

# 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 2016</b>
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<b>Distribution:</b>	<b>Mannering Colliery Website</b>

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## Summary

Monitoring was undertaken in February 2016 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 2016 to 29 February 2016.

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	<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.

## Scope

This report presents the results from the various environmental monitoring 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 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 2016 (Ref 10663-0)

ALS Environmental - Monthly Water Monitoring Results – February 2016

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## Monitoring Results

### Water – Quality

#### Weekly Water Quality Results

Feb-16			
<b>EPL</b>	191		
<b>Licensee</b>	LakeCoal Pty Ltd		
<b>Premises</b>	Mannering Colliery		
<b>Period</b>	01-Feb-16	to	29-Feb-16
<b>Location</b>	LDP001 (EPA ID # 1)		
<b>Date sampled</b>	Weekly		
<b>Date reported</b>	Refer report date		
<b>Monitoring requirement</b>	Weekly		
<b>pH limit</b>	6.5 - 8.5		
<b>TSS limit (mg/L)</b>	50		
<b>Oil and grease limit (mg/L)</b>	10		
<b>Exceedance (Yes/No)</b>	No		
Weekly Water Quality Results			
Date	pH	TSS (mg/L)	Oil and grease (mg/L)
02/02/2016	7.7	2	<5
10/02/2016	7.8	8	<5
17/02/2016	7.7	4	<5
23/02/2016	7.6	4	<5
Notes:			
Monitoring undertaken weekly in accordance with EPL 191 requirements			

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## Monthly Water Quality Results

February 2016			
EPL	191		
Licensee	Lake Coal Pty Ltd		
Premises	Mannering Colliery		
Date Sampled			
Date Obtained	04-Mar-16		
Date Reported	Refer report date		
Sampling Point	1		
Parameter	Units	Limit	Result
Aluminium (Dissolved)	µg/L		<10
Aluminium (Total)	µg/L		40
Antimony	µg/L		2
Arsenic (Dissolved)	µg/L		2
Arsenic (Total)	µg/L		3
Barium	µg/L		313
Beryllium (Dissolved)	µg/L		<1
Beryllium (Total)	µg/L		<1
Boron	µg/L		270
Cadmium (Dissolved)	µg/L		<0.1
Cadmium (Total)	µg/L		<0.1
Calcium	mg/L		190
Chromium (Dissolved)	µg/L		<1
Chromium (Total)	µg/L		<1
Cobalt (Dissolved)	µg/L		<1
Cobalt (Total)	µg/L		<1
Conductivity	µs/cm		27300
Copper (Dissolved)	µg/L		1
Copper (Total)	µg/L		<1
Iron	µg/L		900
Lead (Total)	µg/L		<1
Lead (dissolved)	µg/L		<1
Lithium	µg/L		579
Magnesium	mg/L		272
Manganese (dissolved)	µg/L		95
Mercury (Total)	µg/L		<0.1
Mercury (dissolved)	µg/L		<0.1
Molybdenum (Dissolved)	µg/L		10
Molybdenum (Total)	µg/L		15
Nickel (Dissolved)	µg/L		4
Nickel (Total)	µg/L		4
Nitrogen (Ammonia)	mg/L		1.06
Phosphorous (Total)	mg/L		<0.02
Potassium	mg/L		39
Selenium (Dissolved)	µg/L		<10
Selenium (Total)	µg/L		<10
Silica	mg/L		12.6
Silver (Total)	µg/L		<1
Silver (dissolved)	µg/L		1
Sulfur	mg/L		127
Tin (Total)	µg/L		1
Titanium (Total)	µg/L		<10
Vanadium (Dissolved)	µg/L		<10
Vanadium (Total)	µg/L		<10
Zinc (Dissolved)	µg/L		6
Zinc (Total)	µg/L		48

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## Water – Volume

February 2016		
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
01/02/2016	kL	0
02/02/2016	kL	0
03/02/2016	kL	0
04/02/2016	kL	932
05/02/2016	kL	1715
06/02/2016	kL	0
07/02/2016	kL	0
08/02/2016	kL	1081
09/02/2016	kL	1777
10/02/2016	kL	643
11/02/2016	kL	644
12/02/2016	kL	862
13/02/2016	kL	0
14/02/2016	kL	0
15/02/2016	kL	1104
16/02/2016	kL	915
17/02/2016	kL	1154
18/02/2016	kL	457
19/02/2016	kL	1724
20/02/2016	kL	0
21/02/2016	kL	0
22/02/2016	kL	1245
23/02/2016	kL	1732
24/02/2016	kL	1084
25/02/2016	kL	998
26/02/2016	kL	1742
27/02/2016	kL	0
28/02/2016	kL	0
29/02/2016	kL	784

