

LDO GROUP Report



SITE:	Chain Valley Colliery
Department:	HSEC
REPORT TITLE:	Monthly Environmental Report – April 2014
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Introduction

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

Chain Valley Colliery operates under the following regulatory instruments;

- A Development Consent (SSD-5465) and a Project Approval (MP 10_0161) issued under the Environmental Planning and Assessment Act, 1979.
- An Environment Protection Licence (1770) issued under the Protection of the Environment Operations Act, 1997.
- A groundwater bore licence (20BL173107) issued under the Water Act, 1912.

The above development consent/approval and licences require various monitoring and reporting to be undertaken by LakeCoal for Chain Valley Colliery.

This report provides environmental monitoring data from Chain Valley Colliery for the period 1st April 2014 to 31st April 2014.

Details of the Chain Valley Colliery and EPL 1770 are provided below.

Chain Valley Colliery Information	
Premises name	Chain Valley Colliery
Address	Construction Road, Chain Valley Bay, NSW, 2259
Licensee	LakeCoal Pty Ltd
EPL #	1770
EPL location	http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=32911&SYSUID=1&LICID=1770

The overall purpose of this report is to keep stakeholders informed of the environmental monitoring results at Chain Valley Colliery and maintain a transparent and accountable reporting system.

Scope

This report presents the results from the various environmental monitoring programs undertaken for Chain Valley Colliery.

Results in this report are typically only a single month of data, which is due to a legislative requirement introduced by the *Protection of the Environment Legislation Amendment Act 2011*, which requires publishing data publically within 14 days. As LakeCoal is required to undertake monitoring on a monthly basis, each report generally cover a single month of environmental monitoring data.

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

Monitoring results presented include;

- Water – quality
- Water – volume
- Depositional dust
- Operational noise

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

ALS Group - Monthly Water Monitoring Results (April 2014 - Work Order ES1408325)

Hunter Water Laboratories - Report of Analysis (HWA-14/03001)

Steel River Testing - Dust Deposition Report April 2014 (Report 6371-0)

Development Consent SSD-5465

Project Approval 10_0161 (as modified)

Environment Protection Licence 1770 (Licence version date: 20 August 2013)

Monitoring Results

Water – Quality

April 2014	
EPL	1770
Licensee	LakeCoal Pty Ltd
Premises	Chain Valley Colliery
Date Sampled	15-Apr-14
Date Obtained	24-Apr-14
Date Reported	Refer report date
Sampling Point	1

Parameter	Units	Limit	Result
Aluminium (total)	µg/L		30
Aluminium (dissolved)	µg/L		<10
Ammonia as N	mg/L		0.01
Arsenic (total)	µg/L		1
Arsenic (dissolved)	µg/L		1
Beryllium (total)	µg/L		<1
Beryllium (dissolved)	µg/L		<1
Cadmium (total)	µg/L		<0.1
Cadmium (dissolved)	µg/L		<0.1
Chromium (total)	µg/L		4
Chromium (dissolved)	µg/L		<1
Cobalt (total)	µg/L		<1
Cobalt (dissolved)	µg/L		<1
Conductivity	µs/cm		26200
Copper (total)	µg/L		<1
Copper (dissolved)	µg/L		<1
Faecal Coliforms	CFU/100mL	200	540
Lead (total)	µg/L		<1
Lead (dissolved)	µg/L		<1
Mercury (total)	µg/L		<0.1
Mercury (dissolved)	µg/L		<0.1
Molybdenum (total)	µg/L		6
Molybdenum (dissolved)	µg/L		6
Nickel (total)	µg/L		3
Nickel (dissolved)	µg/L		4
pH	pH	6.5-8.5	7.9
Selenium (total)	µg/L		<10
Selenium (dissolved)	µg/L		<10
Silver (total)	µg/L		<1
Silver (dissolved)	µg/L		<1
Total Sus. Solids	µg/L	50	<5
Vanadium (total)	µg/L		<10
Vanadium (dissolved)	µg/L		<10
Zinc (total)	µg/L		26
Zinc (dissolved)	µg/L		24

