

# Monthly Website Report



<b>SITE:</b>	<b>Mannering Colliery</b>
<b>Department:</b>	<b>Technical Services</b>
<b>REPORT TITLE:</b>	<b>Monthly Environmental Report – February 2017</b>
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<b>Report Date:</b>	<b>13/02/2017</b>
<b>Distribution:</b>	<b>Mannering Colliery Website</b>

# Report

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## Summary

Monitoring was undertaken in February 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 February 2017 to 28 February 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.

<b>Mannering Colliery Information</b>	
Premises name	Mannering Colliery
Address	Rutleys Road, Doyalson, NSW, 2262
Licensee	LakeCoal 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 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/m<sup>2</sup>/month – grams per square metre per month

kL – kilolitres

L<sub>Aeq</sub> – 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 – February 2017 Report

ALS Environmental - Monthly Water Monitoring Results February 2017

Steel River Testing – Water Analysis Report – February 2017 Report N

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## Monitoring Results

### Water – Quality

#### Water Quality Results

February 2017			
EPL	191		
Licensee	LakeCoal Pty Ltd		
Premises	Mannering Colliery		
Date Sampled	08-Feb-17		
Date Obtained	12-Feb-17		
Date Reported	Refer report date		
Sampling Point	1		
Parameter	Units	Limit	Result
Aluminium (Dissolved)	µg/L		<10
Aluminium (Total)	µg/L		20
Antimony	µg/L		<1
Arsenic (Dissolved)	µg/L		<1
Arsenic (Total)	µg/L		<1
Barium	µg/L		230
Beryllium (Dissolved)	µg/L		32000
Beryllium (Total)	µg/L		<1
Boron	µg/L		410
Cadmium (Dissolved)	µg/L		<0.1
Cadmium (Total)	µg/L		<0.1
Calcium	mg/L		266
Chromium (Dissolved)	µg/L		<1
Chromium (Total)	µg/L		<1
Cobalt (Dissolved)	µg/L		<1
Cobalt (Total)	µg/L		<1
Conductivity	µs/cm		32000
Copper (Dissolved)	µg/L		<1
Copper (Total)	µg/L		<1
Iron	µg/L		60
Lead (Total)	µg/L		<1
Lead (dissolved)	µg/L		<1
Lithium	µg/L		815
Magnesium	mg/L		317
Manganese (dissolved)	µg/L		4
Mercury (Total)	µg/L		<0.1
Mercury (dissolved)	µg/L		13
Molybdenum (Dissolved)	µg/L		16
Molybdenum (Total)	µg/L		6
Nickel (Dissolved)	µg/L		4
Nickel (Total)	µg/L		0.61
Nitrogen (Ammonia)	mg/L		0.61
Phosphorous (Total)	mg/L		<0.05
Potassium	mg/L		38
Selenium (Dissolved)	µg/L		<10
Selenium (Total)	µg/L		<10
Silica	mg/L		13.3
Silver (Total)	µg/L		<1
Silver (dissolved)	µg/L		<1
Sulfur	mg/L		179
Tin (Total)	µg/L		<1
Titanium (Total)	µg/L		<10
Vanadium (Dissolved)	µg/L		<10
Vanadium (Total)	µg/L		<10
Zinc (Dissolved)	µg/L		30
Zinc (Total)	µg/L		33

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February 2017			
EPL	191		
Licensee	LakeCoal Pty Ltd		
Premises	Mannering Colliery		
Period	01-Feb-17	to	28-Feb-17
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)	No		
Water Quality Results			
Date	pH	(mg/L)	(mg/L)
01/02/2017	7.9	3	<5
02/02/2017			
03/02/2017			
04/02/2017			
05/02/2017			
06/02/2017			
07/02/2017	7.9	1	<5
08/02/2017			
09/02/2017			
10/02/2017			
11/02/2017			
12/02/2017			
13/02/2017			
14/02/2017			
15/02/2017	7.8	2	<5
16/02/2017			
17/02/2017			
18/02/2017			
19/02/2017			
20/02/2017			
21/02/2017			
22/02/2017	8.1	1	<5
23/02/2017			
24/02/2017			
25/02/2017			
26/02/2017			
27/02/2017			
28/02/2017			

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## Water – Volume

February 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
01/02/2017	kL	1171
02/02/2017	kL	1861
03/02/2017	kL	1081
04/02/2017	kL	1152
05/02/2017	kL	713
06/02/2017	kL	1143
07/02/2017	kL	1145
08/02/2017	kL	1129
09/02/2017	kL	1129
10/02/2017	kL	1116
11/02/2017	kL	1091
12/02/2017	kL	1080
13/02/2017	kL	957
14/02/2017	kL	1632
15/02/2017	kL	306
16/02/2017	kL	785
17/02/2017	kL	0
18/02/2017	kL	0
19/02/2017	kL	0
20/02/2017	kL	435
21/02/2017	kL	0
22/02/2017	kL	0
23/02/2017	kL	0
24/02/2017	kL	421
25/02/2017	kL	818
26/02/2017	kL	1146
27/02/2017	kL	1013
28/02/2017	kL	1342

