

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

December 2018

3 AIR QUALITY

3.1 DEPOSITIONAL DUST

Depositional dust gauges for the December monitoring period were collected on 7 January 2019. All depositional dust sampling locations were in compliance with the annual average limit (4g/m²/month) for the month of December 2018. 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: 14/01/2019		Premise: Invincible Colliery		
Published: 16/01/2019		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)	6/12/2018	7/01/2019	3.8	1.0
ID-D2 (EPA Point 4)	6/12/2018	7/01/2019	3.0	0.9
ID-D3 (EPA Point 5)	6/12/2018	7/01/2019	2.4	1.2
ID-D4 (EPA Point 6)	6/12/2018	7/01/2019	4.4	1.4
ID-D5 (EPA Point 7)	6/12/2018	7/01/2019	3.0	1.5
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 December 2018 were in compliance with the maximum allowable limit of 50µg/m³ with the exception of the 15 December 2018. This elevated concentration was likely impacted by the regional dust storm on this day. 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 December

PM₁₀ and TSP results for December 2018 are presented in **Table 2**.

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Table 2 *High Volume Air Sampler Monitoring Results*

Obtained: 14/01/2019		Premise: Invincible Colliery	
Published: 16/01/2019		Licensee: Shoalhaven Coal	
		EPL number: 1095	
Sampling Point	Run Date	PM ₁₀ (µg/m³)	TSP (µg/m³)^
HVAS1 (EPA Point 3)	3-Dec-18	17	42.5
	9-Dec-18	23	57.5
	15-Dec-18	120	300
	21-Dec-18	13	32.5
	27-Dec-18	14	35
Annual Average		13.7	34.3
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

4 WATER QUALITY

No discharge events occurred at LD002 during December 2018. 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: 6/12/2018		Premise: Invincible Colliery		
Obtained: 14/01/2019		Licensee: Shoalhaven Coal		
Published: 16/01/2019		EPL number: 1095		
Sampling Point	Frequency	Pollutant	100 Percentile Concentration Limit ^	Sample Concentration
Main Dam ¹	Monthly (for due diligence)	pH (pH unit)	--	7.53
		TSS (mg/L)	--	<5
		Oil & Grease (mg/L)	--	<5
Discharge Point 2 (EPA Point 2)	Monthly during discharge	pH (pH unit)	6.5 – 8.5	NS
		TSS (mg/L)	30	NS
		Oil & Grease (mg/L)	10	NS

NS – no sample, no discharge event.

¹ – sample collected for due diligence purposes only.

--No limit applies

5 NOISE LIMITS

Environmental Noise Monitoring results for previous quarters are available on the Castlereagh Coal website: http://www.castlereaghcoal.com.au/?page_id=1101

6 BLASTING

No blasting was undertaken during December 2018.

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