

Monthly Website Report



SITE:	Mannering Colliery
Department:	Technical Services
REPORT TITLE:	Monthly Environmental Report – April 2017
Prepared by:	Wade Covey
Report Date:	13/05/2017
Distribution:	Mannering Colliery Website

Report

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Summary

Monitoring was undertaken in April 2017 with all results in compliance with the required limits.

Introduction

LakeCoal Pty Ltd (LakeCoal) operates the Mannering Colliery, an underground coal mine at the southern end of Lake Macquarie.

This monthly report is to satisfy the requirements of;

- 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.

This report provides environmental monitoring data from Mannering Colliery for the period 1 April 2017 to 30 April 2017.

Environmental monitoring data is collected as required under Environment Protection Licence 191 (EPL 191).

Details of the Mannering Colliery and EPL 191 are provided below.

Mannering Colliery Information	
Premises name	Mannering Colliery
Address	Rutleys Road, Doyalson, NSW, 2262
Licensee	LakeCoal 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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Title:

Manning Colliery Monthly Environmental Report

Scope

This report presents the results from the various environmental monitoring undertaken for Manning 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 Project Approval) to determine compliance.

Monitoring results presented include;

- Water – quality;
- Water – volume;
- Air quality;
- Operational noise; and
- Weather data

Definitions

°C – degrees celsius

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

mm – millimetre

µS/cm – microsiemens per centimetre

References

Project Approval 06_0311 (as modified)

Environment Protection Licence 191 (Licence version date: 13 May 2015)

Steel River Testing - Dust Deposition Report – April 2017 Report

ALS Environmental - Monthly Water Monitoring Results April 2017

Steel River Testing – Water Analysis Report – April 2017 Report

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Monitoring Results

Water – Quality

Water Quality Results

April 2017			
EPL	191		
Licensee	LakeCoal Pty Ltd		
Premises	Mannering Colliery		
Date Sampled	18-Apr-17		
Date Obtained	18-Apr-17		
Date Reported	Refer report date		
Sampling Point	1		
Parameter	Units	Limit	Result
Aluminium (Dissolved)	µg/L		<10
Aluminium (Total)	µg/L		100
Antimony	µg/L		<1
Arsenic (Dissolved)	µg/L		<1
Arsenic (Total)	µg/L		<1
Barium	µg/L		77
Beryllium (Dissolved)	µg/L		<1
Beryllium (Total)	µg/L		<1
Boron	µg/L		120
Cadmium (Dissolved)	µg/L		<0.1
Cadmium (Total)	µg/L		<0.1
Calcium	mg/L		65
Chromium (Dissolved)	µg/L		<1
Chromium (Total)	µg/L		<1
Cobalt (Dissolved)	µg/L		<1
Cobalt (Total)	µg/L		<1
Conductivity	µs/cm		6530
Copper (Dissolved)	µg/L		<1
Copper (Total)	µg/L		<1
Iron	µg/L		130
Lead (Total)	µg/L		<1
Lead (dissolved)	µg/L		<1
Lithium	µg/L		121
Magnesium	mg/L		69
Manganese (dissolved)	µg/L		20
Mercury (Total)	µg/L		<0.1
Mercury (dissolved)	µg/L		0.1
Molybdenum (Dissolved)	µg/L		5
Molybdenum (Total)	µg/L		6
Nickel (Dissolved)	µg/L		2
Nickel (Total)	µg/L		<1
Nitrogen (Ammonia)	mg/L		0.11
Phosphorous (Total)	mg/L		<0.01
Potassium	mg/L		9
Selenium (Dissolved)	µg/L		<10
Selenium (Total)	µg/L		<10
Silica	mg/L		8.5
Silver (Total)	µg/L		<1
Silver (dissolved)	µg/L		<1
Sulfur	mg/L		36
Tin (Total)	µg/L		<1
Titanium (Total)	µg/L		10
Vanadium (Dissolved)	µg/L		<10
Vanadium (Total)	µg/L		<10
Zinc (Dissolved)	µg/L		7
Zinc (Total)	µg/L		6

