



**CULLEN VALLEY MINE
ANNUAL REVIEW 2025**

1 JANUARY 2025 TO 31 DECEMBER 2025

Table of Contents

1	Statement of Compliance.....	6
2	Introduction	5
2.1	Mine Contacts.....	5
2.2	Annual Review Requirements.....	6
3	Approvals.....	7
3.1	Status of Leases, Licences and Approvals.....	7
3.2	Environmental Management Plans.....	7
3.3	Amendments to Approvals/Licences during the Reporting Period	8
4	Operations Summary	9
4.1	Mining Operations	9
4.2	Other Operations.....	9
4.3	Targeted Assessment Program - Revegetation.....	9
4.4	Heating Area Remediation.....	10
4.5	Pollution Reduction Program.....	10
4.6	Next Report Period	10
5	Actions Required from Previous Annual Review.....	11
6	Environmental Performance.....	12
6.1	Summary of Performance Against EIS Predictions.....	12
6.1.1	Noise Predictions	12
6.1.2	Air Quality Predictions	13
6.1.3	Water Quality Predictions	13
6.1.4	Groundwater Predictions	13
6.1.5	Biodiversity Predictions	13
6.2	Meteorological Monitoring	15
6.2.1	Rainfall	15
6.2.2	Temperature	15
6.2.3	Humidity	15
6.3	Air Quality	15
6.3.1	Environmental Management Measures	15
6.3.2	Performance Criteria	15
6.3.3	Environmental Outcomes	17
6.3.4	Trends in Data	18
6.3.5	Proposed Improvements	20
6.4	Water Management.....	20
6.4.1	Surface Water Quality	20
6.4.2	Performance Criteria	20
6.4.3	Groundwater Quality	21
6.4.4	Environmental Management Measures	27
6.4.5	Performance Criteria	27
6.4.6	Environmental Outcomes	29
6.4.7	Trends in Data	30

6.4.8	Proposed Improvements	30
6.5	Biodiversity	30
6.5.1	Environmental Management Measures	30
6.5.2	Monitoring	30
6.5.3	Environmental Outcomes/Trends in Data	30
6.5.4	Assessment of CVM CHA Completion Criteria	34
6.6	Blasting	35
6.7	Waste Management	35
6.8	Hazardous Material Management	36
6.9	Heritage	36
6.9.1	Indigenous Heritage	36
6.9.2	Non-Indigenous Heritage	36
6.10	Greenhouse Gas Emissions	36
6.11	Bushfire	36
6.12	Mine Subsidence	37
6.13	Public Safety	37
7	Water Usage	38
7.1	Water Management System	38
7.2	Water Take	38
7.3	Erosion and Sediment Control	38
7.3.1	Environmental Management Measures	38
7.3.2	Environmental Outcomes and Proposed Improvements	38
8	Rehabilitation	40
8.1	Status of Mining and Rehabilitation	40
8.1.1	Subsurface Heating	41
8.1.2	Environmental Outcomes and Further Improvements	41
8.2	Post Rehabilitation Land Uses	41
8.3	Completion Criteria Assessment	41
8.4	Rehabilitation Activities	41
8.4.1	CVM Rehabilitation Area Flora Monitoring Observations	41
8.4.2	CVM Rehabilitation Area Fauna Monitoring Observations	43
8.5	Assessment of CVM Rehabilitation Management Outcomes	44
9	Community	46
9.1	CCC Meetings	46
9.2	Complaints	46
10	Audit Information	47
11	Incidents and Non-Compliances During the Report Period	48
12	Activities to be Undertaken in the Next Reporting Period	53
13	References	54
	APPENDIX 1 - Figures	55
	APPENDIX 2 - Monitoring Results	61
	APPENDIX 3 - CVM IEA 2021 Response to Recommendations	74
	APPENDIX 4 - Resources Regulator Section 240 Notices and Targeted Assessment Program Action Plan	73


Tables

Table 1-1 Statement of Compliance	6
Table 1-2 Compliance Status Key	6
Table 1-3 Non-Compliances During the Reporting Period	2
Table 2-1 Key Personnel Responsible for Environmental Management	5
Table 2-2 Development Approval (200-5-2003) Conditions for the Annual Review	6
Table 3-1 Environmental Approvals Held by CVM	7
Table 1-2 Environmental Management Plans CVM	7
Table 1-3 Amendments to Approvals/Licence	8
Table 4-1 Production Summary	9
Table 6-1 Summary of Environmental Performance During 2025	14
Table 6-2 Air Quality Performance Criteria	15
Table 6-3 CVM Weather Station Summary	16
Table 6-4 Deposited Dust Monitoring Results	17
Table 6-5 Particulate matter (PM _{2.5} , PM ₁₀) and Total Suspended Particulates (TSP) Annual Average Results	18
Table 6-6 Annual Averages for Dust Deposition 2021-2025	18
Table 6-7 Annual Averages for PM _{2.5} , PM ₁₀ and TSP 2021-2025	20
Table 6-8 Water Quality Concentration Limits for LDP001 and LDP004 During Discharge	21
Table 6-9 Groundwater Quality and Level Triggers	22
Table 6-10 Impact and Reference Bores Standing Water Levels and Triggers	23
Table 6-11 Impact Bores pH Levels and Triggers	24
Table 6-12 Impact Bores Electrical Conductivity Levels and Triggers	24
Table 6-13 Impact Bores Sulphate Levels and Triggers	25
Table 6-14 Impact Bores Hardness Levels and Triggers	26
Table 6-15 Noise Criteria in DA 200-5-2003	28
Table 6-16 Noise Criteria in EPL 10341	29
Table 6-17 Noise complaints received during 2025	29
Table 6-18 2025 Quarterly Noise Monitoring Results	27
Table 6-19 2025 Comparison of CHA monitoring plot observations to PCT benchmarks	31
Table 6-20 Management observations against CVM CHA Completion Criteria	33
Table 6-21 CVM GHG Emissions 2023/24 and 2024/25	36
Table 7-1 Water Take During 2024 Reporting Period	38
Table 8-1 CVM Rehabilitation Status	40
Table 8-2 Observations of 2025 Rehabilitation Monitoring	42
Table 8-3 Management Observations for the CVM Rehabilitation Area	42
Table 9-1 Comparison of Complaints	46
Table 11-1 Non-compliances during 2025	49

Graphs

Graph 1 CHA Species Richness	30
Graph 2 Species Percentage Cover	320
Graph 3 Total number of Clandulla Geebung plants recorded across monitoring events (2012 – 2025)	32
Graph 4 Rehabilitation monitoring plot species richness	41
Graph 4 Rehabilitation monitoring plot percent foliage cover	41

Annual Review Title Block

Name of operation:	Cullen Valley Mine
Name of operator:	Castlereagh Coal (Trading name of Shoalhaven Coal Pty Ltd)
Development consent:	DA-200-5-2003 (as modified)
Name of holder of development consent:	Shoalhaven Coal Pty Ltd
Mining leases:	ML 1455, ML 1488, ML 1556, ML 1557
Name of holder of mining leases:	Shoalhaven Coal Pty Ltd
Water license:	80WA706148
Name of holder of water licence:	Shoalhaven Coal Pty Ltd
RMP start date:	30 September 2022
RMP end date:	N/A
Annual Review start date:	1 January 2025
Annual Review end date:	31 December 2025
<p>I, Kim Nguyen, certify that this audit report is a true and accurate record of the compliance status of Cullen Valley Mine for the period 1 January 2025 to 31 December 2025, and that I am authorised to make this statement on behalf of Shoalhaven Coal Company Pty Limited.</p> <p>Note.</p> <p><i>a) The Annual Review is an 'environmental audit' for the purposes of section 122B(2) of the Environmental Planning and Assessment Act 1979. Section 122E provides that a person must not include false or misleading information (or provide information for inclusion in) an audit report produced to the Minister in connection with an environmental audit if the person knows that the information is false or misleading in a material respect. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000.</i></p> <p><i>a) The Crimes Act 1900 contains other offences relating to false and misleading information: section 192G (Intention to defraud by false or misleading statement—maximum penalty 5 years imprisonment); sections 307A, 307B and 307C (False or misleading applications/information/documents—maximum penalty 2 years imprisonment or \$22,000, or both).</i></p>	
Name of authorised report officer:	Kim Nguyen
Title of authorised report officer:	Chief Executive Officer/Director
Signature of authorised report officer:	
Date:	30/03/2026

1 Statement of Compliance

This Annual Review provides a summary of the Cullen Valley Mine (CVM) operations environmental performance over the period 1 January to 31 December 2025 (referred to hereafter as the reporting period).

Table 1-1 provides a statement of compliance against CVM’s relevant approvals. A summary of the non-compliances recorded during the report period are included in **Table 1-3**.

Table 1-1 Statement of Compliance

Relevant approval	All conditions complied with?
Development Approval DA-200-5-2003	No - Refer to Table 1-3
Environmental Protection Licence EPL 10341	No - Refer to Table 1-3
Mining Lease (ML) 1455	No - Refer to Table 1-3
ML 1488	No - Refer to Table 1-3
ML 1556	No - Refer to Table 1-3
ML 1557	No - Refer to Table 1-3
Water Access License 27898	Yes
Water Supply Work Approval (80WA706148)	Yes

Table 1-2 Compliance Status Key

Risk Level	Colour Code	Description
High	Non-compliant	Non-compliance with potential for significant environmental consequences, regardless of the likelihood of occurrence
Medium	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> Potential for serious environmental consequences, but is unlikely to occur; or Potential for moderate environmental consequences, but is likely to occur
Low	Non-compliant	Non-compliance with: <ul style="list-style-type: none"> Potential for moderate environmental consequences, but is unlikely to occur; or Potential for low environmental consequences, but is likely to occur
Administrative non-compliance	Non-compliant	Only to be applied where the non-compliance does not result in any risk of environmental harm (e.g. submitting a report to government later than required under approval conditions)

Source: Annual Review Guideline (NSW Government, 2015).

Table 1-3 Non-Compliances During the Reporting Period

Relevant Approval	Condition No.	Description (Summary)	Compliance Status	Comment	Where Addressed in Annual Review
DA-200-5-2003	Schedule 4 Condition 20	Exceedance of air quality assessment criteria for particulate matter (PM ₁₀) on one (1) occasion.	Low Non-compliant	<p>On one (1) occasion during the reporting period the CVM High Volume Air Sampler (HVAS) notified of results outside of the assessment criteria:</p> <ul style="list-style-type: none"> - On 5 December 2024 the CVM (HVAS recorded a total result of 85.0 µg/m³ for the 24-hour averaging period of PM₁₀. <p>Following becoming aware of the event on 14 January 2025, CVM reported the incident to the Department of Planning Housing and Infrastructure (DPHI) via the Major Projects Portal for an air quality exceedance against DA 200-5-2003. As required by the Air Quality Management Plan (AQMP 2022) a detailed report was provided to the DPHI and relevant landowners within seven (7) days of becoming aware of each event.</p> <p>Regular air quality reporting is undertaken with monthly and quarterly reporting.</p>	Section 6.3
DA-200-5-2003	Schedule 4 Condition 25	Air Quality Monitoring – HVAS PM10 & Total Suspended Particulate not monitored	Low Non-compliant	<p>Between 25 June and 6 August 2025 PM10 and Total Suspended Particulates were not monitored. Catch-up runs were conducted between August and September 2025 to ensure a total of 60 monitoring events occurred for the year ended 31 December 2025.</p>	Section 6.3
DA-200-5-2003 EPL 10341	Schedule 4 Condition 40 L2	Discharge limits exceeded at Discharge Point 4 (LDP004)	Low Non-compliant	<p>The discharge point from Dam 4 (EPL Point 4) was potentially discharging between January and December 2025. The following exceedances of discharge limits under the licence were recorded:</p> <p>Electrical conductivity (Concentration criteria 650 uS/cm) exceeded on one (2) occasions:</p> <ul style="list-style-type: none"> - 22 October 2025 (1,103 uS/cm) - 30 December 2025 (1,141 uS/cm) <p>Total suspended solids (Concentration criteria 50 mg/L) exceeded on one (1) occasion:</p> <ul style="list-style-type: none"> - 30 December 2025 (108 mg/L) <p>Total Cobalt (Concentration criteria 0.0014 mg/L) exceeded on nine (9) occasions:</p>	Section 6.4.1

				<ul style="list-style-type: none"> - 13 August 2025 (0.002 mg/L) - 27 August 2025 (0.002 mg/L) - 17 September 2025 (0.002 mg/L) - 1 October 2025 (0.003 mg/L) - 8 October 2025 (0.004 mg/L) - 29 October 2025 (0.003 mg/L) - 3 December 2025 (0.002 mg/L) - 10 December 2025 (0.005 mg/L) - 30 December 2025 (0.002 mg/L) <p>Total Copper (Concentration criteria 0.0014 mg/L) exceeded on two (2) occasion:</p> <ul style="list-style-type: none"> - 3 September 2025 (0.004 mg/L) - 17 December 2025 (0.002 mg/L) <p>Total Nickel (Concentration criteria 0.011 mg/L) exceeded on three (3) occasions:</p> <ul style="list-style-type: none"> - 1 October 2025 (0.017 mg/L) - 8 October 2025 (0.015 mg/L) - 10 December 2025 (0.012 mg/L) <p>Total Zinc (Concentration criteria 0.008 mg/L) exceeded on five (5) occasions:</p> <ul style="list-style-type: none"> - 17 September 2025 (0.01 mg/L) - 1 October 2025 (0.014 mg/L) - 8 October 2025 (0.014 mg/L) - 29 October 2025 (0.01 mg/L) - 10 December 2025 (0.009 mg/L) <p>Total Iron (Concentration criteria 0.3 mg/L) exceeded on nineteen (19) occasions:</p> <ul style="list-style-type: none"> - 13 August 2025 (1.34 mg/L) - 20 August 2025 (0.92 mg/L) - 27 August 2025 (0.97 mg/L) - 3 September 2025 (1.02 mg/L) - 10 September 2025 (0.56 mg/L) - 17 September 2025 (0.94 mg/L) - 1 October 2025 (2.43 mg/L) - 8 October 2025 (2.77 mg/L) 	
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Relevant Approval	Condition No.	Description (Summary)	Compliance Status	Comment	Where Addressed in Annual Review
				<ul style="list-style-type: none"> - 15 October 2025 (0.74 mg/L) - 29 October 2025 (2.16 mg/L) - 5 November 2025 (0.57 mg/L) - 12 November 2025 (0.95 mg/L) - 19 November 2025 (0.44 mg/L) - 26 November 2025 (1.06 mg/L) - 3 December 2025 (1.46 mg/L) - 10 December 2025 (3.1 mg/L) - 17 December 2025 (0.62 mg/L) - 23 December 2025 (0.69 mg/L) - 30 December 2025 (1.9 mg/L) <p>Investigations are currently underway to determine whether discharging water is sourced from Dam 4 or a natural spring.</p>	
DA-200-5-2003	Schedule 4 Condition 41(a)	Measure of discharge water volumes	Low Non-compliant	The discharge point from Dam 4 (EPL Point 4) was potentially discharging between January and December 2025. No volume of water discharging from LDP004 was taken. Investigations are currently underway to determine whether water is sourced from Dam 4 or a natural spring.	Section 6.4.2
DA-200-5-2003 EPL 10341	Schedule 4 Condition 27 L6.1	Fifteen (15) odour complaints received associated with sub-surface heating areas at CVM.	Low Non-compliant	<p>Fifteen (15) odour complaints were received by CVM during the report period (refer to Section 9.2).</p> <p>CVM has implemented a number of management measures and undertook regular inspections of the area. Each complaint was investigated on-site to assess the condition of the sub-surface heating areas at the time of the complaint. During 2025 a Heating Area Remediation Strategy was developed. The report is currently in draft and under review before works to manage the heating begin in 1st quarter 2026.</p>	Section 6.4.6 and Section 9.2

2 Introduction

Shoalhaven Coal Pty Ltd owns the Cullen Valley Mine (CVM), an open cut coal mine located approximately 30 kilometres (km) north-west of Lithgow in New South Wales (NSW) (refer to **Appendix 1, Figure 1**). Cullen Valley Mine is Operated by Castlereagh Coal a wholly owned subsidiary of Shoalhaven Coal Pty Ltd.

