

INVINCIBLE COLLIERY

Monthly Environmental Monitoring data

for

Castlereagh Coal

1 INTRODUCTION

Castlereagh Coal owns and operates Invincible Colliery 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

Invincible Colliery (EPL 1095)

Licensee: Shoalhaven Coal Pty Ltd

Address: Invincible Colliery, Castlereagh Highway, Cullen Bullen, NSW 2790

Link: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=50798&SYSUID=1&LICID=1095>

MONTHLY ENVIRONMENTAL MONITORING DATA

February 2019

3 AIR QUALITY

3.1 DEPOSITIONAL DUST

Depositional dust gauges for the February monitoring period were collected on 11 March 2019. All depositional dust sampling locations were in compliance with the annual average limit (4g/m²/month) for the month of February 2019. Maximum annual increase in deposited dust levels are also below the criteria limit of 2 g/m²/month. Depositional dust monitoring results are presented in **Table 1**.

Table 1 *Depositional Dust Monitoring Results*

Obtained: 14/03/2019		Premise: Invincible Colliery		
Published: 18/03/2019		Licensee: Shoalhaven Coal		
		EPL number: 1095		
		Exposure Period: 32 days		
Sampling Point	Start Date	End Date	Insoluble Solids (g/m ² /month)	Rolling Annual Average (g/m ² /month)
ID-D1 (EPA Point 3)	7/02/2019	11/03/2019	1.0	1.1
ID-D2 (EPA Point 4)	7/02/2019	11/03/2019	0.8	1.0
ID-D3 (EPA Point 5)	7/02/2019	11/03/2019	1.5	1.2
ID-D4 (EPA Point 6)	7/02/2019	11/03/2019	1.2	1.5
ID-D5 (EPA Point 7)	7/02/2019	11/03/2019	1.4	1.6
Annual Average Limit				4.0

Required Frequency: Monthly - exposure period 30 ± 2 days

3.2 PM₁₀ AND TSP (HIGH VOLUME AIR SAMPLERS)

Monitoring of particulate concentrations less than ten (10) micrometres (PM₁₀) was undertaken using High Volume Air Samplers on a six (6) day, 24 hour run cycle. PM₁₀ concentrations for February 2019 were in compliance with the maximum allowable limit of 50µg/m³. The total suspended solids (TSP) concentration was determined from the PM₁₀ concentrations. Annual average concentrations for TSP and PM₁₀ were in compliance with the annual average limit for the month of February 2019.

PM₁₀ and TSP results for February 2019 are presented in **Table 2**.

A dust storm was observed by mining personnel on the 13 February 2019. This dust storm is considered to have impacted the particulate concentration on a regional scale on this day.

MONTHLY ENVIRONMENTAL MONITORING DATA

February 2019

Table 2 *High Volume Air Sampler Monitoring Results*

Obtained: 15/03/2019		Premise: Invincible Colliery	
Published: 18/03/2019		Licensee: Shoalhaven Coal	
		EPL number: 1095	
Sampling Point	Run Date	PM ₁₀ (µg/m ³)	TSP (µg/m ³)^
HVAS1 (EPA Point 3)	01-Feb-19	2	5
	07-Feb-19	16	40
	13-Feb-19*	43	107.5
	19-Feb-19	35	87.5
	25-Feb-19	10	25
Annual Average		14.6	36.6
24 Hour Limit		50	--
Annual Average Limit		30	90

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

Required Frequency: Weekly – High Volume Air Sample run events occur every six days for 24 hours.

-- No Limit

* Dust storm event and regional increase of PM₁₀ observed

4 WATER QUALITY

A discharge event is deemed to occur when water leaves the site either through the overflow channel of the Main Dam or as a result of actively pumping water. During the site visit on the 7 February 2019, discharge point LD002 was observed to be flowing from the Main Dam via the overflow channel. A discharge sample from LD002 was collected on this day. The sample at Main Dam was collected for due diligence purposes only. Water quality results are presented in **Table 3**.

Table 3 *Discharge Water Quality Results*

Sampled: 7/2/2019		Premise: Invincible Colliery		
Obtained: 14/03/2019		Licensee: Shoalhaven Coal		
Published: 18/03/2019		EPL number: 1095		
Sampling Point	Frequency	Pollutant	100 Percentile Concentration Limit ^	Sample Concentration
Main Dam ¹	Monthly (for due diligence)	pH (pH unit)	--	7.45
		TSS (mg/L)	--	7
		Oil & Grease (mg/L)	--	<5
Discharge Point 2 (EPA Point 2)	Monthly during discharge	pH (pH unit)	6.5 – 8.5	7.09
		TSS (mg/L)	30	8
		Oil & Grease (mg/L)	10	<5

NS – no sample, no discharge event.

¹ – sample collected for due diligence purposes only.

--No limit applies

5 NOISE LIMITS

Quarterly attended noise monitoring was not undertaken during February 2019. Environmental Noise Monitoring results for previous quarters are available on the Castlereagh Coal website: http://www.castlereaghcoal.com.au/?page_id=1101

MONTHLY ENVIRONMENTAL MONITORING DATA

February 2019

6 BLASTING

No blasting was undertaken during February 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