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Water – Volume

April 2017		
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)	
Date (24 hour period)	Unit	Volume
01/04/2017	kL	1325
02/04/2017	kL	1172
03/04/2017	kL	2068
04/04/2017	kL	1027
05/04/2017	kL	552
06/04/2017	kL	1006
07/04/2017	kL	578
08/04/2017	kL	1094
09/04/2017	kL	1133
10/04/2017	kL	1910
11/04/2017	kL	1124
12/04/2017	kL	1775
13/04/2017	kL	1111
14/04/2017	kL	1113
15/04/2017	kL	1107
16/04/2017	kL	1097
17/04/2017	kL	1100
18/04/2017	kL	1528
19/04/2017	kL	1632
20/04/2017	kL	919
21/04/2017	kL	528
22/04/2017	kL	482
23/04/2017	kL	292
24/04/2017	kL	747
25/04/2017	kL	964
26/04/2017	kL	956
27/04/2017	kL	1500
28/04/2017	kL	902
29/04/2017	kL	0
30/04/2017	kL	0

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Air Quality

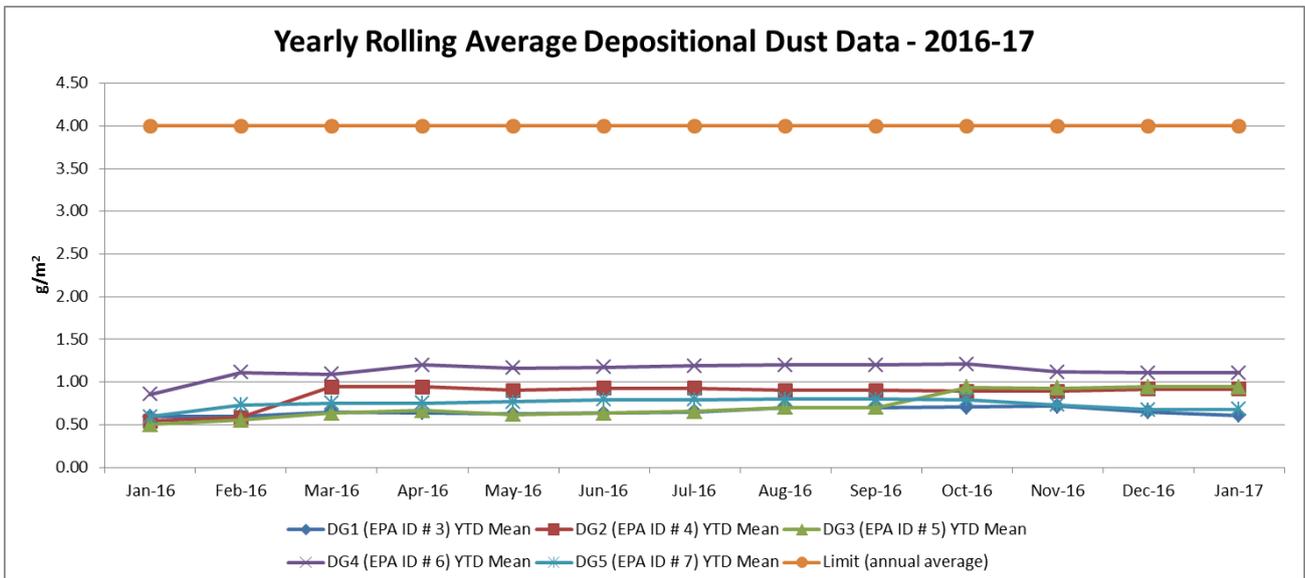
Monthly depositional dust results

Monthly Depositional Dust Data			
March 2017			
EPL	191		
Licensee	LakeCoal Pty Ltd		
Premises	Mannering Colliery		
Date Sampled	12-Feb-17	to	12-Mar-17
Date Obtained	16-Mar-17		
Date Reported	Refer report date		
Sampling Point	As per site below		

Site	Insoluble Matter (g/m ² /month)
DG1 (EPA ID # 3)	0.5
DG2 (EPA ID # 4)	0.6
DG3 (EPA ID # 5)	0.8
DG4 (EPA ID # 6)	0.9
DG5 (EPA ID # 7)	0.2

Notes:
- For site locations refer to Air Quality Management Plan

Rolling annual average depositional dust results



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Operational Noise

Next attended noise monitoring results are summarised below. None of the noise criteria has been exceeded.