Underground mining commenced at CVM formerly Tyldesley Colliery around 1904 and continued up until the 1960s when the workings were abandoned. Open cut operations were conducted on the site between 1948 and 1953. Modern open cut operations began at CVM after 19 August 1999 when the Lithgow Coal Company was granted Mining Lease (ML) 1455 by the then Minister for Mineral Resources. Mining commenced on site in May 2000 following a four month construction phase.

Following the identification of additional open cut coal reserves, a further Environmental Assessment and Development Application was lodged for an extension of the mine in April 2003 (i.e. DA-200-5-2003). The lease extension area lies along the western side of Tyldesley Hill adjacent to the main western railway line. Approval of the Development Application was granted by the then Department of Planning and Infrastructure (DPI) on 19 August 2004.

CVM has previously supplied coal under contract to the Mount Piper Power Station. However, with the failure of the mine to secure a supply contract in 2007, it was proposed to place the operation on a care and maintenance program until such time as sufficient contracts were awarded that would make the operation of the mine viable once again. Coalpac Pty Ltd purchased the Lithgow Coal Company Pty Ltd, which owned the CVM, in January 2008 and the previous plans to place the mine on care and maintenance were discarded. Recommencement of the open cut mining operations occurred in February 2008. Mining of the available approved area at CVM was completed in early December 2012. Any remaining stockpiled ROM coal was transported to the Invincible Colliery during February 2013 and processed through the Invincible Coal Crushing Plant. The CVM was then placed under care and maintenance.

Shoalhaven Coal purchased the mine from Coalpac’s administrators in May 2015. In November 2021 Shoalhaven Coal Pty Ltd was sold via a 100% share transaction to an all-Australian locally based ownership team who continued to operate the Colliery under a care and maintenance arrangements until mining recommenced in May 2022.

2.1 Mine Contacts

The Shoalhaven Coal Chief Executive Officer (CEO) is responsible to the regulatory authorities for all aspects of environmental management and compliance. The CEO’s contact details are included in **Table 2-1**.

Table 2-1 Key Personnel Responsible for Environmental Management

Name	Role	Company	Contact details
Kim Nguyen	Chief Executive Officer	Shoalhaven Coal Pty Ltd, trading as Castlereagh Coal	Invincible Colliery Castlereagh Highway Cullen Bullen, NSW 2790 M 0414 335 529
Tim Haig	General Manager	Shoalhaven Coal Pty Ltd, trading as Castlereagh Coal	Invincible Colliery Castlereagh Highway Cullen Bullen, NSW 2790 M 0400 653 241
Taresa Hateley	Environmental Superintendent	Shoalhaven Coal Pty Ltd, trading as Castlereagh Coal	Invincible Colliery Castlereagh Highway Cullen Bullen, NSW 2790 M 0493 577 337

2.2 Annual Review Requirements

Condition 5 of Schedule 6 of the CVM Development Approval-200-5-2003 (as modified) requires an Annual Review (AR) to be prepared and submitted to the Director General of the Department of Planning, Housing and Infrastructure (DPHI) and relevant agencies. This report has been prepared in accordance with the *NSW Government Annual Review Guidelines* (NSW Government, 2015) and details the operational and environmental management activities at CVM during the reporting period. The reporting obligations contained in the Development Approval along with an explanation of where each requirement is addressed within this document are provided in **Table 2-2**.

Table 2-2 Development Approval (200-5-2003) Conditions for the Annual Review

Conditions		Addressed in Section
Schedule 6 – Environmental Management, Monitoring, Auditing and Reporting: Annual Report		
5.	The Applicant shall submit an AEMR to the Planning Secretary and relevant agencies. This report must:	This document
	a) identify the standards and performance measures that apply to the project;	Relevant sections throughout Section 6.0
	b) include a detailed summary of the complaints received during the past year, and compare this to the complaints received in the previous 5 years;	Section 9.2
	c) include a detailed summary of the monitoring results for the project during the past year;	Relevant sections throughout Section 6.0
	d) include a detailed analysis of these monitoring results against the relevant: <ul style="list-style-type: none"> • impact assessment criteria/limits; • monitoring results from previous years; and • predictions in the EA; 	Relevant sections throughout Section 6.0
	e) identify any trends in the monitoring results over the life of the development;	Relevant sections throughout Section 6.0
	f) identify any non-compliance during the previous year;	Section 1.0, Section 11.0
	g) describe what actions were, or are being, taken to ensure compliance.	Section 6.0, Section 11.0

3 Approvals

3.1 Status of Leases, Licences and Approvals

CVM operates in accordance with the approvals listed in **Error! Reference source not found.**

Table 3-1 Environmental Approvals Held by CVM

Approval	Date Granted	Expiry Date	Status
Development Approval (DA-200-5-2003)	19 August 2004	19 August 2030	Current
Environment Protection Licence (EPL) 10341	10 December (anniversary date)	Annually	Current
ML 1455	Renewal date - 31 May 2023	19 August 2027	Current
ML 1488	21 June 2001	20 June 2033	Current
ML 1556	20 September 2004	19 September 2032	Current
ML 1557	20 September 2004	19 September 2032	Current
Water Supply Work Approval 80WA706148	16 January 2012	5 July 2035	Current

3.2 Environmental Management Plans

Environmental Management Plans (EMPs) have been prepared and approved for the CVM in accordance with the conditions of DA-200-5-2003. The currently approved versions are available on the Castlereagh Coal website (<https://ccoal.com.au>).

Table 3-2 Environmental Management Plans CVM

Management Strategy/Plan	Approved	Last Modified	Approved	Approval Agency
Environmental Management Strategy	Yes	29/10/2025	With agency for approval	DPHI
Air Quality Management Plan	Yes	9/10/2025	With agency for approval	DPHI
Coal Haulage Vehicle Management Plan	Yes	20/4/2022	Yes	DPHI
Environmental Monitoring Program	Yes	8/10/2025	Yes	DPHI
Erosion and Sediment Control Plan	Yes	20/4/2022	Yes	DPHI
Flora and Fauna Management Plan	Yes	4/12/2025	N/A	DPHI
Fire Management Plan	Yes	3/12/2025	N/A	RFS
Noise Management Plan	Yes	22/10/2025	With agency for approval	DPHI
Pollution Incident Response Management Plan	N/A	1/10/2025	N/A	EPA
Rehabilitation Management Plan	Yes	26/9/2025	With agency for approval	RR
Site Water Management Plan	Yes	20/4/2022	Yes	DPHI
Species Management Plan (Clandulla Geebung)	Yes	4/12/2025	N/A	DPHI

3.3 Amendments to Approvals/Licences during the Reporting Period

Table 3-3 lists approvals and amendments that were granted during the reporting period.

Table 3-3 Amendments to Approvals/Licence

Licence/Approval	Amendment type	Date of amendment
DA-200-5-2003	Modification 5	15 August 2025
ML 1557	Renewed	September 2024
EPL 1034	Administrative updates	November 2024 (submission)
ML 1455, ML 1456, ML 1488	Ancillary mining activity	October 2024 (submission)

4 Operations Summary

4.1 Mining Operations

A summary of operations (Production) during the preceding and current period as well as forward forecast for the next reporting period is provided in **Table 4-1**.

Table 4-1 Production Summary

Material	Approved Limit (specify source)	2024 Previous reporting period (Actual)	2025 This reporting period (Actual)	2026 Next reporting period (forecast)
Waste rock/overburden (Mbcm)	Not specified	0	0	0.533
Coal works/Coal mining (Mt)	0-2 Mtpa Coalworks (EPL) 0.5-2 Mtpa Mining for Coal (EPL) 1 Mtpa (DA)	0	0	0.075
Coarse reject	Not specified	0	0	0
Fine reject	Not specified	0	0	0
Saleable coal (Mt)	Not specified	0	0	0.075

No saleable product coal or waste rock/overburden was mined from the CVM during the reporting period.

4.2 Other Operations

During the reporting period, minor works were undertaken including water management, weed spraying and dam pad reconstructions.

Additionally, significant dewatering of the CVM North Void was also carried out in response to the Environmental Protection Agency (EPA) inspections noting uncontrolled seepage was occurring from the void.

4.3 Targeted Assessment Program - Revegetation

In December 2024 a Targeted Assessment Program (TAP) was conducted by the Resources Regulator on CVM, assessing revegetation. Key observations and associated recommendations were identified by the Regulator in a response letter dated 11 April 2025 which included the following subject matter:

- Risk assessment;
- Substrate geochemical and soil biota conditions;
- Physical and structural properties of the substrate;
- Revegetation program accounting for unseasonal/adverse weather;
- Mine planning to schedule revegetation in optimal seasonal conditions;
- Availability and integrity of seed resource;
- Prevention of physical damage to revegetation;
- Revegetation considers landform aspect and unit;
- Rehabilitation monitoring programs;
- Rehabilitation care and maintenance/adaptive management program;

The TAP included reference to previous TAPs, being:

- Soil and Materials Management TAP dated 24 November, 2020
- Landform Establishment TAP dated 27 August 2021

As well as the Section 240 notices (NTCE0008974 and NTCE0008975) issued following the Landform Establishment TAP.

As at the end of the reporting period, an action plan to address all outstanding recommendations from all TAPs and Section 240 notices was being developed for implementation in 2026 in consultation with the Resources Regulator.

4.4 Heating Area Remediation

During the final quarter of the reporting period, a Heating Area Remediation Strategy was developed to provide guidance to address ongoing heating issues within the overburden emplacements and underground workings. Castlereaugh Coal is working in consultation with the Resources Regulator to ensure an appropriate strategy is implemented to reduce the effect of the heating on revegetation areas within CVM. As at the end of the reporting period the draft Strategy was being reviewed by the CC management team with submission to the Regulator planned for the first quarter of 2026.

4.5 Pollution Reduction Program

In August 2025, a Pollution Reduction Program (PRP) was included as part of a variation of EPL 1034 with requirements to address the following subject matter:

- Address seepage and maintain the North Void to ensure no future seepage occurs from the premises;
- Submit a Groundwater Investigation and Surface Water Management Report for the premises;
- Update the Water Management Plan (WMP) and Water Balance;
- Prepare monthly summary reports on the progress of the above.

Work was ongoing through 2025 to maintain the North Void at low levels to prevent further seepage from the water body. In August 2025 an Independent Expert was commissioned to prepare the Groundwater Investigation and Surface Water Management Report for CVM. As at the end of the reporting period the report was in draft and planned for submission in January 2026. Monthly summary reports have been submitted quarterly to the EPA, beginning with the quarter ended October 2025.

4.6 Next Report Period

Mining at CVM will be undertaken during the next reporting period to extract the remaining remnant coal unable to be recovered during 2025. Rehabilitation activities for next reporting period is discussed in Section 8 and addressed in the CVM Mine Forward Program (FWP) on the Castlereaugh Coal website.

Actions from the TAP review, Heating Area Remediation Strategy review and the Pollution Reduction Program review will be implemented throughout the next reporting period.

5 Actions Required from Previous Annual Review

Following submission of the 2024 Annual Review, DPIE advised in correspondence dated 9 April 2025, that the Annual Review was considered to generally satisfy the requirement of the Approval in relation to Annual Reviews. It was also noted the non-compliances reported under the consent as outlined in the Annual Review but indicated no further information was required. Additionally, DPIE requested that the Annual Review be made publicly available on the company website. A copy of the 2024 Annual Review is available on the Castlereagh Coal website.

6 Environmental Performance

In accordance with the Annual Review Guidelines (DPE, 2015), this section describes the environmental monitoring and management measures undertaken at CVM during the report period.

A range of environmental monitoring is required to be undertaken by the Development Consent, EPL and CVM management plans. **Appendix 1, Figure 3**, shows the CVM environmental monitoring locations.

6.1 Summary of Performance Against EIS Predictions

CVM has been the subject of two Environmental Impact Statements (EIS) in the last 20 years of operations. The results of environmental monitoring conducted during the reporting period are compared to the predictions of these EIS's.

The Feldmast Coal Project for open cut and underground operations to the north-east and north-west of Cullen Bullen was assessed in the EIS dated February 1997 (International Environmental Consultants, 1997). The CVM Lease Extension Project involved expanded operations further to the north-west of the original mining area adjacent to the Wallerawang-Gwabegar Railway line and was assessed in the EIS dated April 2003 (International Environmental Consultants, 2003).

Environmental monitoring undertaken includes noise, air quality, surface water and groundwater quality, and biodiversity. Below is a summary of predictions from the two EIS's completed for the site. **Table 6.1** provides a summary of CVM environmental performance against the EIS predictions for the reporting period. It is noted that modelling undertaken for the respective EIS's assumed mining operations were being undertaken. As noted previously, CVM was in care and maintenance until May 2022 after which mining operations recommenced.

6.1.1 Noise Predictions

The Feldmast EIS (1997) predicted that with construction of the noise bund, noise from open cut operations was expected to result in an increase in existing background levels measured at the Hillcroft property (Hillcroft) of no more than 5 dB(A). The construction of a private access road between the mine and Mudgee Road to bypass Cullen Bullen was completed during the construction phase and was expected to minimise truck noise. The bypass around Cullen Bullen and noise bund were constructed, significantly reducing traffic and noise impacts on the town and nearby properties.

In the 2003 EIS and approved extension to mining operations, noise exceedances of 2-4 dB(A) were predicted to occur at Red Springs during temperature inversion conditions. Noise exceedances of 4-7 dB(A) were also predicted at Hillcroft during temperature inversion conditions. At Forest Lodge, exceedances of 1 dB(A) (calm), 5dB(A) (south wind) and 5dB(A) (temperature inversion) were predicted in Years 9 and 10 of the extension operations. Exceedances of 3 dB(A) (calm), 10dB(A) (south wind) and 5dB(A) (temperature inversion) were also predicted during years 9 and 10 at the 25 acre allotments to the north of the mine. *NB: These are exceedances of the 35 dB(A) criteria.*

6.1.2 Air Quality Predictions

The Feldmast EIS (1997) predicted annual average TSP concentrations from background levels plus mine emissions to be 48 $\mu\text{g}/\text{m}^3$ at the closest residences to the mine, which is well below the 90 $\mu\text{g}/\text{m}^3$ annual average limit. Predicted PM_{10} concentrations were 24 $\mu\text{g}/\text{m}^3$ (background plus mine emissions) and this is well below the annual average limit of 30 $\mu\text{g}/\text{m}^3$. $\text{PM}_{2.5}$ concentrations from mine emissions were predicted to be 0.5 $\mu\text{g}/\text{m}^3$ at the closest residence.