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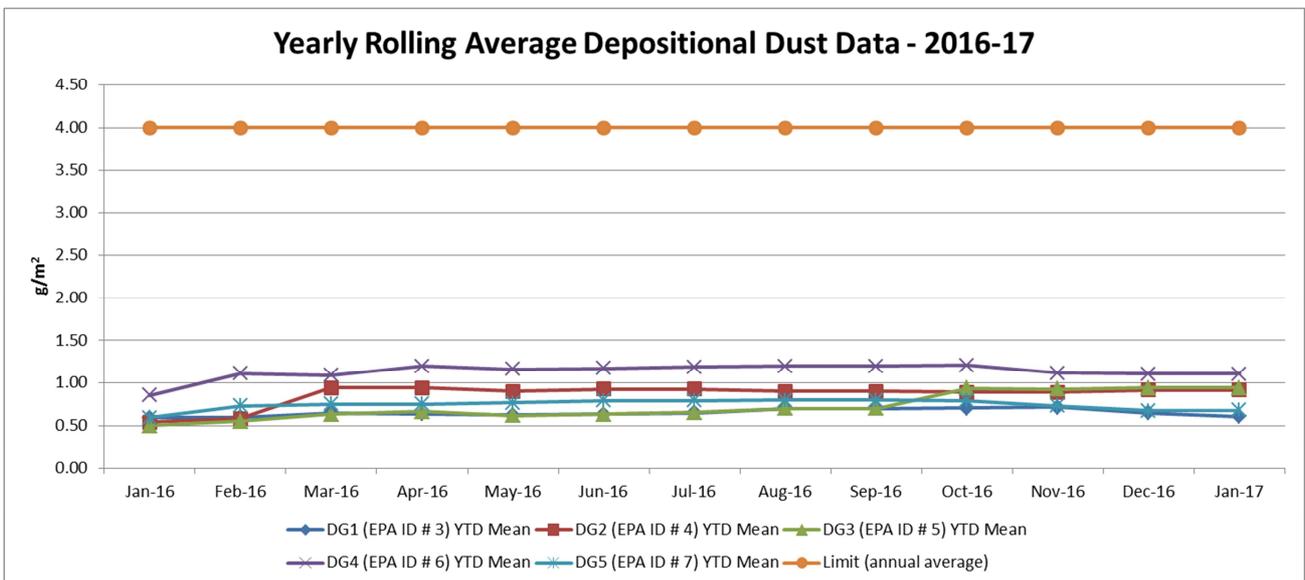
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## Air Quality

### Monthly depositional dust results

Monthly Depositional Dust Data			
February 2017			
EPL	191		
Licensee	LakeCoal Pty Ltd		
Premises	Mannering Colliery		
Date Sampled	12-Jan-17	to	12-Feb-17
Date Obtained	14-Feb-17		
Date Reported	Refer report date		
Sampling Point	As per site below		
Site	Insoluble Matter (g/m2/month)		
DG1 (EPA ID # 3)	0.7		
DG2 (EPA ID # 4)	0.6		
DG3 (EPA ID # 5)	0.6		
DG4 (EPA ID # 6)	0.8		
DG5 (EPA ID # 7)	0.4		
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:  $L_{Aeq,15\text{minute}}$  GENERATED BY MANNERING COLLIERY AGAINST OPERATIONAL NOISE IMPACT ASSESSMENT CRITERIA – FEBRUARY 2017

Location	Start Date And Time	Wind Speed (m/s)	VTG ( $^{\circ}\text{C}$ per 100m) <sup>1</sup>	$L_{Aeq}$ Criteria dB	Criteria Applies? <sup>2</sup>	MC $L_{Aeq}$ dB <sup>3,4,5</sup>	Exceedance <sup>4,5</sup>
<i>Day</i>							
RA1	21/02/2017 10:18	1.6	-2.0	42	Yes	IA	Nil
RA2	21/02/2017 10:41	1.5	-2.0	39	Yes	IA	Nil
RA3	21/02/2017 11:04	1.9	-2.0	39	Yes	IA	Nil
<i>Evening</i>							
RA1	20/02/2017 20:30	0.8	3.0	42	Yes	IA	Nil
RA2	20/02/2017 20:54	2.7	0.5	39	Yes	IA	Nil
RA3	20/02/2017 21:19	1.3	3.0	39	Yes	IA	Nil
<i>Night</i>							
RA1	20/02/2017 22:00	1.1	0.5	41	Yes	IA	Nil
RA2	20/02/2017 22:23	0.8	3.0	39	Yes	IA	Nil
RA3	20/02/2017 22:47	0.6	3.0	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:  $L_{A1,1\text{minute}}$  GENERATED BY MANNERING COLLIERY AGAINST OPERATIONAL NOISE IMPACT ASSESSMENT CRITERIA – FEBRUARY 2017

Location	Start Date And Time	Wind Speed (m/s)	VTG ( $^{\circ}\text{C}$ per 100m) <sup>1</sup>	$L_{A1,1\text{min}}$ Criteria dB	Criteria Applies? <sup>2</sup>	MC $L_{A1,1\text{min}}$ dB <sup>3,4,5</sup>	Exceedance <sup>5</sup>
RA1	20/02/2017 22:00	1.1	0.5	49	Yes	IA	Nil
RA2	20/02/2017 22:23	0.8	3.0	47	Yes	IA	Nil
RA3	20/02/2017 22:47	0.6	3.0	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			
<b>EPL</b>	191		
<b>Licensee</b>	LakeCoal Pty Ltd		
<b>Premises</b>	Mannering Colliery		
<b>Location</b>	W1 (on-site weather station)		
<b>Date published:</b>	Refer report date		
<b>Date sampled:</b>	Daily		
<b>Date obtained:</b>	12/3/17		
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