Table 4.2: $L_{Aeq,15minute}$ GENERATED BY MANNERING COLLIERY AGAINST OPERATIONAL NOISE IMPACT ASSESSMENT CRITERIA – APRIL 2017

Location	Start Date And Time	Wind Speed (m/s)	VTG ($^{\circ}$ C per 100m) ¹	L_{Aeq} Criteria dB	Criteria Applies? ²	MC L_{Aeq} dB ^{3,4,5}	Exceedance ^{4,5}
<i>Day</i>							
RA1	13/04/2017 11:14	2.6	-1.9	42	Yes	IA	Nil
RA2	13/04/2017 10:46	2.3	-2	39	Yes	IA	Nil
RA3	13/04/2017 10:22	2.2	-2	39	Yes	IA	Nil
<i>Evening</i>							
RA1	12/04/2017 19:35	0.5	3	42	Yes	IA	Nil
RA2	12/04/2017 20:11	1.1	1.3	39	Yes	IA	Nil
RA3	12/04/2017 20:37	1.9	0	39	Yes	IA	Nil
<i>Night</i>							
RA1	12/04/2017 22:00	0.3	3	41	Yes	IA	Nil
RA2	12/04/2017 22:24	1.3	3	39	Yes	NM	Nil
RA3	12/04/2017 22:47	1.3	2.2	39	Yes	IA	Nil

Notes:

1. Sigma theta data used to calculate Vertical Temperature Gradient (VTG) in accordance with procedures detailed in the INP;
2. In accordance with Appendix 4A of the Project Approval, noise emission limits do not apply for wind speeds greater than 3m/s at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
3. These are results for MC in the absence of all other noise sources;
4. Bold results in red are those greater than the relevant criterion (if applicable); and
5. NA in exceedance column means atmospheric conditions outside conditions specified in project approval and so criterion is not applicable.

Table 4.3: $L_{A1,1minute}$ GENERATED BY MANNERING COLLIERY AGAINST OPERATIONAL NOISE IMPACT ASSESSMENT CRITERIA – APRIL 2017

Location	Start Date And Time	Wind Speed (m/s)	VTG ($^{\circ}$ C per 100m) ¹	$L_{A1,1min}$ Criteria dB	Criteria Applies? ²	MC $L_{A1,1min}$ dB ^{3,4,5}	Exceedance ^{4,5}
RA1	12/04/2017 22:00	0.3	3	49	Yes	IA	Nil
RA2	12/04/2017 22:24	1.3	3	47	Yes	NM	Nil
RA3	12/04/2017 22:47	1.3	2.2	49	Yes	IA	Nil

Notes:

1. Sigma theta data used to calculate Vertical Temperature Gradient (VTG) in accordance with procedures detailed in the INP;
2. In accordance with Appendix 4A of the Project Approval, noise emission limits do not apply for wind speeds greater than 3m/s at 10 metres above ground level; stability category F temperature inversion conditions and wind speeds greater than 2m/s at 10m above ground level; or stability category G temperature inversion conditions;
3. These are results for MC in the absence of all other noise sources;
4. Bold results in red are those greater than the relevant criterion (if applicable); and
5. NA in exceedance column means atmospheric conditions outside conditions specified in project approval and so criterion is not applicable.

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Weather

A summary of weather data recorded by an on-site meteorological monitoring station at the Colliery is presented below for the year to date.

Monthly Weather Data			
2017			
EPL	191		
Licensee	LakeCoal Pty Ltd		
Premises	Mannering Colliery		
Location	W1 (on-site weather station)		
Date published:	Refer report date		
Date sampled:	Daily		
Date obtained:	12/4/17		
Month	Total Rainfall / Month (mm)	Minimum Temperature (°C)	Maximum Temperature (°C)
Jan-17	68.6	17.4	40.1
Feb-17	141.2	13.1	39
Mar-17	404	14.5	31.9
Apr-17	85.6	-1	26.8