Modelling of dust deposition in the worst-case scenario predicted that no long-term adverse air quality impacts at the closest residential area as a result of mine operations.

The 2003 EIS predicted that nearby residences and those in Cullen Bullen were unlikely to experience unacceptable long-term impacts on air quality from the mine extension operations. It was predicted that short-term impacts could occur if emissions from the mine extension operations were combined with elevated levels from other sources.

6.1.3 Water Quality Predictions

Given the water management system contains and treats water within storage ponds prior to discharge, the Feldmast EIS (1997) predicted that EPA discharge criteria would be met. All water within the Lithgow Seam was proposed to be drained within the mining area. Groundwater systems below the Lithgow Seam were expected to be unaffected by the project.

The 2003 EIS predicted that the water management system for containment and reuse of all runoff from disturbed areas would ensure that EPA licence criteria for surface water quality would be met. The project was expected to use underground water within the old Tyldesley underground workings which collects subsurface water contained within the coal measures. Groundwater systems below the Lithgow Seam were expected to be unaffected by the project.

6.1.4 Groundwater Predictions

During 2017 a review of the groundwater regime in the vicinity of CVM was undertaken which resulted in the development of a standalone CVM Water Management Plan (Umwelt, 2017b). A new CVM Site Water Management Plan (SWMP) (JBA, 2022c) was developed and approved during 2022 prior to the recommencement of mining. The SWMP adopts the same groundwater trigger levels from the 2017 WMP. For the purposes of this report, the results of the 2025 groundwater monitoring have been compared to the groundwater trigger levels contained in the CVM SWMP (JBA, 2022c).

6.1.5 Biodiversity Predictions

Only one threatened plant species, Capertee Stringybark, was found to occur in the study area during the Feldmast EIS (1997). The EIS predicted that no local population of Capertee Stringybark would be placed at risk of extinction as a result of the proposed mining operations. The 2003 EIS made similar predictions and concluded that there would not be a significant effect on Capertee Stringybark as a result of the expansion.

The 1997 EIS predicted that the mining operations were unlikely to cause a significant impact on threatened fauna species found in the study area. Similarly, the 2003 EIS predicted that the expansion was unlikely to have a significant impact on threatened fauna.

A summary of the environmental performance of CVM during the report period as compared to predictions made in the EIS's is provided in **Table 6-1**.

Table 6-1 Summary of Environmental Performance During 2025

Aspect	Development Approval criteria/ EA prediction	Performance during the report period	Trend/key management implications
Noise	Refer to Section 6.1.1	Noise performance is compliant with Development Approval criteria and conforms to EIS predictions. Refer to Section 0 .	No noise exceedance recorded during 2025. Historic trends are shown in Section 0 .
Air Quality	Refer to Section 6.1.2	Air Quality monitoring conforms to EIS predictions. Non-compliances for air quality are listed in Table 1-3 . Refer to Section 6.3 .	A comparison to historic trends for air quality are shown in Section 6.3 and Appendix 2 .
Water Quality	Refer to Sections 6.1.3 and 6.1.4	Surface water quality non-compliances with Development Approval criteria and EIS predictions are listed in Section 0 . Groundwater monitoring has been compared to trigger levels developed during 2017 in Section 6.4.3 .	Surface water and Groundwater monitoring was undertaken and is discussed in Sections 6.4.1 and 6.4.3 and Appendix 2 .
Biodiversity	Refer to Section 6.1.5	Conservation areas are generally in healthy stable condition Section 6.5 . Rehabilitation areas are generally progressing towards satisfactory completion Section 8.4 .	The Biodiversity Monitoring Program continued during 2025.

6.2 Meteorological Monitoring

Meteorological monitoring is undertaken at CVM. The CVM weather station (CMET2) is located at the training centre adjacent to the compensatory habitat area (**Appendix 1, Figure 3**). A summary of monthly meteorological monitoring results is provided in **Table 6-3**.

6.2.1 Rainfall

CVM received 607 mm of rainfall over 147 rain days during the report period. The highest rainfall occurred during August (72.6 mm), while the lowest rainfall was recorded during October (16.4 mm). A summary of monthly rainfall data is provided in **Table 6-3**.

6.2.2 Temperature

Air temperature is measured at 2 m and 10 m above ground level. The maximum temperature recorded during the report period was in January (35.85°C @ 2m) and the lowest temperatures occurred in June (-7.17°C @ 2m). The minimum and maximum monthly temperature data is provided in **Table 6-3**.

6.2.3 Humidity

The minimum humidity of 10.8% was recorded in June and a maximum humidity of 99.8% was recorded in March. The minimum and maximum monthly humidity data is provided in **Table 6-3**.

6.3 Air Quality

6.3.1 Environmental Management Measures

CVM's Environmental Management Plan (JBA, 2022) includes an Air Quality Management Plan (AQMP), which defines mitigation measures and monitoring procedures for the management of dust.

The air quality monitoring network at CVM consists of five dust deposition gauges (i.e. CDD1 to CDD5) and one High Volume Air Sampler (HVAS) measuring particulate matter <10 µm (PM₁₀) (**Appendix 1, Figure 3**).

6.3.2 Performance Criteria

The air quality performance criteria specified in DA 200-5-2003 (Mod5) are reproduced in **Table 6-2**.

Table 6-2 Air Quality Performance Criteria

Pollutant	Averaging Period	Criterion
Total suspended particulate (TSP) matter	Annual average	90 µg/m ³
Particulate matter <10µm (PM ₁₀)	Annual average	25 µg/m ³
	24-hour average	50 µg/m ³
Particulate matter <2.5µm (PM _{2.5})	Annual average	8 µg/m ³
	24-hour average	25 µg/m ³
Deposited dust	Annual average (maximum total)	4 g/m ² /month
	Annual average (maximum increase)	2 g/m ² /month

Table 6-3 CVM Weather Station Summary

Month	Rainfall	Cumulative	No of	Air temp @ 2m		Air temp @ 10m		Humidity (%)	
	(mm)	Rainfall (mm)	rain days	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum
January 2025	50.8	50.8	15	5.49	35.85	6.22	35.0	21.9	98.7
February 2025	69.4	120.2	12	2.78	33.54	3.25	31.82	25.3	99
March 2025	41.6	161.8	12	7.18	33.53	8.0	32.93	19.3	99.8
April 2025	51.4	213.2	9	-1.29	26.25	-0.71	24.68	18.7	99.7
May 2025	70.4	283.6	15	-0.49	20.83	-0.21	20.06	24.3	99.7
June 2025	27.8	311.4	14	-7.17	19.17	-6.23	17.45	10.8	99.7
July 2025	60.0	371.4	17	-6.12	16.34	-5.47	14.77	17.3	99.6
August 2025	72.6	444.0	18	-4.73	21.8	-4.08	19.29	35.2	99.7
September 2025	54.0	498.0	8	-2.6	24.53	-2.06	24.45	18.0	99.6
October 2025	16.4	514.4	10	0.03	30.67	0.65	31.01	18.9	99.7
November 2025	44.2	558.6	8	-1.54	31.43	-0.9	30.48	15.1	99.7
December 2025	48.0	606.6	9	-0.27	34.13	0.41	33.95	12.0	99.7
Total	606.6	-	147	-	-	-	-	-	-

6.3.3 Environmental Outcomes

6.3.3.1 Dust Deposition

Deposited dust is monitored on a 30± 2-day cycle. The annual average criterion for deposited dust (4 g/m²/month) was not exceeded at any of the dust deposition gauges during the reporting period. The annual average increase in dust levels for all locations was less than 2 g/m²/month and therefore complied with air quality performance criteria.

The monthly deposited dust monitoring results for 2025 are shown in **Table 6-4** and are compared with historical results in **Appendix 2**.

Table 6-4 Deposited Dust Monitoring Results

Date	Total Insoluble Solids (g/m ² /month)				
	CDD1	CDD2	CDD3	CDD4	CDD5
January 2025	0.6	0.6	0.9	1.5	0.7
February 2025	0.2	0.4	0.4	0.3	0.2
March 2025	1.1	0.4	0.5	0.5	0.6
April 2025	0.4	0.6	0.4	0.7	0.5
May 2025	0.4	0.1	0.2	0.1	0.2
June 2025	0.5	0.3	0.7	0.2	0.2
July 2025	0.4	0.6	0.6	0.7	0.5
August 2025	0.4	0.2	0.1	0.2	0.2
September 2025	0.9	0.2	0.9	1.2	0.9
October 2025	0.7	0.5	0.3	0.5	0.5
November 2025	0.5	0.4	0.5	0.5	0.5
December 2025	1.1	0.8	1.2	1.8	1.2
Annual Average 2025	0.6	0.4	0.6	0.7	0.5

6.3.3.2 Particulate Matter

Monitoring of particulate matter was conducted during 2025. The results of total suspended particulates (TSP) and PM_{2.5} were estimated from the PM₁₀ concentrations during the reporting period as there was no HVAS TSP system located on site at CVM. Estimates of TSP have been captured since 2014, and the installation of a new TSP unit is intended to allow a more accurate data capture. The annual average criteria for PM₁₀ (30 µg/m³) and TSP (90 µg/m³) were not exceeded during the report period. The 24 hr averaging period criteria (50 µg/m³) was exceeded on two (2) occasions, refer to **Table 1-3**.

The PM_{2.5}, PM₁₀ and TSP average results for the report period are shown in **Table 6-5**. Note that it only became a requirement to report on PM_{2.5} exceedances following the approval of Mod5 on 15 August 2025.

Table 6-5 Particulate matter (PM_{2.5}, PM₁₀) and Total Suspended Particulates (TSP) Annual Average Results

Annual Average	PM _{2.5} (µg/m ³)	PM ₁₀ (µg/m ³)	TSP (µg/m ³)*
Annual Average Criterion	8	25	90
24 hr Criterion	25	50	-
Annual Average 2025	4.0	7.9	19.8
Average 24 hr 2025	4.6	9.1	22.8
Average 24 hr (max.) 2025	18.0	36.0	90.0
Average 24 hr (min.) 2025	0.5	1.0	2.5

* TSP and PM_{2.5} were estimated from the PM₁₀ concentrations.

A graph of the PM₁₀ and TSP monitoring data for 2025, as well as historical data trends, is shown in **Appendix 2**.

6.3.4 Trends in Data

6.3.4.1 Dust Deposition

Table 6-6 presents the dust deposition annual averages from 2021 to 2025. Graphs of the long-term dust deposition levels are included in **Appendix 2**. The annual averages for depositional dust recorded at CVM during 2024 are well below the performance criteria.

Table 6-6 Annual Averages for Dust Deposition 2021-2025

Reporting period	Total Insoluble Solids (g/m ² /month)				
	CDD1	CDD2	CDD3	CDD4	CDD5
Criteria	4.0	4.0	4.0	4.0	4.0
2021	0.2	0.4	0.3	0.2	0.9
2022	0.4	0.3	0.3	0.8	0.5
2023	0.6	0.5	0.7	1.0	0.6
2024	0.8	0.5	1.1	1.0	0.6
2025	0.6	0.4	0.6	0.7	0.5

The 2025 annual average dust deposition levels were consistent with the range of averages since 2021. The 2025 annual averages at all monitoring locations are equal to the lower end of the historical range over the previous five years except for some monitoring locations during 2021 when the mine was in care and maintenance.

6.3.4.2 Particulate Matter

Table 6-7 presents the particulate matter annual averages from 2021 to 2025. The PM_{2.5}, PM₁₀ and TSP 2025 annual averages are within the range of results over the previous five years. The 2025 annual averages for PM₁₀ and TSP are at the middle range of averages over the previous five years.

Table 6-7 Annual Averages for PM_{2.5}, PM₁₀ and TSP 2021-2025

Annual Average	PM _{2.5} (µg/m ³)	PM ₁₀ (µg/m ³)	TSP (µg/m ³)*
Criteria	8.0	25.0	90.0
2021	n/a	5.6	14.1
2022	n/a	4.0	10.0
2023	n/a	9.0	22.6
2024	n/a	14.1	44.0
2025	4.0	7.9	19.8

6.3.5 Proposed Improvements

Monitoring of air quality will continue to be conducted during 2026 in accordance with the Air Quality Management Plan (AQMP). A TSP unit will be installed at the current HVAS sampling location to allow for more accurate data capture.

6.4 Water Management

The current CVM Site Water Management Plan (SWMP) was approved by DPIE in April 2022. Water management is undertaken at CVM in accordance with the approved SWMP.

6.4.1 Surface Water Quality

6.4.1.1 Environmental Management Measures

The surface water management system at CVM utilises a series of settlement dams. The system is primarily operated as a closed loop system. The CVM Water Management System (WMS) incorporates a range of infrastructure to manage clean water runoff from upslope undisturbed catchments, dirty water runoff from disturbed catchments and mine water (i.e. groundwater extracted from former underground workings or water that has come into contact with coal). The fundamental principle of the WMS is to minimise interaction of clean, dirty and mine waters and to capture dirty water for re-use and provide controls to treat captured dirty water to a standard suitable for discharge off-site.

The Tyldesley Mine underground workings are also used to store excess water from the WMS. The primary source of water for site use (when required) is from the abandoned and flooded Tyldesley Mine underground workings via the Tilley's Bore (GW01) in accordance with Water Access Licence WAL27898. When required, water is pumped from the workings via the Tilley's Bore to two 150,000 L tanks at CVM. Site water is transferred between site dams through gravity fed water mains.

CVM operates under EPL 10341. The EPL provides water quality criteria and water quality monitoring requirements for water discharges from the two CVM Licensed Discharge Points (LDP's) being LDP001 and LDP004, refer to **Appendix 1, Figure 3**. Further discussion regarding water management and erosion and sediment control measures is included in **Section 7.0**.

6.4.2 Performance Criteria

Water may be discharged from LDP001 and LDP004 at CVM in accordance with EPL and Development Approval requirements. A discharge event is deemed to occur when water leaves the site either through the overflow channel of either Dam 3 (LDP001) or Dam 4 (LDP004), or as a result of actively pumping water. **Table 6-8** presents the EPL discharge criteria for these discharge points. Note that the EPL 10341 variation in August 2025 allowed for further criteria to discharge concentration limits on CVM. These are reflected in **Table 6-8**.

