

CULLEN VALLEY MINE

Monthly Environmental Monitoring data

for

Castlereagh Coal

1 INTRODUCTION

Castlereagh Coal owns and operates Cullen Valley Mine located near Cullen Bullen in the Central West district of New South Wales. This report has been prepared pursuant to Chapter 2, Part 3.5, Condition 66(6) of the *Protection of the Environment operations Act 1997* for the publication of results of monitoring and the NSW Environmental Protection Authority guideline titled *Requirements for publish pollution monitoring data (2012)*.

2 ENVIRONMENT PROTECTION LICENCE DETAILS

Cullen Valley Mine (EPL 10341)

Licensee: Shoalhaven Coal Pty Ltd

Address: Cullen Valley Mine, Portland Road, Cullen Bullen NSW 2790

Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=50797&SYSUID=1&LICID=10341>

3 AIR QUALITY

3.1 DEPOSITIONAL DUST

All depositional dust sampling locations were in compliance with the rolling annual average limit ($4\text{g/m}^2/\text{month}$) for the period of January – December 2019. The maximum annual increase in deposited dust levels are also below the criteria limit of $2\text{g/m}^2/\text{month}$. Depositional dust monitoring results are presented in **Table 1**.

Table 1 *Depositional Dust Monitoring Results December 2019*

| Obtained: 21/01/2010 | | Premise: Cullen Valley Mine | | |
|------------------------------|------------|------------------------------------|--|------------------------|
| Published: 28/01/2020 | | Licensee: Shoalhaven Coal | | |
| | | EPL number: 10341 | | |
| | | Exposure Period: 40 days | | |
| Sampling Point | Start Date | End Date | Insoluble Solids (g/m ² /month) | Rolling Annual Average |
| CDD1 (Railway) | 5/12/2019 | 14/1/2010 | 5.2 | 1.3 |
| CDD2 (Hillcroft) | 5/12/2019 | 14/1/2010 | 4.1 | 1.1 |
| CDD3 (Office) | 5/12/2019 | 14/1/2010 | 5.2 | 1.3 |
| CDD4 (Cranes) | 5/12/2019 | 14/1/2010 | 5.1 | 1.7 |
| CDD5 (Doble) | 5/12/2019 | 14/1/2010 | 5.7 | 2.0 |
| Annual Average Limit | | | | 4.0 |

Required Frequency: Monthly - exposure period 30 ± 2 days.

The December 2019 dust exposure period exceeded 32 days, this was due to safety issues accessing deposited dust gauges due to bushfire activity. December 2019 deposited dust concentrations are considered to be impacted by bushfire smoke and ash.

3.2 PM_{10} AND TSP

The 24-hour maximum PM_{10} particulate matter concentration less than 10 microns (PM_{10}) criterion of $50\mu\text{g/m}^3$ was exceeded on the 10, 16, 22 and 28 December. These elevated concentrations are considered to be due to bushfire activity in the region. The 24-hour average PM_{10} concentrations recorded at the Department of Planning, Industry and Environment (DPIE) Katoomba and Bathurst air quality monitoring stations show concentrations in excess of the criterion for these HVAS dates. The total suspended particulate (TSP) and PM_{10} annual average results were in compliance with the annual average limit for December 2019.

PM_{10} and TSP monitoring results are presented in **Table 2**.

MONTHLY ENVIRONMENTAL MONITORING DATA

December 2019

Table 2 *High Volume Air Sampler Monitoring Results December 2019*

| Premise: | | Cullen Valley Mine | |
|----------------------|------------|--------------------------|-----------------|
| Obtained: | 19/01/2010 | Licensee: | Shoalhaven Coal |
| Published: | 28/01/2020 | EPL number: | 10341 |
| Sampling Point | Run Date | PM ₁₀ (µg/m³) | TSP (µg/m³)^ |
| HV02 (EPA Point 3) | 04-Nov-19 | 13 | 32.5 |
| | 10-Nov-19 | 115 | 287.5 |
| | 16-Nov-19 | 280 | 700.0 |
| | 22-Nov-19 | 105 | 262.5 |
| | 28-Nov-19 | 180 | 450.0 |
| Annual Average | | 23.4 | 58.5 |
| 24 Hour Limit | | 50 | -- |
| Annual Average Limit | | 30 | 90 |

Note: Results in italics indicates the results were less than laboratory detection limit.

Required Frequency: High Volume Air Sample run event every six days for 24 hours

-- No Limit ^ TSP result is an estimate obtained from a calculation of the PM₁₀ concentration.

4 SURFACE WATER QUALITY

Monthly surface water monitoring quality monitoring is undertaken for pH, TSS and oil and grease, results are presented in **Table 3**. There were no discharge events during December 2019. The EPL limits are only applicable during a discharge event, and therefore, do not apply to the results shown in **Table 3**.

Table 3 *Monthly Surface Water Quality Results December 2019*

| Sampled: | 5/12/2019 | Premise: | Cullen Valley Mine | |
|-------------------|------------|-------------------------|--------------------|-------------|
| Obtained: | 19/01/2020 | Licensee: | Shoalhaven Coal | |
| Published: | 28/01/2020 | EPL number: | 10341 | |
| Sampling Point | Frequency | Pollutant | Limit | Measurement |
| Dam 1 (Point 1) | Monthly | pH (pH unit) | 6.5 – 8.5 | 7.38 |
| | | TSS (mg/L) | 50 | 12 |
| | | Oil & Grease (mg/L) | 10 | <5 |
| | | Conductivity (µS/cm)* | -- | ND |
| | | Total Iron (mg/L)* | -- | ND |
| | | Total Manganese (mg/L)* | -- | ND |
| Dam 4 (Point 4) | Monthly | pH (pH unit) | 6.5 – 8.5 | 7.37 |
| | | TSS (mg/L) | 50 | 14 |
| | | Oil & Grease (mg/L) | 10 | <5 |
| | | Conductivity (µS/cm)* | -- | ND |
| | | Total Iron (mg/L)* | -- | ND |
| | | Total Manganese (mg/L)* | -- | ND |

-- No limit provided in EPL 10341

* Only analysed during discharge events.

ND – no data as there was no discharge from the site during this period, therefore analysis not required.

Surface water samples collected during December 2019 were for due diligence purposes only; there are no applicable EPL limits.

5 NOISE LIMITS

Noise monitoring is undertaken on a quarterly frequency. Previous environmental noise monitoring reports are available on the Castlereagh Coal website:
http://www.castlereaghcoal.com.au/?page_id=1101

6 BLASTING

No blasting was undertaken during December 2019.

7 DISCLAIMER

This report is considered accurate at the date of issue with regard to current environmental conditions. Monitoring results may vary from those presented in this report following further assessment. This report must not be reproduced except in full. Results or figures from this report must not be used without acknowledgment.

Yours faithfully,

CASTLEREAGH COAL