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Water – Volume

April 2014	
EPL	1770
Licensee	LakeCoal Pty Ltd
Premises	Chain Valley Colliery
Date Sampled	Daily
Date Reported	Refer report date
Discharge volume limit	12161 kilolitres per day
Sampling Point	1

Date (24 hour period)	Unit	Volume
01/04/2014	kL	6746
02/04/2014	kL	5403
03/04/2014	kL	5405
04/04/2014	kL	5988
05/04/2014	kL	11456
06/04/2014	kL	5876
07/04/2014	kL	7145
08/04/2014	kL	4235
09/04/2014	kL	6840
10/04/2014	kL	5399
11/04/2014	kL	5594
12/04/2014	kL	10524
13/04/2014	kL	9119
14/04/2014	kL	6267
15/04/2014	kL	6267
16/04/2014	kL	3317
17/04/2014	kL	8975
18/04/2014	kL	4896
19/04/2014	kL	6797
20/04/2014	kL	7053
21/04/2014	kL	1004
22/04/2014	kL	3303
23/04/2014	kL	11498
24/04/2014	kL	6407
25/04/2014	kL	4075
26/04/2014	kL	5406
27/04/2014	kL	8689
28/04/2014	kL	5405
29/04/2014	kL	6006
30/04/2014	kL	891

Depositional Dust

April 2014

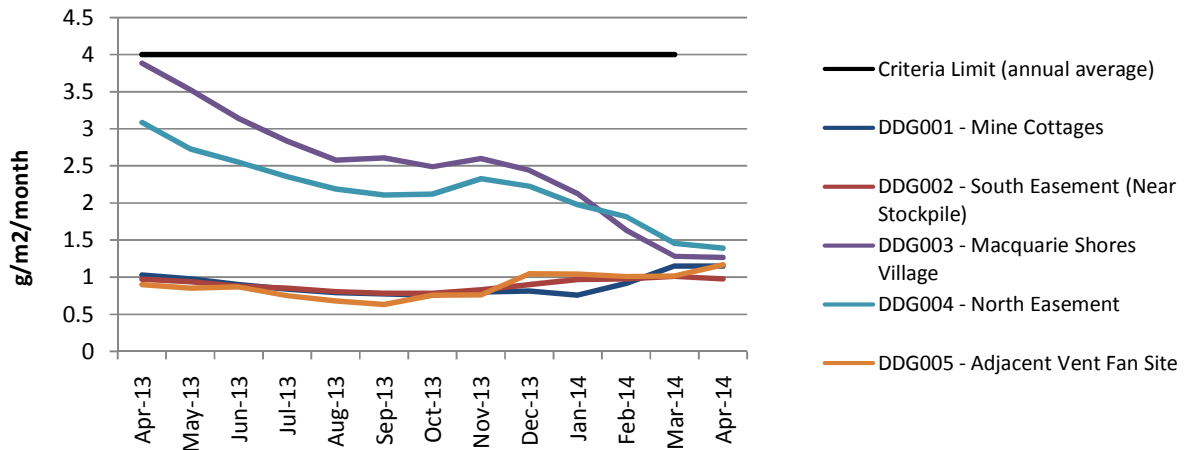
Sampling Date 19/03/2014 to 17/04/2014

Site	Insoluble Matter (g/m ² /month)
DDG001	0.3
DDG002	1.0
DDG003	0.5
DDG004	0.5
DDG005	0.9

Notes:

- For site locations refer to Air Quality and Greenhouse Gas Management Plan

Dep Dust (12 mth rolling avg)



Operational Noise

The Q1 2014 noise monitoring has been undertaken, with report finalised. A summary of the report comparing the monitoring results Chain Valley Colliery (CVC) against relevant noise criteria is shown below.

No noise criteria exceedances were recorded.