Table 6-8 Water Quality Concentration Limits for LDP001 and LDP004 During Discharge

Parameter	Concentration Limit
Oil & Grease	10 mg/L
pH	6.5 – 8.5
Total suspended solids	50 mg/L
Electrical conductivity	650 uS/cm
Boron	0.94 mg/L
Cobalt (total)	0.0014 mg/L
Copper (total)	0.0014 mg/L
Nickel (total)	0.011 mg/L
Iron (total)	0.3 mg/L
Manganese (total)	1.9 mg/L
Zinc (total)	0.008 mg/L

6.4.2.1 Environmental Outcomes/Trends in Data

There were nil discharge events from LDP001 during the reporting period. Samples were collected on a monthly basis for due diligence purposes only. LDP004 was suspected of discharging during all monthly sampling events during the reporting period. Water samples were collected and analysed weekly from LDP004 during the suspected discharge. Investigations are currently underway to determine the cause of the water discharging at LDP004.

Following the change in discharge concentration criteria in August 2025, multiple incidents of concentration exceedances have been reported. These exceedances are included in **Table 1-3**.

The CVM North Void was suspected of seepage during 2024. The North Void is continuously dewatered to stop any potential seepage from site. CVM has engaged a suitably qualified person under the requirements of the Pollution Reduction Program in EPL 10341, to determine if contamination has occurred from the North Void seepage point. As at the end of the reporting period the investigative report was in draft. The final report and its recommendations will inform the update of the WMP in the first quarter of 2026.

6.4.2.2 Proposed Improvements

Monitoring water quality at the CVM will continue to be conducted during 2026. CVM will continue to liaise with NSW EPA regarding the North Void.

6.4.3 Groundwater Quality

6.4.3.1 Environmental Management Measures

CVM is located on the western escarpment of the Sydney Basin. Aquifers in this area are typically limited to the Lithgow Seam and the Marangaroo Sandstone which underlies the Lithgow Seam. Despite their proximity, there is little observed movement between these aquifers in the Marangaroo Sandstone and the Lithgow Seam (AGE, 2012).

Past open cut and highwall mining at CVM has targeted the Irondale, Lidsdale and Lithgow seams. Underground mining in the area has been largely limited to the Lithgow seam. The Lithgow Seam can be seen in the highwall faces at CVM (some of which are now covered by overburden). Outcrop areas north of the open cut workings represent local recharge points for the Lithgow seam.

Figure 4, Appendix 1 shows the general dip in the strata of the Lithgow seam to the east - northeast and the location of underground workings in the Lithgow seam in the area. The open cut workings in the southern parts

of the CVM are hydraulically connected to the former Tyldesley Colliery workings which extend to the east of the southern part of CVM. The water in the Tyldesley Colliery workings is sourced from groundwater inflows (i.e. recharge areas) located up-dip, ingress from areas at CVM where the open cut operations are hydraulically connected to the Tyldesley workings, and infiltration through subsidence cracking associated with pillar extraction and pillar failure in the former workings. Water quality in these workings is monitored at GW01 (East Tyldesley Bore) (refer to **Figure 4, Appendix 1**).

As can be seen from **Figure 4, Appendix 1** the CVM is located up-dip of the Lithgow seam groundwater monitoring bores of CP116, CP115 and CP132 and operates as a recharge point for the Lithgow seam in this area. As mining at CVM extended to the base of the Lithgow Seam and as CVM represents an up-dip recharge point of this aquifer, the open cut at CVM do not intercept any natural groundwater aquifers. Therefore, there are limited depressurisation impacts associated with the CVM open cut pits and any impacts would be associated with interactions with the recharge regime; these impacts are expected to be limited due to the low recharge rates and the generally benign nature of the overburden emplaced adjacent to the outcropping coal seams (Umwelt, 2017b).

6.4.3.2 Performance Criteria

There are no pollutant concentration limits for groundwater specified in the Development Approval or EPL for CVM. The CVM SWMP (JBA, 2022c) includes trigger values against which groundwater monitoring results are compared. For the purposes of this Annual Review, the groundwater results obtained during the reporting period have been compared to these trigger values.

The CVM 2017 WMP (Umwelt, 2017b) reviewed the location and target seam for each groundwater monitoring bore and considers the CP115, CP116 and GW01 groundwater monitoring bores are suitable to assess any potential offsite groundwater impacts associated with the operation of CVM. These bores are located down dip of CVM and are also located within appropriate seams. **Table 6-9** shows the trigger level/range for key groundwater monitoring parameters that are specific to bores CP115, CP116 and GW01. Results outside of these ranges are triggers for further investigation. The results of CP115, CP116 and GW01 are also compared to reference bores which are bores that are considered to be representative of background groundwater quality (refer to **Section 6.4.3.4**).

Table 6-9 Groundwater Quality and Level Triggers

Bore	Groundwater Level (mAHD) Trigger Range	Analyte			
		pH	EC (us/cm)	Sulphate (mg/L)	Hardness (mg of CaCO ₃ /L)
CP115	892 - 896	Range 6.26 - 7.3	Upper limit 970	Upper limit 380	Upper limit 376
CP116	890 - 894	Range 5.82 - 7.2	Upper limit 840	Upper limit 140	Upper limit 210
GW01 ¹	N/A as bore is located in workings	Range 6.14 - 6.82	Upper limit 939	Upper limit 338	Total Alkalinity ² Upper limit 100 mg of CaCO ₃

¹ Baseline data was collected for GW01 over 11 monitoring events in 2016-17 and it is expected trigger level ranges will be reviewed in future to be consistent with those adopted for other bores.

² Total Alkalinity is used as a trigger for this bore until sufficient baseline data for hardness has been collected.

Baseline groundwater monitoring programs and associated trigger levels when developed in accordance with ANZECC recommendations require the utilisation of 24 contiguous monthly samples (ANZECC, 2000). The trigger levels for groundwater monitoring at CVM have been developed utilising the groundwater data set which is a limited data set of between nine and eleven annual groundwater samples at each location between

the period 2011 – 2017.

Monitoring results outside of the values presented in **Table 6-9** will be used for further investigation by CVM personnel. It is noted that monitoring results outside of these values do not necessarily reflect an environmental impact associated with CVM operations, as variations within these bores may be influenced by other factors not associated with site activities. These trigger levels will be reviewed on an annual basis as further monitoring data is collected for each bore.

6.4.3.3 Environmental Outcomes

During the reporting period, groundwater monitoring was conducted on two occasions.

Groundwater monitoring was disrupted by various issues associated with access to bore sites. CP115 was unable to be accessed during May 2025 due to fallen trees and CP116 was unable to be accessed during the May and November 2025 monitoring rounds. CP116 is located in the National Park (NP) and heavy rainfall damaging multiple tracks and a lack of maintenance has rendered the site inaccessible. CVM personnel have liaised with NPWS personnel regarding reinstatement of tracks. CVM personnel will continue to liaise with NPWS regarding this issue. CP131 was damaged by fire in 2019 hence no sample has been collected from this bore since. Damage to CP131 bore is being investigated by site personnel toward reestablishment where practical, noting that CP131 was dry from 2015 prior to damage.

6.4.3.4 Trends in Data

The groundwater monitoring program at CVM consists of:

- Impact bores – bores with the potential to identify potential groundwater impact from CVM, specifically CP115, CP116 and GW01, noting that access to CP116 has not been possible since November 2022; and
- Reference bores – bores that are considered to be representative of background groundwater quality (i.e. are unlikely to be impacted by CVM operations), specifically CP114, CP131, CP132. These bores provide a baseline for comparison with the impact bores. Note that CP131 was damaged by fire in 2019 and was dry from 2015.

6.4.3.4.1 Standing Water Level

The standing water level in the impact bore CP115 during the report period are within the trigger level range, as shown in **Table 6-10**.

Table 6-10 Impact and Reference Bores Standing Water Levels and Triggers

Bore	Groundwater Level (mAHD) Trigger Range	May 2025 Groundwater Level (mAHD)	November 2025 Groundwater Level (mAHD)	Complied with Trigger Level?
CP115	892 - 896	NR	893.94	Yes
CP116	890 - 894	NR	NR	NR
GW01	N/A	894.8	894.31	N/A
CP114	N/A	871.32	870.63	N/A
CP131	N/A	NR	NR	N/A
CP132	N/A	887.72	887.04	N/A

NR = No access to CP116 due to poor track maintenance in National Park

The long-term standing water level trend in all impact bores (GW01, CP116 and CP115) have shown little variation since monitoring commenced in February 2012, noting that access to CP116 has been restricted since 2022. Since February 2012, the standing water level has gradually increased until May 2023, as shown

graphically in **Appendix 2**. The accessible reference bore CP132 has remained consistent in long-term standing water level trends, as shown graphically in **Appendix 2**.

6.4.3.4.2 pH

The pH results for impact bore CP115 and GW01 were below the minimum pH level range during May and November 2025 respectively. The result for CP115 in November 2025 was below the historical average and the lowest recorded pH since 2017. The pH results for GW01 during May and November 2025 were higher than the November 2024 historical low reading at this site. Further details as shown in **Table 6-11**

pH levels have generally remained steady at CP116 and GW01. The pH levels of all reference bores also remained steady during this period. Available data shows pH has slightly increased at reference bores CP114 and CP132 throughout 2021 to 2023, remaining relatively stable in 2024 and 2025, as demonstrated in **Appendix 2**. Fluctuations of pH levels are reflective of past wider regional trends and are not considered the result of CVM activities.

The pH trend across both impact and reference bores is generally consistent over time, with isolated spikes and declines observed for individual sampling dates shown graphically in **Appendix 2**.

Table 6-11 Impact Bores pH Levels and Triggers

Bore	pH Trigger Range	May 2025 pH Level	November 2025 pH Level	Complied with Trigger Level?
CP115	6.26 – 7.3	NR	6.0	No
CP116	5.82 – 7.2	NR	NR	N/A
GW01	6.14 – 6.82	6.1	6.1	No

NR = No Result. No access to CP115 and CP116 due to fallen tree and track condition.

6.4.3.4.3 Electrical Conductivity

The electrical conductivity (EC) results for the impact bores during the reporting period are below the trigger level, as shown in **Table 6-12**.

Table 6-12 Impact Bores Electrical Conductivity Levels and Triggers

Bore	Electrical Conductivity (µS/cm) Trigger Level	May 2025 EC Level (µS/cm)	November 2025 EC Level (µS/cm)	Complied with Trigger Level?
CP115	Upper limit 970	NR	810	Yes
CP116	Upper limit 840	NR	NR	N/A
GW01	Upper limit 939	950	1,000	No

NR = No Result. No access to CP115 and CP116 in due to fallen tree and track condition.

The long-term trend in EC values across the reference bores is mixed, as shown graphically in **Appendix 2**:

- CP114 has shown only slight variability during the reporting period with results generally consistent with historical results. Variability over time shows a historical high of 350 µS/cm in February 2011 to a low of 220 µS/cm in March 2018.
- CP132 EC results were consistent with historical results. Variability over time shows a historical high of 530 µS/cm in June 2019 to a low of 320 µS/cm in May 2025.
- CP131 was destroyed by bushfire activity in 2019 and was unable to be sampled. It is noted that dry conditions have been observed at this location since 2015.

The long term trend in EC values in the impact bores shows greater variability than reference bores, as shown graphically in **Appendix 2**:

- CP116 monitoring results continued to increase from April 2014 to 2021, however during that period remained lower than initial readings during 2011. Due to access issues results have not been collected since October 2022.
- CP115 monitoring results exhibit greater variability. The results since February 2011 have ranged from 370 $\mu\text{S}/\text{cm}$ (August 2011) to 970 $\mu\text{S}/\text{cm}$ (April 2014). EC level collected in November 2025 was consistent with historical results and below the trigger level.
- GW01 EC levels in May and November 2025 have increased since the previous reporting period with both results exceeding groundwater trigger levels.

6.4.3.4.4 Sulphate

The sulphate levels in CP115 were below the trigger level during the reporting period and consistent with historical averages, however GW01 sulphate levels were above triggers during both monitoring rounds in 2025, as shown in **Table 6-13**.

Table 6-13 Impact Bores Sulphate Levels and Triggers

Bore	Sulphate (mg/L) Trigger Level	May 2025 Sulphate Level (mg/L)	November 2025 Sulphate Level (mg/L)	Complied with Trigger Level?
CP115	Upper limit 380	NR	370	Yes
CP116	Upper limit 140	NR	NR	N/A
GW01	Upper limit 338	370	470	No

NR = No Result. No access to CP115 and CP116 in due to fallen tree and track condition.

The long-term sulphate values for the reference bores ranges from 11 mg/L (CP114) to 16 mg/L (CP132). There is minimal variability between consecutive samples, as shown graphically in **Appendix 2**.

As discussed within the groundwater study completed for CVM in 2017 (Umwelt, 2017e), the recorded sulphate levels are all well within the ANZECC criteria for drinking water for domestic stock which provide:

No adverse effects to stock are expected if the concentration of sulphate in drinking water does not exceed 1000 mg/L. Adverse effects may occur at sulphate concentrations between 1000 and 2000 mg/L, especially in young or lactating animals or in dry, hot weather when water intake is high. These effects may be temporary and may cease once stock become accustomed to the water. Levels of sulphate greater than 2000 mg/L may cause chronic or acute health problems in stock.

As the sulphate results from CP115 are relatively stable and within ANZECC guidelines, there is no indication of any environmental harm associated with these results. The long-term sulphate values for impact bore CP115 range from 78 mg/L to 396 mg/L. The CP115 November 2025 sulphate result (370 mg/L) was within the historical range. In accordance with the CVM SWMP (JBA, 2022c) CVM will continue to monitor sulphate levels, however no specific investigation of sulphate levels is required to be undertaken.

The long-term sulphate values for impact bores range from 20 mg/L to 140 mg/L at CP116 and <1 to 470 mg/L at GW01. The GW01 May and November 2025 sulphate results (370 mg/L and 470 mg/L) increased significantly from the 2024 period and were above the trigger level and historical range, shown in **Appendix 2**.

6.4.3.4.5 Hardness

The hardness level in impact bore CP115 during the reporting period is slightly above the trigger level (**Table**

6-14). An analysis of water licenses in the region completed during May 2017 identified that there were no bore users in the area down-dip of CVM and therefore there are no groundwater bores which would be impacted by increased hardness levels if it were to occur.

Table 6-14 Impact Bores Hardness Levels and Triggers

Bore	Hardness (mg/L) Trigger Level	May 2025 Hardness Level (mg/L)	November 2025 Hardness Level (mg/L)	Complied with Trigger Level?
CP115	Upper limit 376	NR	330	Yes
CP116	Upper limit 210	NR	NR	N/A
GW01	Total Alkalinity ² Upper limit 100 mg of CaCO ₃	79	83	Yes

NR = No Result. No access to CP115 and CP116 due to fallen trees and track condition.

The long-term trend in hardness values for the reference bores is mixed, as shown graphically in **Appendix 2:**

- CP114 showed little variability each monitoring period, being consistently around 100 mg/L since one anomalous result of 350 mg/L in December 2017. Since this time, monitoring results have returned to levels that are typical of the pre-December 2017 spike with a result of 98 mg/L and 100 mg/L observed for May and November 2025 respectively.
- CP132 initially was consistent around a level of 150 mg/L (April 14 to Nov 15), before spiking at 200 mg/L on November 2016 and declining to 46 mg/L in December 2017. Results increased to 210 mg/L in November 2018 with results in November 2019 (213 mg/L) representing a new historical maximum, slightly above the previous maximum of 210 mg/L. The November 2020 monitoring results returned to levels that are more typical of pre-2016 levels, declining to 187 mg/L and remaining at a similar level in November 2021 (180 mg/L). Results in May and November 2025 (120 mg/L and 130 mg/l) were consistent with historical values.

