

# LDO GROUP Report



<b>SITE:</b>	<b>Mannering Colliery</b>
<b>Department:</b>	<b>HSEC</b>
<b>REPORT TITLE:</b>	<b>Monthly Environmental Report – October 2015</b>
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<b>Report Date:</b>	<b>18 / 11 / 2015</b>
<b>Distribution:</b>	<b>Mannering Colliery Website</b>

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## Summary

Monitoring was undertaken in October 2015 with all results in compliance with 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 October 2015 to 31 October 2015.

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.

## 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 – October 2015

ALS Environmental - Monthly Water Monitoring Results - October 2015

**Title:** Mannering Colliery Monthly Environmental Report

## Monitoring Results

### Water – Quality

#### Weekly Water Quality Results

Oct-15			
<b>EPL</b>	191		
<b>Licensee</b>	LakeCoal Pty Ltd		
<b>Premises</b>	Mannering Colliery		
<b>Period</b>	01-Oct-15	to	31-Oct-15
<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)
08/10/2015	7.4	1	<5
15/10/2015	7.9	<1	<5
22/10/2015	7.9	2	<5
27/10/2015	7.9	3	<5
<b>Notes:</b>			
Monitoring undertaken weekly in accordance with EPL 191 requirements			

## Monthly Water Quality Results

October 2015			
EPL	191		
Licensee	LakeCoal Pty Ltd		
Premises	Mannering Colliery		
Date Sampled	08-Oct-15		
Date Obtained	15-Oct-15		
Date Reported	Refer report date		
Sampling Point	1		

Parameter	Units	Limit	Result
Aluminium (Dissolved)	µg/L		30
Aluminium (Total)	µg/L		30
Antimony	µg/L		<1
Arsenic (Dissolved)	µg/L		2
Arsenic (Total)	µg/L		<1
Barium	µg/L		250
Beryllium (Dissolved)	µg/L		<1
Beryllium (Total)	µg/L		<1
Boron	µg/L		340
Cadmium (Dissolved)	µg/L		<0.1
Cadmium (Total)	µg/L		<0.1
Calcium	mg/L		217
Chromium (Dissolved)	µg/L		<1
Chromium (Total)	µg/L		<1
Cobalt (Dissolved)	µg/L		<1
Cobalt (Total)	µg/L		<1
Conductivity	µs/cm		27600
Copper (Dissolved)	µg/L		<1
Copper (Total)	µg/L		<1
Iron	µg/L		110
Lead (Total)	µg/L		<1
Lead (Dissolved)	µg/L		<1
Lithium	µg/L		692
Magnesium	mg/L		300
Manganese (dissolved)	µg/L		30
Mercury (Total)	µg/L		<0.1
Mercury (dissolved)	µg/L		<0.1
Molybdenum (Dissolved)	µg/L		10
Molybdenum (Total)	µg/L		11
Nickel (Dissolved)	µg/L		4
Nickel (Total)	µg/L		4
Nitrogen (Ammonia)	mg/L		0.98
Phosphorous (Total)	mg/L		0.02
Potassium	mg/L		38
Selenium (Dissolved)	µg/L		<10
Selenium (Total)	µg/L		20
Silica	mg/L		12.6
Silver (Total)	µg/L		<1
Silver (Dissolved)	µg/L		<1
Sulfur	mg/L		141
Tin (Total)	µg/L		<1
Titanium (Total)	µg/L		<10
Vanadium (Dissolved)	µg/L		<10
Vanadium (Total)	µg/L		<10
Zinc (Dissolved)	µg/L		<5
Zinc (Total)	µg/L		6