L_{Aeq15minute} Generated by CVC Against Impact Assessment Criteria – Q1 2014

Location	Date And Time	Wind Speed (m/s) ¹	VTG (°C per 100m) ¹	L _{Aeq} Criterion dB	Criterion Applies? ²	CVC L _{Aeq} dB ^{3,4,5}	Exceedance ^{4,5}
Day							
ATN001	06/02/2014 15:04	3.1	-1.8	35	N	IA	NA
ATN002	06/02/2014 13:45	2.6	-1.8	49	Y	NM	Nil
ATN003	06/02/2014 14:28	3.7	-1.8	36	N	IA	NA
ATN004	06/02/2014 13:21	2.0	-1.9	35	Y	IA	Nil
ATN005	06/02/2014 12:53	3.0	-1.9	35	Y	IA	Nil
ATN006	06/02/2014 12:27	2.4	-1.9	37	Y	IA	Nil
ATN007 - Barn	06/02/2014 11:32	1.8	-1.9	46	Y	43	Nil
ATN007 - House	06/02/2014 11:55	2.7	-1.8	46	Y	38	Nil
Evening							
ATN001	11/02/2014 20:38	0.7	0.5	35	Y	IA	Nil
ATN002	11/02/2014 20:08	0.8	3.0	49	Y	NM	Nil
ATN003	06/02/2014 18:23	2.4	-1.9	36	Y	IA	Nil
ATN004	11/02/2014 19:41	0.5	-1.9	35	Y	IA	Nil
ATN005	11/02/2014 19:14	0.9	-1.9	35	Y	IA	Nil
ATN006	11/02/2014 18:51	2.0	-1.9	37	Y	IA	Nil
ATN007 - Barn	11/02/2014 18:00	3.3	-1.9	46	N	45	NA
ATN007 - House	11/02/2014 18:22	2.8	-1.9	46	Y	39	Nil
Night							
ATN001	12/02/2014 01:18	0.9	3.0	35	Y	IA	Nil
ATN002	12/02/2014 00:07	0.5	3.0	49	Y	<25	Nil
ATN003	12/02/2014 00:51	1.0	3.0	36	Y	IA	Nil
ATN004	11/02/2014 23:44	0.8	3.0	35	Y	IA	Nil
ATN005	11/02/2014 23:15	0.8	3.0	35	Y	IA	Nil
ATN006	11/02/2014 22:51	0.6	0.5	37	Y	IA	Nil
ATN007 - Barn	11/02/2014 22:00	0.7	0.5	46	Y	45	Nil
ATN007 - House	11/02/2014 22:21	1.0	3.0	46	Y	39	Nil

Notes:

1. Sigma theta data used to calculate Vertical Temperature Gradient (VTG) in accordance with procedures detailed in the INP;
2. Noise emission limits do not apply for winds greater than 3 metres per second (at a height of 10 metres); or temperature inversion conditions greater than 4°C/100m;
3. These are results for Chain Valley Colliery (CVC) in the absence of all other noise sources;
4. Bolded 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.

LA1, 1minute Generated by CVC Against Impact Assessment Criteria – Q1 2014

Location	Date And Time	Wind Speed (m/s) ¹	VTG (%C per 100m) ¹	LA1,1min Criterion dB	Criterion Applies? ²	CVC LA1,1min dB _{SA5}	Exceedance ⁵
Night							
ATN001	12/02/2014 01:18	0.9	3.0	45	Y	IA	Nil
ATN002	12/02/2014 00:07	0.6	3.0	54	Y	30	Nil
ATN003	12/02/2014 00:51	1.0	3.0	45	Y	IA	Nil
ATN004	11/02/2014 23:44	1.1	3.0	45	Y	IA	Nil
ATN005	11/02/2014 23:15	0.6	3.0	45	Y	IA	Nil
ATN006	11/02/2014 22:51	0.6	0.5	45	Y	IA	Nil
ATN007 - Barn	11/02/2014 22:00	0.7	3.0	46	Y	46	Nil
ATN007 - House	11/02/2014 22:21	1.0	3.0	46	Y	40	Nil

Notes:

1. Sigma theta data used to calculate Vertical Temperature Gradient (VTG) in accordance with procedures detailed in the INP;
2. Noise emission limits do not apply for winds greater than 3 metres per second (at a height of 10 metres); or temperature inversion conditions greater than 4°C/100m;
3. These are results for Chain Valley Colliery (CVC) in the absence of all other noise sources;
4. Bolded 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.