The impact bores also show different long-term trends in hardness as shown in **Appendix 2:**

- CP116 has declined from an initial level of 210 mg/L before stabilising in April 2014 to a range of 98 mg/L to 128 mg/L (2017). Concentrations increased during November 2018 (134mg/L) and 2019 monitoring (176 mg/L) with a decrease observed in November 2020 (146 mg/L). A slight increase was observed in 2021 with results consistent with historical data. No samples have been collected from CP116 since 2021 due to access restrictions.
- CP115 shows an overall increasing trend, from 130 mg/L in August 2011, increasing to 350 mg/L in July 2014 after which the results have remained around 375 mg/L ±25 mg/L. During 2018, CP115 decreased in hardness to 338 mg/L in November, before spiking again to 399mg/L in November 2019 which is slightly above the historical maximum. In November 2020, monitoring results returned to pre-2019 levels (368 mg/L). The November 2025 result was consistent with historical data (330 mg/L). Monitoring will continue to be undertaken at this bore to monitor hardness.
- GW01 results for total alkalinity for May and November 2025 (79 mg/L and 83 mg/L) were lower than previously recorded lowest value in November 2023 (165 mg/L). Monitoring will continue to be undertaken at this bore to monitor hardness.

Given the restricted baseline dataset, the values for EC and hardness at GW01 were possibly within the range of likely expected values for the bore and are not necessarily indicative of groundwater impact. An analysis of water licences in the region during May 2017 identified that there were no registered bore users in the area down-dip of CVM and thus there are no users which would be impacted by this result.

6.4.3.4.6 Other Analytes Not Required for Trigger Level Assessment

Nitrate

Results for 2025 monitoring together with the long-term trends show that both impact and reference bores have very low levels of nitrate. The levels of nitrate are typically less than the laboratory detection limit (shown graphically at **Appendix 2**).

Metals

Results of monitoring undertaken during 2025 for dissolved metals within the impact bores are highly variable. Metals are usually analysed for trends as a group (or groups of metals) rather than on an individual metal basis. This is usually completed where sufficient baseline information is available to analyse potential trends. Given the restricted available dataset, the ability to meaningfully analyse metal results obtained during 2025 and trends in data is therefore limited.

6.4.3.5 Proposed Improvements

The CVM will continue groundwater monitoring during 2026. CVM personnel will continue to liaise with NPWS personnel and other relevant parties regarding reinstating access to bores that have been inaccessible.
Noise

6.4.4 Environmental Management Measures

CVM's Noise Management Plan (NMP) details mitigation measures and monitoring procedures for noise management. Quarterly attended noise monitoring was conducted at five locations around CVM in accordance with the CVM NMP. Noise controls and mitigation measures are implemented to ensure compliance with noise impact assessment criteria.

6.4.5 Performance Criteria

Noise criteria is specified in the Development Approval and EPL10341. **Table 6-15** and

Table 6-16 summarises the criteria across the Development Approval and EPL 10341.

Table 6-15 Noise Criteria in DA 200-5-2003

Location	Day – L _{Aeq} (15 minute) (dB)
Red Springs (east of rail line)	37
Red Springs (west of rail line)	43
Hillcroft (east of rail line)	35
Hillcroft (west of rail line)	43
Forest Lodge	40
Ryan, Tesorio, Fitzgerald, Tilley, Dobson, Williams, Northey	43

Table 6-16 Noise Criteria in EPL 10341

Location	Day – LAeq (15 minute) (dB)	Evening – LAeq (15 minute) (dB)	Night – LAeq (15 minute) (dB)	Night - LA1 (1 minute) (dB)
Red Springs (east of rail line)	35	35	35	45
Red Springs (west of rail line)	43	38	35	45
Hillcroft (east of rail line)	35	35	35	45
Hillcroft (west of rail line)	43	38	35	45
Forest Lodge	40	40	40	45
Ryan, Tesorio, Fitzgerald, Tilley, Dobson, Williams, Northey	43	38	35	45

6.4.6 Environmental Outcomes

There were no exceedances of the Development Approval or EPL criteria during the report period as shown in **Table 6-8**. On all monitoring occasions, the noise from CVM was inaudible. There were four complaints received regarding noise during the reporting period. Noise complaints during the reporting period summarised in **Table 6-17**.

Table 6-17 Noise complaints received during 2025

Date	Detail of Complaint
31/03/2025	Complaint received about pump being turned on prior to 8am as per verbal agreement.
09/04/2025	Complaint received about pump being turned off after 5pm as per verbal agreement.
28/04/2025	Complaint received regarding a third party tow truck entering site prior to 7am
03/05/2025	Complaint received regarding third party road trucks working on trailer at cottage outside the mine premises.

Table 6-18 2025 Quarterly Noise Monitoring Results

Location	Consent Criterion (dB)	EPL Criterion (dB)	Quarter 1 (^L Aeq 15min) (dB)	Quarter 2 (^L Aeq 15min) (dB)	Quarter 3 (^L Aeq 15min) (dB)	Quarter 4 (^L Aeq 15min) (dB)
Red Springs (N07)	37	35	IP	IP	IP	IP
Hillcroft (N08)	35	35	IP	IP	IP	IP
Forest Lodge (N10)	40	40	IP	IP	IP	IP
Doble Gate (N09)	43	43	IP	IP	IP	IP
Tilley (N06)	43	43	IP	IP	IP	IP

IA – noise from CVM was imperceptible

6.4.7 Trends in Data

The quarterly noise monitoring results for the period 2020 – 2024 are summarised in **Appendix 2**. The results show CVM has largely been imperceptible at each noise monitoring location since CVM entered care and maintenance and continued to be imperceptible during 2025.

6.4.8 Proposed Improvements

Current management measures will continue to be undertaken for care and maintenance activities. Noise monitoring will continue to be undertaken quarterly.

6.5 Biodiversity

6.5.1 Environmental Management Measures

Biodiversity monitoring commenced at CVM in 2012. The 2025 Biodiversity Monitoring was undertaken in accordance with the approved CVM Environmental Monitoring Program (EMP) (JBA, 2022), and the CVM Flora and Fauna Management Plan (FFMP) (JBA, 2022b).

Existing vegetation communities and fauna habitat have been previously characterised during the Ecological Impact Assessment (Cumberland Ecology, 2014). Ongoing monitoring aims to document the condition of vegetation and habitats throughout the CVM Compensatory Habitat Areas and Rehabilitation Zones.

6.5.2 Monitoring

The 2025 biodiversity monitoring was undertaken at the CVM Compensatory Habitat Areas and Rehabilitation Zone monitoring sites as shown on **Figure 5, Appendix 1**, refer to **Section 8.4** for Rehabilitation Zone monitoring results. The biodiversity monitoring for CVM was undertaken in accordance with the CVM RMP and FFMP. A summary and comparison of the 2025 to the 2024 observations of flora observations are shown in **Table 6-**.

6.5.3 Environmental Outcomes/Trends in Data

6.5.3.1 CVM Compensatory Habitat Areas Flora Monitoring Observations

Previous monitoring in the CVM CHA has not been in accordance with Biodiversity Assessment Method (BAM). However, the Flora and Fauna and Species Monitoring Plan (James Bailey & Associates, 2022) specified that monitoring in this location is conducted in accordance with BAM. For consistency throughout this area, all plots in the CVM CHA were surveyed according to the BAM in 2025 and this will be the methodology used in future years.

At each plot, approximately 45 to 60 minutes were spent searching for all vascular flora species present within a 20 x 20 m plot. Searches of each 20 x 20 m plot were generally undertaken through parallel transects from one side of the plot to another.

For each flora species recorded in the plot, the following data was collected in accordance with the BAM:

- Composition for each growth form group by counting the number of native plant species recorded for each growth form group within a 20 x 20 m plot;
- Structure of each growth form group as the sum of all the individual projected foliage cover estimates of all native plant species recorded within each growth form group within a 20 x 20m plot;
- Cover of 'High Threat Exotic' weed species;
- Assessment of function attributes within a 20 x 50 m plot, including:
 - Count of number of large trees;

- Tree stem size classes, measured as 'diameter at breast height over bark' (DBH);
- Regeneration based on the presence of living trees with stems <5 cm DBH;
- The total length in metres of fallen logs over 10 cm in diameter;
- Assessment of litter cover within five 1 x 1 m plots evenly spread within the 20 x 50 m plot; and
- Number of trees with hollows that are visible from the ground within the 20 x 50 m plot.

There are a total of eight (8) monitoring plots across the CVM CHA and a total of three (3) previously described native vegetation communities, as seen below:

- Tablelands Dry Woodland;
- Sandstone Dry Ridgetop Woodland; and
- Tablelands Sheltered Valley Forest.

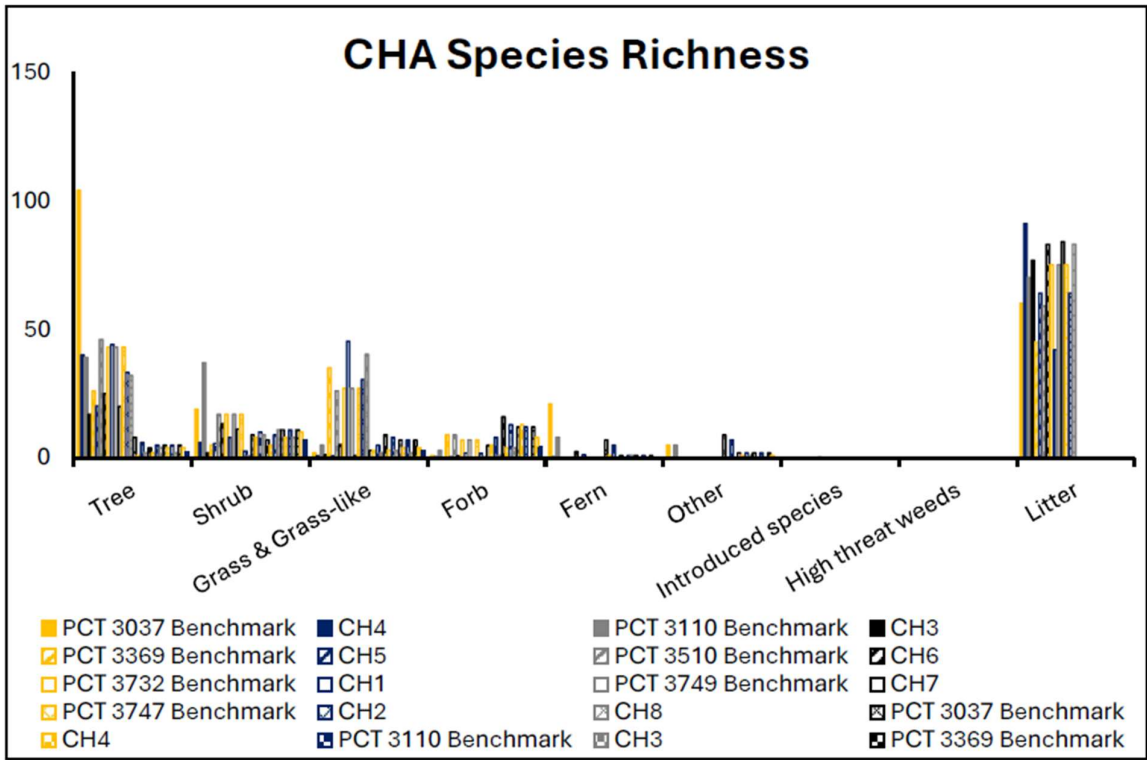
As per the BMP, the required BAM methodology uses Plant Community Types (PCTs) to describe the vegetation communities present within the compensatory habitat area as follows:

- PCT 3037 – Sydney Basin Warm Temperate Rainforest
- PCT 3110 – Greater Sydney Enriched Grey Myrtle Dry Rainforest
- PCT 3369 – Central Tableland Ranges Peppermint-Gum Grassy Forest
- PCT 3510 – Capertee Slopes Stringybark-Box Forest
- PCT 3732 – Capertee Uplands Enriched Stringybark Forest
- PCT 3747 – Southern Tableland Western Hills Scribbly Gum Forest
- PCT 3749 – Western Blue Mountains Scribbly Gum Forest

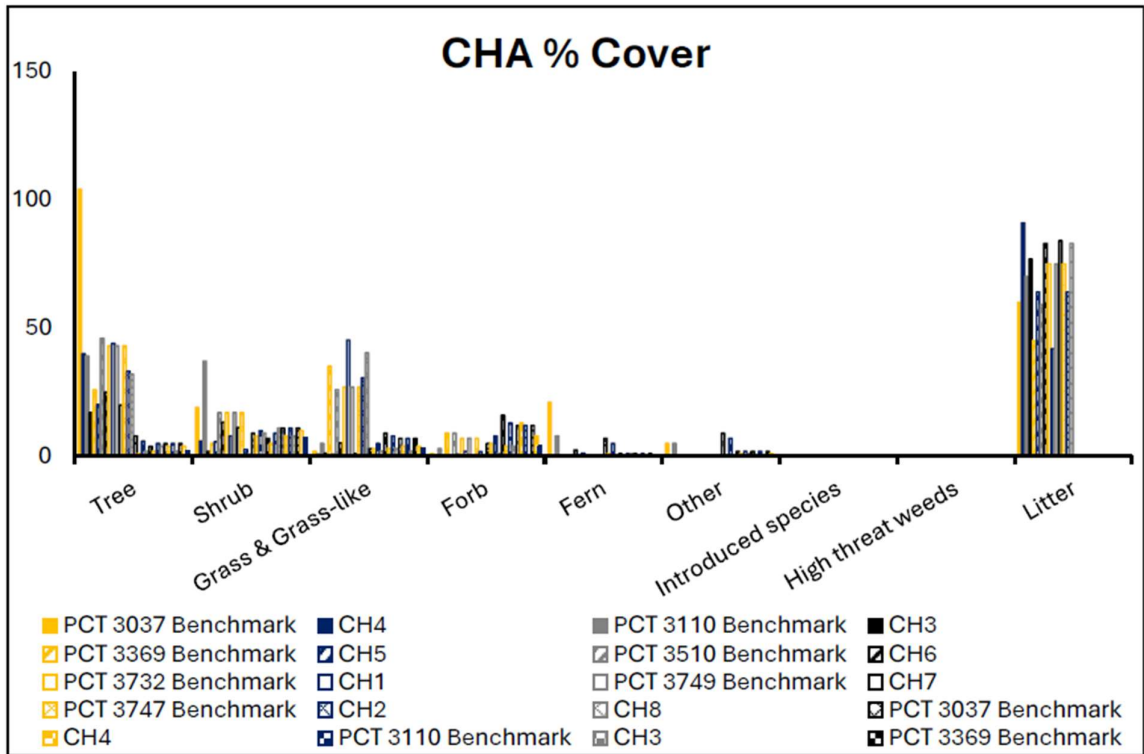
The dominant vegetation throughout the CVM CHA is consistent with the PCTs mapped as the representative vegetation present. There was low shrub and forb cover observed at all sites. Overall, there very low weed cover observed, with all sites exhibiting weed cover below 0.5%. Two high threat weed species were observe at CH1, St John's Wort (*Hypericum perforatum*) and Sweet Briar (*Rosa rubiginosa*). Generally, species richness was below that of the PCT benchmarks for the CHA monitoring plots. The species richness below the PCT benchmark values is acceptable given natural variation in vegetation and seasonal variation of species present in timing of surveys. Plant foliage cover was generally below the PCT benchmark values, with the exception of the grass cover within PCT 3732 (CH1) and PCT 3747 (CH2 and CH8), which exhibited the highest grass cover, all exceeding 25% PFC and the associated benchmark values.

