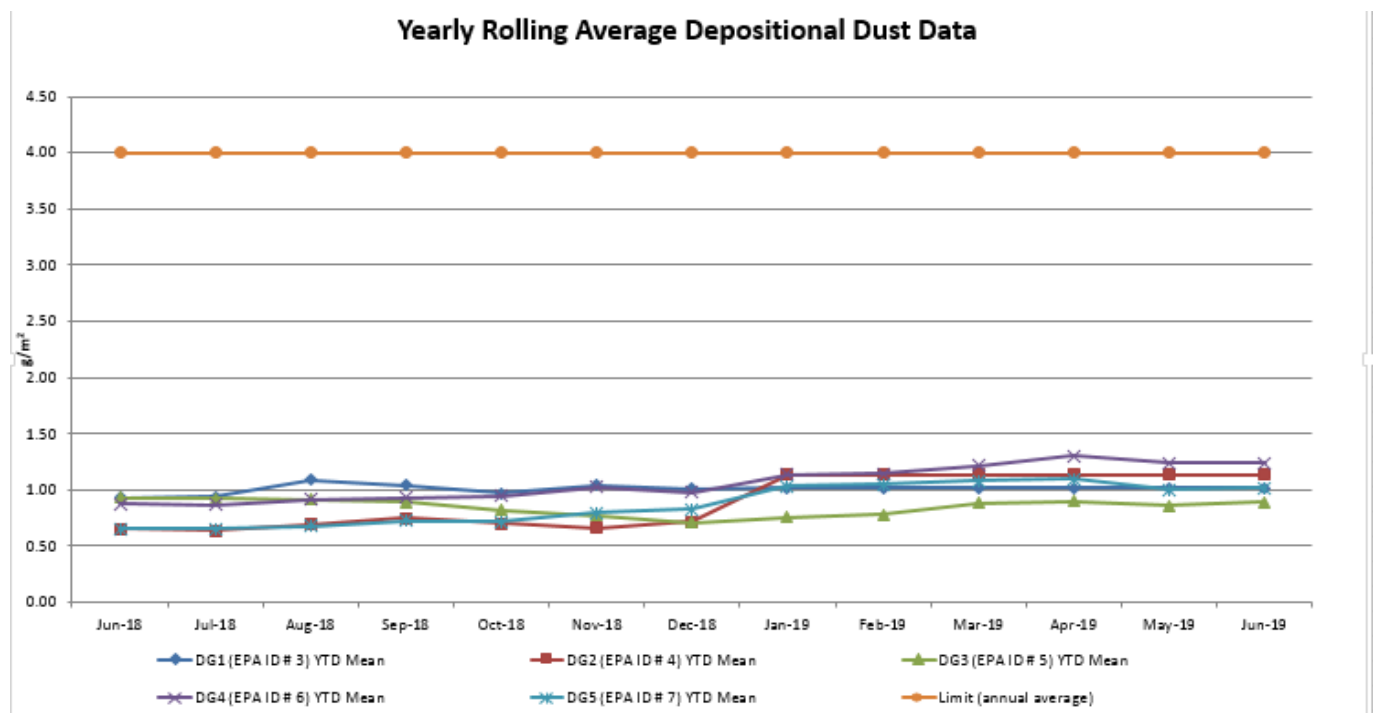
Air Quality

Monthly depositional dust results

June 2019		
EPL	191	
Limit	4g/m ² /month	
Sampling Date	10/05/2019 to 07/06/2019	
Site	Insoluble Matter (g/m2/month)	
DG1 (EPA ID #3)	0.7	
DG2 (EPA ID #4)	1.1	
DG3 (EPA ID #5)	0.7	
DG4 (EPA ID #6)	0.6	
DG5 (EPA ID #7)	0.8	
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 an adjacent site meteorological monitoring station at the Colliery is presented below for the year to date.

Monthly Weather Data			
2019			
EPL	191		
Licensee	Lake Coal Pty Ltd		
Premises	Mannering Colliery		
Location	W1 (on-site weather station)		
Date published	Refer report date		
Date sampled	Daily		
Date obtained			
Month	Total Rainfall/Month mm	Min Temp	Max Temp
Jan-19	60.6	18.6	39.6
Feb-19	88.6	22.7	37.4
Mar-19	204	10.1	37.1
Apr-19	73.2	8.3	32.8
May-19	11.0	3.9	26.3
Jun-19	158.8	3.9	25.0
Jul-19			
Aug-19			
Sep-19			
Oct-19			
Nov-19			
Dec-19			