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## Air Quality

### Monthly depositional dust results

Monthly Depositional Dust Data			
February 2016			
<b>EPL</b>	191		
<b>Licensee</b>	LakeCoal Pty Ltd		
<b>Premises</b>	Mannering Colliery		
<b>Date Sampled</b>	12-Jan-16	to	12-Feb-16
<b>Date Obtained</b>	19-Feb-16		
<b>Date Reported</b>	Refer report date		
<b>Sampling Point</b>	As per site below		

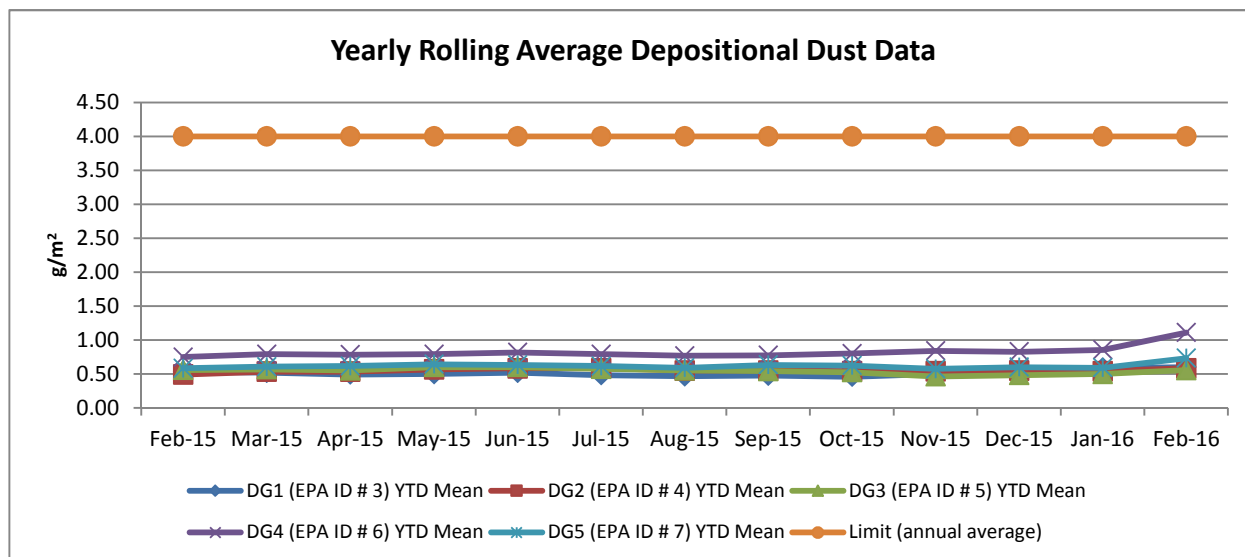
Site	Insoluble Matter (g/m <sup>2</sup> /month)
DG1 (EPA ID # 3)	0.5
DG2 (EPA ID # 4)	0.7
DG3 (EPA ID # 5)	0.8
DG4 (EPA ID # 6)	4.9
DG5 (EPA ID # 7)	2.3

Notes:

- For site locations refer to Air Quality Management Plan
- DG4 contaminated with bird droppings as identified on field

### Rolling annual average depositional dust results





## Operational Noise

Mannering Colliery Q4 noise monitoring undertaken in December 2015 with results to be published in the next reporting period.

No non-compliances identified from initial attended monitoring results.

## 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			
Feb-16			
<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>	14/03/2016		
Month	Total Rainfall / Month (mm)	Minimum Temperature (°C)	Maximum Temperature (°C)
Jan-15	235.4	13	35
Feb-15	54.2	16	33
Mar-15	122.4	11	35
Apr-15	422.2	12	27
May-15	138.4	8	26
Jun-15	90	6	23
Jul-15	20	3	20
Aug-15	32.6	3	27
Sep-15	112.8	7	28
Oct-15	52.4	11	36
Nov-15	110.4	12	41
Dec-15	166.8	12.8	37
Jan-16	329	14.3	36
Feb-16	17.4	16.4	37.7