Within the monitoring plots there was an abundance of fauna habitat observed, including large woody debris exceeding the benchmark values and litter cover exceeding benchmark values for the majority of sites. Monitoring suite CH1 was the only monitoring site to exceed the benchmark for large trees, but there were large trees observed surrounding all other sites, and this is a byproduct of the placement of monitoring plots.

Species richness and percentage foliage cover for each CHA monitoring plot, as measured using BAM, were compared to their respective PCT benchmarks. These comparisons are presented Graph 1 in and Graph 2.



Graph 1 CHA Species Richness



Graph 2 Species Percentage Cover

Table 6-19 2025 Comparison of CHA monitoring plot observations to PCT benchmarks

Parameter		CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
Richness	Tree	4	4	2	1	2	4	2	2
	Shrub	8	10	9	8	5	11	8	7
	Grass/Grass-like	4	4	2	3	3	3	2	3
	Forb	13	8	1	5	4	4	0	4
	Fern	0	0	0	1	0	1	0	0
	Other	0	1	0	0	1	1	0	0
Cover	Tree	44	33.2	17	40	20.2	25	20	32
	Shrub	8	2.7	2	6	5.7	13.3	11.2	0.8
	Grass/Grass-like	45.3	30.5	1.2	0.8	0.8	5.2	1	40.3
	Forb	1.9	1.8	0.1	0.5	0.5	0.8	0	0.5
	Fern	1.25	0	0	0.5	0	2.5	0	0
	Other	0	0.1	0	0	0	0.1	0	0
Function	Total Length of Fallen Logs	56	78	76	180	98	96	9	21
	Litter Cover	42	64	76.8	91	64	83	84	83
	No. of Large Trees per 0.1 Hectare	4	0	0	3		2	0	0

Green highlighted cells identify where specific PCT benchmark values are met.

6.5.3.2 CVM Compensatory Habitat Areas Fauna Monitoring Observations

The 2025 monitoring recorded an increase in overall species diversity throughout the Cullen Valley Mine Compensatory Habitat Area relative to the previous year’s monitoring results, with a total of 43 species recorded, compared to 13 species recorded during the 2024 survey. Sixty four species recorded during the 2023 monitoring and 82 species in 2022. Within the CVM Compensatory Habitat Area 29 of the fauna species observed were birds, 13 species were mammals and one reptile was observed. There were five threatened species recorded in the CVM Compensatory Habitat Area during the 2025 monitoring period. The threatened species included the Large-eared Pied Bat (*Chalinolobus dwyeri*) listed as Endangered under the EPBC Act and Endangered under the BC Act, the Eastern Bent-winged Bat (*Miniopterus orianae oceanensis*), listed as Vulnerable under the BC Act, the Eastern False Pipistrelle (*Falsistrellus tasmaniensis*), listed as Vulnerable under the BC Act, the Gang-gang Cockatoo (*Callocephalon fimbriatum*), listed as Endangered under the EPBC Act and Endangered under the BC Act, and the Squirrel Glider (*Petarurus norfolcensis*) listed as Vulnerable under the BC Act.

No pest species were observed during the 2025 monitoring period.

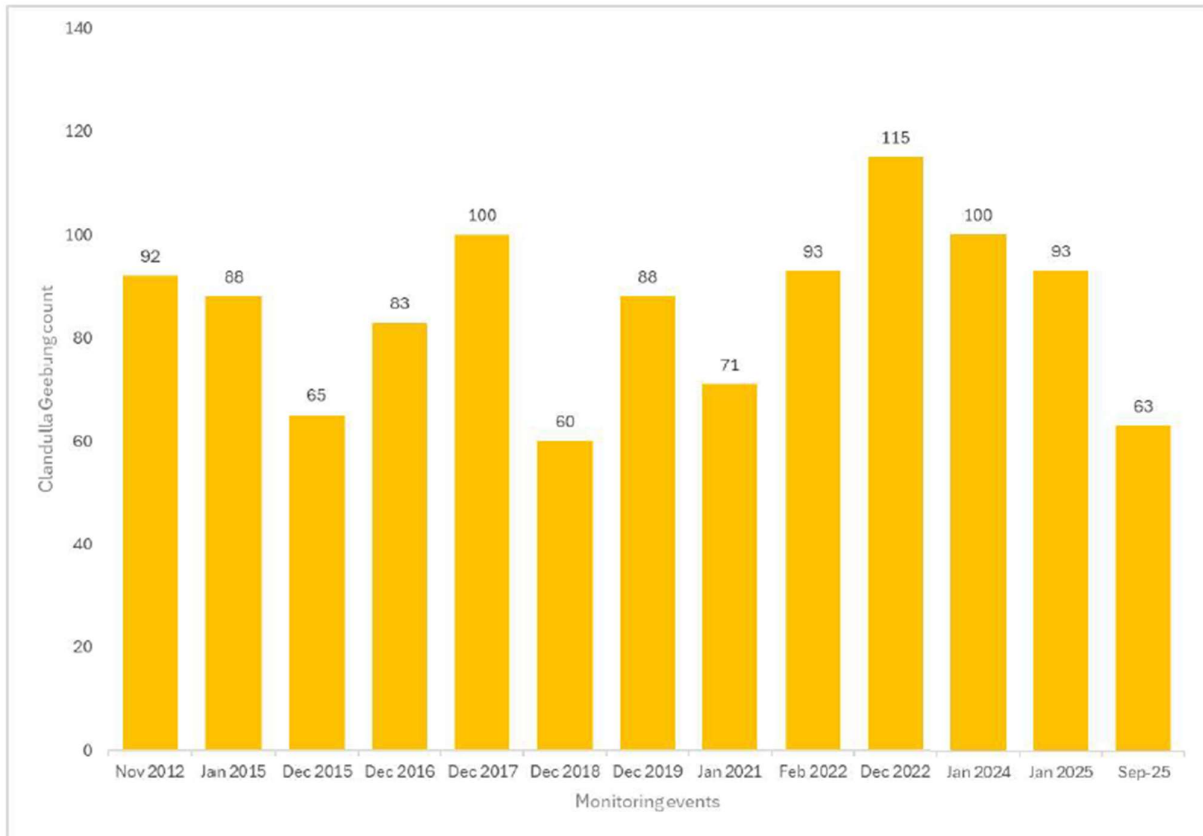
6.5.3.3 Nest Box Monitoring

One cluster of nest boxes is located in the CHA, comprising six nest boxes numbered Nest Box 13 – Nest Box 18. No fauna was recorded in the Nest Boxes in the CHA. All nest boxes and poles were in good condition, all but Nest Box 15 contained natural nesting material.

6.5.3.4 *Clandulla geebung* Monitoring

The *Clandulla Geebung* (*Persoonia marginata*) survey was undertaken in September 2025. A total of 63 *Clandulla Geebung* individuals were identified within a 20m radius of both monitoring points, compared to 93 in 2024.

Within the CHA plot in the south, 59 individuals were identified. No plants within the plot were bearing fruit, which was accepted, as *Clandulla Geebung* bears fruit between January and February. The community was observed to be generally healthy, with some individuals showing signs of stress. Graph 3 illustrates the total number of *Clandulla Geebung* plants across monitoring events since 2012.



Graph 3 Total number of *Clandulla Geebung* plants recorded across monitoring events (2012 – 2025)

6.5.4 Assessment of CVM CHA Completion Criteria

An assessment of 2025 monitoring results against the CHA Completion Criteria in accordance with Section 2.2.3 of the CVM FFMP is shown in Table 5. Overall, the CHA sites are achieving or are consistent with the Completion Criteria. With the lack of analogue sites, PCT benchmark values have been adopted for the CHA sites.

Table 6-20 Management observations against CVM CHA Completion Criteria

CHA Objective	Performance Indicators	Completion Criteria	2025 Monitoring Observations
Self-sustaining	Species composition	Composition at each CHA monitoring location is consistent with vegetation communities occurring within analogue monitoring plots.	Dominant species present are consistent with the reference sites.
	Weed establishment	Weed species make up less than 5% of species composition. Weed species make up less than 5% of the cover in each stratum within each CHA monitoring plot.	Weed species observed were limited to understorey species. All sites except CH1 recorded weed species that were less than 5% of species composition, where CH1 recorded 17%. Site CH1, CH2, CH4 and CH6 had weed species recorded, all below 0.1% PFC.
	Fauna habitat	Habitat includes a range of structural habitats, e.g. eucalypts, shrubs, groundcover and a developing litter layer. Habitat values are generally consistent with analogue monitoring plots.	All monitoring plots included abundant perch sites, tree hollows, moderate midstorey cover, and dense leaf litter. Several sites were also noted to have burrows within the monitoring plot.
	Fauna species	Vertebrate surveys within the CHA demonstrate that bird, mammal, reptile and frog communities are representative of analogue monitoring plots.	Fauna surveys recorded species from bird, reptile and mammal communities. Twenty-nine bird species were recorded, one reptile and 17 mammals. Species richness was highest at CH1, with 16 bird species recorded. Species richness recorded in 2025 increased from 2024 monitoring from 13 to 43 species.

6.6 Blasting

There was no blasting conducted at CVM during the report period.

6.7 Waste Management

During the report period only minimal oil and greases were stored on site. Any maintenance works required on machinery and equipment is undertaken within existing bunded areas.

Waste oils and grease are collected by a licensed waste recycling contractor on an as needs basis. All paper and general wastes from workshop areas is disposed of in garbage bins located adjacent to the workshop areas, which are collected by a licensed contractor on an as needs basis.

Sewage from the workshop areas are directed to a septic system which is pumped out by a licensed waste

collection and disposal contractor on an as-needs basis.

6.8 Hazardous Material Management

Hazardous material kept on site include oils, grease and degreasers contained in storage tanks. Storage tanks are collected by an appropriately licenced contractor.

Up to 35,000L of diesel may be stored in the facility in an above ground self-bunded diesel tank (Transtank) if diesel is required for environmental works on site. Two EPA registered radionuclide fixed radiation gauges (No. RR20215 and RR21832) have been decommissioned and are stored onsite.

6.9 Heritage

6.9.1 Indigenous Heritage

Previous archaeological surveys did not locate any Aboriginal artefacts or sites within the approved open cut mining area. However, two sites of significance were recorded in close proximity to the approved mining area. A campsite-stone artefact scatter (C-OS-1) and a rock shelter site (C-S-1). A further two sites were identified in surveys undertaken during 2011 and include 45-1-2542 and RSC-OS-1. These sites are located outside of the existing mining area. No new sites were discovered in 2025.

6.9.2 Non-Indigenous Heritage

No mining activities were undertaken in proximity of locations of European heritage significance during the report period.

6.10 Greenhouse Gas Emissions

CVM Scope 1 and Scope 2 emissions calculated for the 2024/25 National Greenhouse and Energy Reporting (NGERS) year was 81 t CO₂-e, as compared to 0 t CO₂-e in 2024, as shown in **Table 6-18**.

Table 6-181 CVM GHG Emissions 2023/24 and 2024/25

	2024	2025
Scope 1	0	81
Scope 2	0	0
Total GHS Emissions (tCO ₂ -e)	0	81

6.11 Bushfire

A CVM Fire Management Plan (2022) has been developed and includes a number of measures to minimise bushfire risk. These measures include:

- Regular inspections and maintenance of vegetation adjacent to site infrastructure, access roads and existing fire trails, as appropriate;
- Ensuring firefighting equipment is available on mobile equipment (including water carts) for the initial response to fire events on site, or to assist emergency services, if required;
- Ensuring all on site water storages are available for firefighting purposes to CVM personnel and the RFS, if required. The locations of current water management infrastructure on site are shown in Figure 2;
- All infrastructure areas, mobile and stationary plant and equipment at CVM having access to fire extinguishers;

- All infrastructure areas are regularly maintained to reduce the potential for fire occurrence or spread. Site equipment will be maintained in good working order to prevent incidents that could potentially result in a fire; and
- Ensuring that no additional impediment is caused by Castlereagh Coal to existing access tracks in the adjacent Ben Bullen State Forest which may be used for firefighting purposes by the RFS and Forests NSW.

6.12 Mine Subsidence

There have been no subsidence management measures required to be implemented by CVM during the reporting period.

6.13 Public Safety

Access to working areas of the CVM open cut are controlled by locked gates. Access to CVM by members of the public is via contact at the mine office where visitors or contractors can only be escorted by site personnel around the site.

7 Water Usage

7.1 Water Management System

The water management system at CVM is described within the CVM SWMP (JBA, 2022c) and also within **Section 6.4** of this document.

7.2 Water Take

Licence and water take information is summarised in **Table 7-1**. During the reporting period, there was 2.658ML extracted from Tyldesley Bore.

Table 7-1 Water Take During 2024 Reporting Period

Water License No.	Water sharing plan, source and management zone (as applicable)	Entitlement	Take Previous Period – 2024 (ML)	Take Current Period – 2025 (ML)	Estimated Take Next Period – 2026 (ML)
80WA706148	Sydney Basin MDB Groundwater Source Water Sharing Plan – NSW Murray Darling Basin porous rock groundwater sources	80 units (ML)	2,385	2,658	12.4

7.3 Erosion and Sediment Control

Erosion and sediment control management at the CVM is described in the CVM Erosion and Sediment Control Plan (JBA, 2022).

7.3.1 Environmental Management Measures

The objective of the CVM water management system is to separate clean water and dirty/mine water. Erosion and sediment control focus on the management of 'dirty' water which is runoff from disturbed areas. The erosion and sediment controls (ESC's) were established during mining and remained in place whilst the operation was under care and maintenance. The ESC's include dirty water sediment dams, open drainage channels with established vegetation and/or rock armoured and drop structures where required.

7.3.2 Environmental Outcomes and Proposed Improvements

An indication of the effectiveness of the sediment and erosion control structures is obtained through regular visual inspections. These inspections focus on permanent erosion and sediment control structures and areas where the ground has been disturbed and soils are exposed. Recently disturbed sites are most vulnerable to erosion and loss of sediment following periods of heavy rainfall.

James Bailey & Associates (JBA) were commissioned by Castlereagh Coal to complete a review of water management and erosion and sediment control (ESC) structures located within areas of rehabilitation established at CVM. The review was based on a desktop review of related environmental management plans and recent monitoring documents completed for CVM, as well as observations made during subsequent field inspections completed by JBA in December 2022.