## Water – Volume

October 2015		
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	LDPO01 (EPA ID # 1)	
Date (24 hour period)	Unit	Volume
01/10/2015	kL	619
02/10/2015	kL	316
03/10/2015	kL	0
04/10/2015	kL	0
05/10/2015	kL	0
06/10/2015	kL	923
07/10/2015	kL	2141
08/10/2015	kL	2117
09/10/2015	kL	619
10/10/2015	kL	0
11/10/2015	kL	0
12/10/2015	kL	619
13/10/2015	kL	1010
14/10/2015	kL	906
15/10/2015	kL	955
16/10/2015	kL	619
17/10/2015	kL	0
18/10/2015	kL	0
19/10/2015	kL	1229
20/10/2015	kL	2146
21/10/2015	kL	878
22/10/2015	kL	451
23/10/2015	kL	699
24/10/2015	kL	0
25/10/2015	kL	0
26/10/2015	kL	485
27/10/2015	kL	404
28/10/2015	kL	785
29/10/2015	kL	1583
30/10/2015	kL	288
31/10/2015	kL	0

## Air Quality

### Monthly depositional dust results

Monthly Depositional Dust Data			
October 2015			
<b>EPL</b>	191		
<b>Licensee</b>	LakeCoal Pty Ltd		
<b>Premises</b>	Mannering Colliery		
<b>Date Sampled</b>	11-Sep-15	to	09-Oct-15
<b>Date Obtained</b>	11-Oct-15		
<b>Date Reported</b>	Refer report date		
<b>Sampling Point</b>	As per site below		

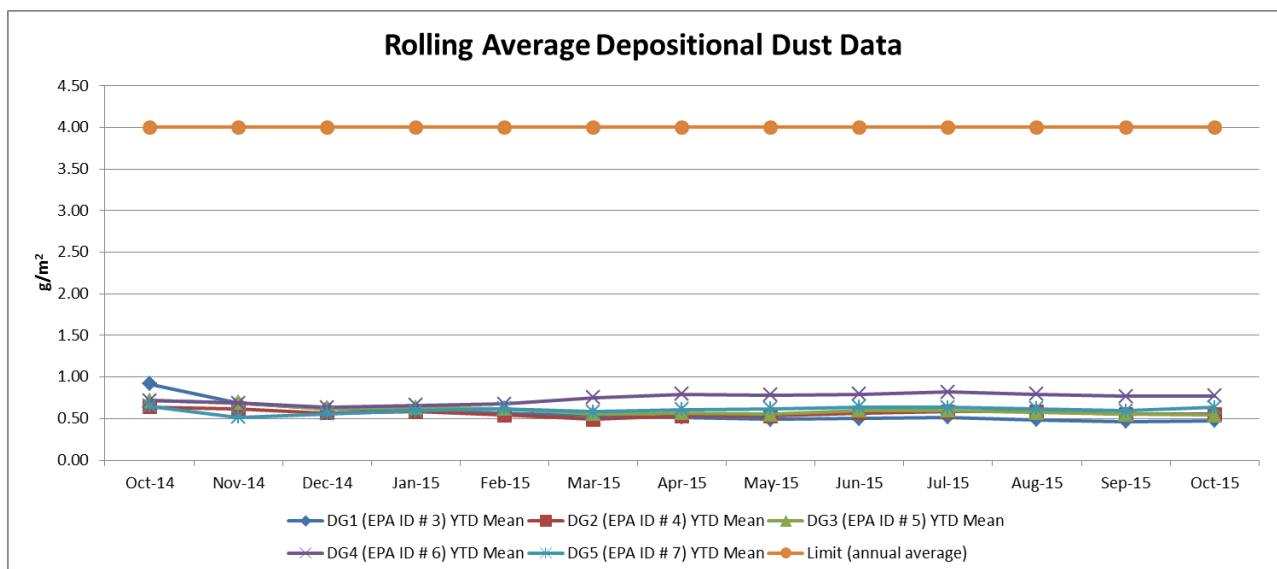
  

Site	Insoluble Matter (g/m <sup>2</sup> /month)
DG1 (EPA ID # 3)	0.4
DG2 (EPA ID # 4)	0.6
DG3 (EPA ID # 5)	0.5
DG4 (EPA ID # 6)	0.9
DG5 (EPA ID # 7)	0.5

<b>Notes:</b>
- For site locations refer to Air Quality Management Plan

### Rolling annual average depositional dust results





## Operational Noise

Q3 Noise monitoring results not received during the month. Will be reported once the monitoring report has been finalised.

## 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			
Oct-15			
<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>	09/10/2015		
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