The review complements the work undertaken by Umwelt (2022) in response to directives provided to Castlereagh Coal from the NSW Resources Regulator in relation to ESC management within CVM.

A summary of the key observations and recommendations from the ESC review are provided below.

- *“In general, ESC management principles are being implemented in accordance with site approvals and management documentation, with no significant failures identified. However, it is recommended that Castlereagh Coal implement a risk-based process to complete and document regular ESC inspections at both sites. This procedure should include an outline of key monitoring locations to be assessed by Castlereagh Coal personnel during ESC inspections. These inspections should be undertaken at least quarterly, with additional inspections to be completed following significant rainfall events;*
- *Localised erosion issues and deficiencies in drainage and water management structures are present within rehabilitation areas that should be scheduled for maintenance. However, it is noted that constraints exist at both CVM and Invincible that may impact on the ability to access some areas of the rehabilitation and water management systems, primarily due to with steep slopes and vegetation communities developing within the rehabilitation. It is recommended that Castlereagh Coal review each area prior to scheduling any physical work to balance these constraints against the need to complete remedial actions;*
- *Legacy issues relating to the design of and materials used for the drop structures in rehabilitation areas at both sites. Contour drains reporting to these structures is showing evidence of scouring, with the rock lining of the drop structures also showing evidence of weathering, which reduces their overall effectiveness in supporting rehabilitation development. It is noted that these structures were initially developed as temporary ESC controls for the rehabilitation establishment and development phase. Removal of these structures will be considered during detailed mine closure planning;*
- *SD3 at Invincible requires maintenance work to ensure that it is desilted, adequately sized and maintained in accordance with Blue Book (Landcom, 2004) requirements;*
- *While vegetation cover is generally present in rehabilitation areas, some areas of limited vegetation cover were identified at both sites. The relatively poor performance of vegetation growth within these areas may impact on the stability of rehabilitation areas in the long term due to a heightened risk of erosion; and*
- *A need to re-establish rehabilitated landform batters, ESC controls and vegetation in areas of CVM where subsurface heating is present, once remediation works have been completed.”*

In 2021-2022, two Section 240 notices and a landform establishment targeted assessment program (TAP) were provided to CVM by the Resources Regulator which required a series of actions to be undertaken around ensuring landform stability was achieved within the rehabilitation areas on CVM. Outstanding actions under these notices continued to be addressed through the reporting period with a strategy in place to close out all remaining actions by the end of the next reporting period. The Section 240 notice and TAP actions and status as at the end of the reporting period are included in this Review in **Appendix 4**.

8 Rehabilitation

Rehabilitation at CVM is undertaken in accordance with the Forward Works Program (FWP) and Rehabilitation Management Plan (RMP). A copy of the current RMP is available on the Castlereagh Coal website.

An Annual Rehabilitation Report and Forward Program (ARRFP) has been prepared and submitted for CVM which provides details of the scheduled surface disturbance and rehabilitation activities at the CVM from 1 January 2025 to 31 December 2025.

A summary and comparison of the 2025 Rehabilitation monitoring against rehabilitation objectives is provided in Error! Reference source not found..

8.1 Status of Mining and Rehabilitation

No mining or rehabilitation was undertaken during the reporting period. The Resources Regulator (RR) attended site in December 2024 to complete a TAP) on rehabilitation areas across the CVM site. Actions resulting from the TAP were issued to CVM in April 2025. Cullen Valley Mine has been active in closing out actions throughout the reporting period with outstanding actions planned to be closed out during the next reporting period. TAP actions and status as at the end of the reporting period are included in this Review in **Appendix 4**.

A summary of rehabilitation and projected rehabilitation for 2025 is provided in **Table 8-1**.

Table 8-1 CVM Rehabilitation Status

Mine Area Type	Previous reporting period (actual) 2024 (ha)	This reporting period (actual) 2025 (ha)	Next reporting period (forecast) 2026 (ha)
Total Mine Footprint – Surface Disturbance	189	189	189.3
Total Active Disturbance	70.39	70.39	70.32
Rehabilitation – Land Preparation	0	0	7.1
Ecosystem and Land Use Establishment	0	0	0
Ecosystem and Land Use Development	118.69	118.69	113.1
Rehabilitation Completion	0	0	0

An assessment of the status of the existing CVM rehabilitation against the performance indicators and completion criteria is detailed in **Section 8.3**.

CVM has identified areas where further rehabilitation can potentially be undertaken. These areas are associated with:

- land that has been previously rehabilitated but requires supplementary works to improve the quality and quantity of this vegetation in line with the agreed completion criteria objectives
- infrastructure areas (e.g. coal stockpile pad) which is larger than that required for any future mining operational needs
- shaped and topsoiled emplacement dumps which have not been seeded/planted
- land which has been affected by subsurface heating and has been confirmed via further subsurface

heating investigations to be completed during the life of mine term to be capable of supporting plant growth and unlikely to be subject to further subsurface heating. The viability of and timing of undertaking the rehabilitation work will in part be informed by ongoing treatment as described in the POW and the success of the heating management measures and activities associated with the restart of mining remnant coal at CVM.

Previous rehabilitation at CVM has seen the successful germination and growth of native and local grass, shrub and tree species which are representative of the vegetation community types found in the area. Recent rehabilitation has proved successful with multiple tree species including *Eucalyptus*, *Acacia* and *Allocasuarina* being heavily revegetated.

8.1.1 Subsurface Heating

A Heating Area Remediation Strategy (CCoal 2025) has been prepared for CVM. As at the end of the reporting period, the draft report is being reviewed prior to submission to the Resources Regulator for approval. The Strategy outlines the basis of planning and on-ground works over a three year period to address migration of heating hot spots within the rehabilitation areas, along with landform management, soil remediation and rehab. restoration planning.

8.1.2 Environmental Outcomes and Further Improvements

During 2026, CVM will continue to consult with the Resources Regulator on agreed methodologies to undertake subsurface heating treatment measures.

8.2 Post Rehabilitation Land Uses

The proposed final land use aims to emulate the pre-mining environment and will enhance local and regional ecological linkages across the site and adjacent areas. The primary objective of site revegetation and regeneration is to create a stable final landform with acceptable post-mining land use and suitability. In the long term, rehabilitation areas will become integrated with adjacent native vegetation communities. Rehabilitation areas will continue to be monitored monthly and on an annual basis and will be managed until self-sustaining. Final rehabilitation areas will achieve the rehabilitation completion criteria specified in the approved CVM RMP prior to relinquishment.

8.3 Completion Criteria Assessment

The revised rehabilitation objectives and completion criteria for CVM have been submitted to the Resources Regulator (RR) for review and approval as a requirement of the new Rehabilitation Management Plan process. At the time of submission of this report the RR are yet to provide feedback on the revision. The 2025 management outcomes for the CVM Rehabilitation Area are summarised in **Error! Reference source not found.** The assessment of rehabilitation areas against rehabilitation objectives (currently under assessment) was undertaken in accordance with the CVM Flora and Fauna Management Plan (FFMP) and Rehabilitation Management Plan (RMP).

8.4 Rehabilitation Activities

Since recommencing operations in May 2022, management and monitoring of rehabilitation areas has been undertaken in accordance with the approved CVM Flora and Fauna Management Plan (April 2022).

There has been no removal of buildings or other infrastructure, and no new rehabilitation areas were established during the 2025 report period.

8.4.1 CVM Rehabilitation Area Flora Monitoring Observations

The Cullen Valley Rehabilitation Area contains 15 monitoring plots located across nine rehabilitation areas

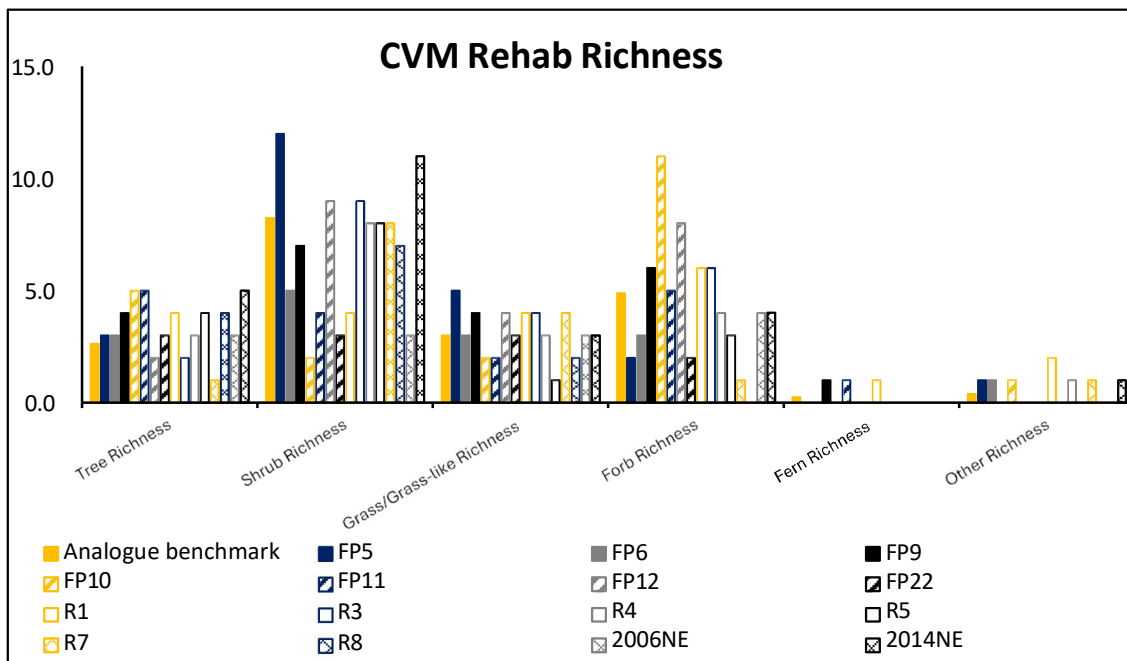
defined by the year they were established. Throughout the CVM Rehabilitation monitoring plots, tree species richness was above the analogue benchmarks for all but three sites. Four monitoring plots exhibited shrub richness that exceeded the benchmark values, 11 sites exceed the grass benchmark values and two sites exceed the forb benchmarks. Vegetation cover was generally lower than the benchmark values across strata's. Four rehabilitation sites exceeded the benchmark for tree cover (FP5, FP6, R7 and R8) and a further four sites exceeded the benchmark values for shrub cover (FP22, R1, R4 and 2006NE). All sites recorded introduced species cover below 1% and only FP11 recorded the presence of High Threat Weeds. St John's Wort was recorded at 0.1% PFC.

Habitat structure varied throughout the monitoring plots and is expected to develop further over time. One site exceeded the large woody debris benchmark values and all but three sites had large woody debris present, which is expected to continue to develop as vegetation matures. Three sites exceeded the litter benchmark values, which is also expected to continue to develop as the rehabilitation matures. Due to the age of the rehabilitation, there were no hollow bearing trees present, but this is supplemented through the augmentation of habitat through installation of nest boxes.

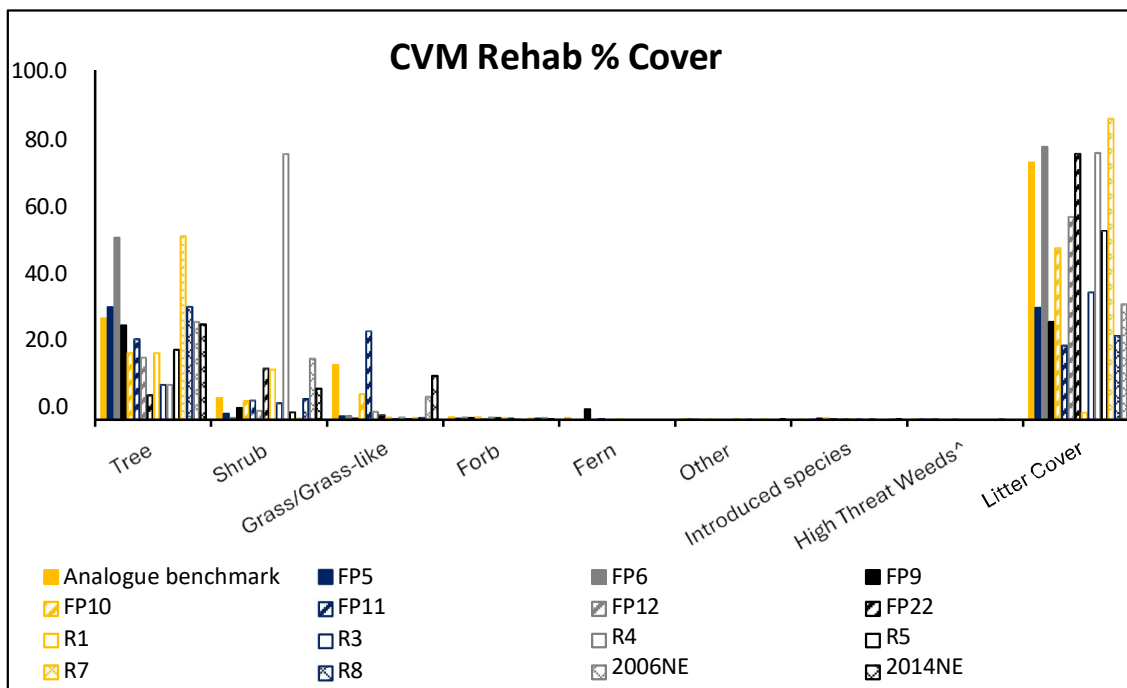
Species richness and percentage foliage cover for each rehabilitation monitoring plot, as measured using BAM, were compared to their respective PCT benchmarks.

Table 8-2 Observations of 2025 Rehabilitation Monitoring

	Parameter	FP5	FP6	FP9	FP10	FP11	FP12	FP22	R1	R3	R4	R5
Richness	Tree	3	3	4	5	5	2	3	4	2	3	4
	Shrub	12	5	7	2	4	9	3	4	9	8	8
	Grass/Grass-like	5	3	4	2	2	4	3	4	4	3	1
	Forb	2	3	6	11	5	8	2	6	6	4	3
	Fern	0	0	1	0	1	0	0	1	0	0	0
	Other	1	1	0	1	0	0	0	2	0	1	0
Cover	Tree	32.2	52	27	19	23	17.7	7	19	10	10	20
	Shrub	1.7	0.6	3.3	5.4	5.5	2.6	14.6	14.3	4.7	75.9	2.1
	Grass/Grass-like	1	1.1	0.3	7.3	25.3	2.3	1.3	0.7	0.2	0.7	0.2
	Forb	0.3	0.7	0.5	0.8	0.1	0.7	0.5	0.6	0.3	0.1	
	Fern			3		0.2			0.1			
	Other	0.1	0.1		0.1				0.2		0.1	
Function	Total Length of Fallen Logs	54	34	74	29	20	36	3	4	0	26	70
	Litter Cover	32	78	28	49	21.2	58	76	2	36.4	76.2	54
	No. of Large Trees per 0.1 Hectare	0	0	0	0	0	0	0	0	0	0	0



Graph 4 Rehabilitation monitoring plot species richness



Graph 4 Rehabilitation monitoring plot percent foliage cover

8.4.2 CVM Rehabilitation Area Fauna Monitoring Observations

The 2025 rehabilitation biodiversity monitoring recorded an increase in overall species diversity from the previous year throughout the Cullen Valley Mine Rehabilitation Area with a total of 48 species recorded, compared to 24 species in 2024, 72 species recorded in 2023, and 62 species recorded in 2022.

Within the CVM Rehabilitation Area, 60% fauna diversity is represented by birds with 29 species recorded, and 35% of fauna diversity is represented by mammals with 17 species. The remaining 2 species recorded in 2025 monitoring include one reptile species Southern Forest Cool Skink (*Limnodynastes tasmaniensis*), and one frog species Spotted Marsh Frog (*Carinascincus coventryi*).

Four threatened species were recorded in the 2025 monitoring, including the Large-eared Pied Bat (*Chalinolobus dwyeri*), listed as Endangered under the EPBC Act and Endangered under the BC Act, Eastern Bent-winged Bat (*Miniopterus orianae oceanensis*) listed as Vulnerable under the BC Act, Eastern False Pipistrelle (*Falsistrellus tasmaniensis*) listed as Vulnerable under the BC Act, and the Greater Broad-nose Bat (*Scoteanax rueppellii*) listed as Vulnerable under the BC Act. Three additional threatened species have previously been recorded in the CVM Rehabilitation Area including the Dusky Woodswallow (*Artamus cyanopterus*) listed as Vulnerable under the BC Act, Southern Myotis (*Myotis macropus*) – Possible ID), Eastern Cave Bat (*Vespadelus troughtoni*), and the Large Bent-winged Bat (*Miniopterus orianae oceanensis*), all listed as Vulnerable under the BC Act.

No pest species were observed during the 2025 monitoring period.

8.5 Assessment of CVM Rehabilitation Management Outcomes

The following assessment of rehabilitation areas against rehabilitation objectives (currently under assessment) was undertaken in accordance with the FFMP and RMP.

Table 8-3 Management Observations for the CVM Rehabilitation Area

Rehabilitation Objective Category	Rehabilitation Objective	Spatial Reference	2025 Monitoring Observations
<p>Ecological rehabilitation</p>	<p>The vegetation composition of the rehabilitation contains species that are commensurate with the following native vegetation communities found in the local area (as described in the 2014 EA and RMP):</p> <ul style="list-style-type: none"> • Tableland Scribbly Gum – Narrow-leaved Stringybark Shrubby Open Forest • Tableland Slopes Brittle Gum – Broad-leaved Peppermint Grassy Forest • Tableslopes Brittle Gum – Broad-leaved Peppermint Grassy Forest 	<p>A4</p>	<p>Canopy richness across CVM Rehabilitation monitoring plots is generally achieving benchmark values.</p> <p>Midstory diversity values are lower than the benchmark in a majority of sites however.</p> <p>Grass species richness was generally achieving the benchmark values. Forb species richness achieved the benchmark values at six sites.</p>

<p>Ecological rehabilitation</p>	<p>The vegetation structure of the rehabilitation is similar to that of the following native vegetation communities found in the local area:</p> <ul style="list-style-type: none"> • Tableland Scribbly Gum – Narrow-leaved Stringybark Shrubby Open Forest • Tableland Slopes Brittle Gum – Broad-leaved Peppermint Grassy Forest • Tableslopes Brittle Gum – Broad-leaved Peppermint Grassy Forest 	<p>A4</p>	<p>Canopy cover recorded at four CVM Rehabilitation monitoring plots achieved benchmark values. Five sites achieved the benchmark values for shrub cover.</p> <p>Groundcover species (grasses, forbs, ferns) are generally below benchmark values.</p>
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9 Community

9.1 CCC Meetings

Two community consultation meetings were held during the reporting period. The meetings were held in April and October 2025.

The outcomes of the CCC meetings are detailed in the meeting minutes available on the Castlereagh Coal website.

9.2 Complaints

In accordance with Condition M5 of the EPL, Shoalhaven Coal maintains a complaints register to record and respond to complaints received from the community. The register is included in the Castlereagh Coal website. Twenty-six (26) complaints were received from the local community during the report period. The number of complaints increased during 2025. The increase in complaints is due to an increase in road truck complaints not directly related to the CVM project operations. However, the road truck complaints have been reported as they may be perceived as being related to the project. The increase in complaints is also related to the subsurface heating odour emitting from the rehabilitation areas within CVM. A comparison of complaints received between 2020 to 2025 is outlined in **Table 9-1**. below. Refer to the Castlereagh website for further details within the complaints register.

Table 9-1 Comparison of Complaints

Complaint Type	2020	2021	2022	2023	2024	2025
Noise	0	0	0	0	0	3
Air quality	0	0	1	4	0	
Blasting	0	0	0	0	0	
Traffic	0	0	1	4	6	1
Water	0	0	1	2	0	
Subsurface Heating (odour)	2	1	6	4	9	15
Other	0	0	4	1	2	7
Total	2	1	12	15	17	26

Note: CVM was placed on care and maintenance in December 2012. Remnant mining recommenced in May 2022, continuing until June 2023.

10 Audit Information

An Independent Environmental Audit (IEA) for CVM was completed and submitted on the 14 March 2022.

The IEA identified non-compliances with the EPL, Development Approval and the 2003 Environmental Impact Statement mitigation measure commitments. Non-compliances were found to be of administrative or low risk level.

Further details regarding the status of the non-compliances identified by the IEA are located in **Appendix 3**. A copy of the 2021 IEA is located on the CVM website.

11 Incidents and Non-Compliances During the Report Period

There were no environmental incidents determined to be causing or threatening material environmental harm at the Cullen Valley Mine during the reporting period. The CVM Pollution Incident Response Management Plan (PIRMP) was not activated during the reporting period at CVM with review of the PIRMP being undertaken in September 2025. (refer to the Castlereagh Coal website). Non-compliances which occurred during the reporting period are discussed in **Section 1** and actions detailed in **Table 11-1**.

Table 11-1 Non-compliances during 2025

Relevant Approval	Condition No.	Description (Summary)	Compliance Status	Comment	Actions
DA-200-5-2003	Schedule 4 Condition 20	Exceedance of air quality assessment criteria for particular matter (PM ₁₀) on one (1) occasion.	Low Non-compliant	<p>On one (1) occasion during the reporting period the CVM High Volume Air Sampler (HVAS) notified of results outside of the assessment criteria:</p> <ul style="list-style-type: none"> - On 5 December 2024 the CVM (HVAS) recorded a total result of 85.0 µg/m³ for the 24-hour averaging period of PM₁₀. <p>Following becoming aware of the event on 14 January 2025, CVM reported the incident to the Department of Planning Housing and Infrastructure (DPHI) via the Major Projects Portal for an air quality exceedance against DA 200-5-2003. As required by the Air Quality Management Plan (AQMP 2022) a detailed report was provided to the DPHI and relevant landowners within seven (7) days of becoming aware of each event.</p> <p>Regular air quality reporting is undertaken with monthly and quarterly reporting.</p>	Castlereagh Coal will continue to regularly monitor and report on any exceedances above trigger levels set under the Project Approval.
DA-200-5-2003	Schedule 4 Condition 25	Air Quality Monitoring – HVAS PM10 & Total Suspended Particulate not monitored	Low Non-compliant	<p>Between 25 June and 6 August 2025 PM10 and Total Suspended Particulates were not monitored. Catch-up runs were conducted between August and September 2025 to ensure a total of 60 monitoring events occurred for the year ended 31 December 2025.</p>	Regular monitoring will occur to ensure particulate samples are taken every six days routinely throughout 2026.
DA-200-5-2003 EPL 10341	Schedule 4 Condition 40 L2	Discharge limits exceeded at Discharge Point 4 (LDP004)	Low Non-compliant	<p>The discharge point from Dam 4 (EPL Point 4) was potentially discharging between January and December 2025. The following exceedances of discharge limits under the licence were recorded:</p> <p>Electrical conductivity (Concentration criteria 650 uS/cm) exceeded on one (2) occasions:</p>	Castlereagh Coal will dewater Sediment Dam 4 in quarter 1 2026 to determine whether discharge water at LD004 is sourced from the Dam or from a groundwater spring. If water ceases after dewatering of Dam 4, CC will repair Sediment Dam 4 to prevent further discharges.

				<ul style="list-style-type: none"> - 22 October 2025 (1,103 uS/cm) - 30 December 2025 (1,141 uS/cm) <p>Total suspended solids (Concentration criteria 50 mg/L) exceeded on one (1) occasion:</p> <ul style="list-style-type: none"> - 30 December 2025 (108 mg/L) <p>Total Cobalt (Concentration criteria 0.0014 mg/L) exceeded on nine (9) occasions:</p> <ul style="list-style-type: none"> - 13 August 2025 (0.002 mg/L) - 27 August 2025 (0.002 mg/L) - 17 September 2025 (0.002 mg/L) - 1 October 2025 (0.003 mg/L) - 8 October 2025 (0.004 mg/L) - 29 October 2025 (0.003 mg/L) - 3 December 2025 (0.002 mg/L) - 10 December 2025 (0.005 mg/L) - 30 December 2025 (0.002 mg/L) <p>Total Copper (Concentration criteria 0.0014 mg/L) exceeded on two (2) occasion:</p> <ul style="list-style-type: none"> - 3 September 2025 (0.004 mg/L) - 17 December 2025 (0.002 mg/L) <p>Total Nickel (Concentration criteria 0.011 mg/L) exceeded on three (3) occasions:</p> <ul style="list-style-type: none"> - 1 October 2025 (0.017 mg/L) - 8 October 2025 (0.015 mg/L) - 10 December 2025 (0.012 mg/L) <p>Total Zinc (Concentration criteria 0.008 mg/L) exceeded on five (5) occasions:</p> <ul style="list-style-type: none"> - 17 September 2025 (0.01 mg/L) - 1 October 2025 (0.014 mg/L) - 8 October 2025 (0.014 mg/L) - 29 October 2025 (0.01 mg/L) - 10 December 2025 (0.009 mg/L) <p>Total Iron (Concentration criteria 0.3 mg/L) exceeded on nineteen (19) occasions:</p>	
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				<ul style="list-style-type: none"> - 13 August 2025 (1.34 mg/L) - 20 August 2025 (0.92 mg/L) - 27 August 2025 (0.97 mg/L) - 3 September 2025 (1.02 mg/L) - 10 September 2025 (0.56 mg/L) - 17 September 2025 (0.94 mg/L) - 1 October 2025 (2.43 mg/L) - 8 October 2025 (2.77 mg/L) - 15 October 2025 (0.74 mg/L) - 29 October 2025 (2.16 mg/L) - 5 November 2025 (0.57 mg/L) - 12 November 2025 (0.95 mg/L) - 19 November 2025 (0.44 mg/L) - 26 November 2025 (1.06 mg/L) - 3 December 2025 (1.46 mg/L) - 10 December 2025 (3.1 mg/L) - 17 December 2025 (0.62 mg/L) - 23 December 2025 (0.69 mg/L) - 30 December 2025 (1.9 mg/L) <p>Investigations are currently underway to determine whether discharging water is sourced from Dam 4 or a natural spring.</p>	
DA-200-5-2003	Schedule 4 Condition 41(a)	Measure of discharge water volumes	Low Non-compliant	<p>The discharge point from Dam 4 (EPL Point 4) was potentially discharging between January and December 2025. No volume of water discharging from LDP004 was taken. Investigations are currently underway to determine whether water is sourced from Dam 4 or a natural spring.</p>	As above

<p>DA-200-5-2003 EPL 10341</p>	<p>Schedule 4 Condition 27 L6.1</p>	<p>Fifteen (15) odour complaints received associated with sub-surface heating areas at CVM.</p>	<p>Low Non-compliant</p>	<p>Fifteen (15) odour complaints were received by CVM during the report period (refer to Section 9.2). CVM has implemented a number of management measures and undertook regular inspections of the area. Each complaint was investigated on-site to assess the condition of the sub-surface heating areas at the time of the complaint. During 2025 a Heating Area Remediation Strategy was developed. The report is currently in draft and under review before works to manage the heating begin in 1st quarter 2026.</p>	<p>Castlereaugh Coal is developing a Heating Area Remediation Strategy in consultation with the Resources Regulator and subject matter experts. The Strategy will be submitted to the RR in Quarter 2 2026 for approval. Following general agreement of heating management, CC will implement actions in the timeframe set out within the Strategy. Prior to submission of the Strategy, in Quarter 1 of 2026, planning works in preparation for on ground management will occur. This will include timber removal and thermal imagery to identify hot spots and extent of heating.</p>
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12 Activities to be Undertaken in the Next Reporting Period

Proposed mining activities for the next reporting period involve the mining of approximately 532,500 bcm of overburden waste rock to uncover approximately 75,000 tonnes of remnant coal from within the approved mining area during 2026.

Additional activities during the 2026 reporting period will include:

- Monitoring and treatment of subsurface heating areas in accordance with the Heating Area Remediation Strategy.
- Implementation of the actions to address the TAPs and Section 240 Notices and ongoing consultation with the Resources Regulator of outcomes.
- Finalisation of the Biodiversity Stewardship Agreement.
- Completion of annual CCC meetings, as agreed with CCC members.

13 References

Atlantech (2026). 2025 Biodiversity Monitoring Report Cullen Valley Mine and Invincible Colliery.

Australian and New Zealand Guidelines for Fresh and Marine Water Quality, 2000. (ANZECC, 2000) An Introduction to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Commonwealth Government.

CARAS (2022). Cullen Valley Mine Independent Environmental Audit. Prepared for Shoalhaven Coal Pty Limited

Castlereaugh Coal (2024). Cullen Valley Mine Pollution Incident Response Management Plan.

Castlereaugh Coal (2025). Cullen Valley Mine Environmental Monitoring Program.

International Environmental Consultants, 1997. Feldmast Coal Project Environmental Impact Statement.

International Environmental Consultants, 2004. Cullen Valley Mine Open Cut Extension Environmental Impact Statement.

JBA (2022). Cullen Valley Mine Air Quality Management Plan.

(2022b). Cullen Valley Mine Flora and Fauna Management Plan. JBA

(2022c). Cullen Valley Mine Site Water Management Plan.

NSW Government (2015). Annual Review Guideline.

Rapt Consulting (2025a). Cullen Valley Mine Environmental Noise Monitoring Quarter 1, 2025. Prepared for Castlereaugh Coal.

Rapt Consulting (2025b). Cullen Valley Mine Environmental Noise Monitoring Quarter 2, 2025. Prepared for Castlereaugh Coal.

Rapt Consulting (2025c). Cullen Valley Mine Environmental Noise Monitoring Quarter 3, 2025. Prepared for Castlereaugh Coal.


Rapt Consulting (2025d). Cullen Valley Mine Environmental Noise Monitoring Quarter 4, 2025. Prepared for Castlereaugh Coal.

APPENDIX 1 - Figures

Cullen Valley Mine

Site Locality



 Cullen Valley Project Approval Boundary (DA-200-5-2003)



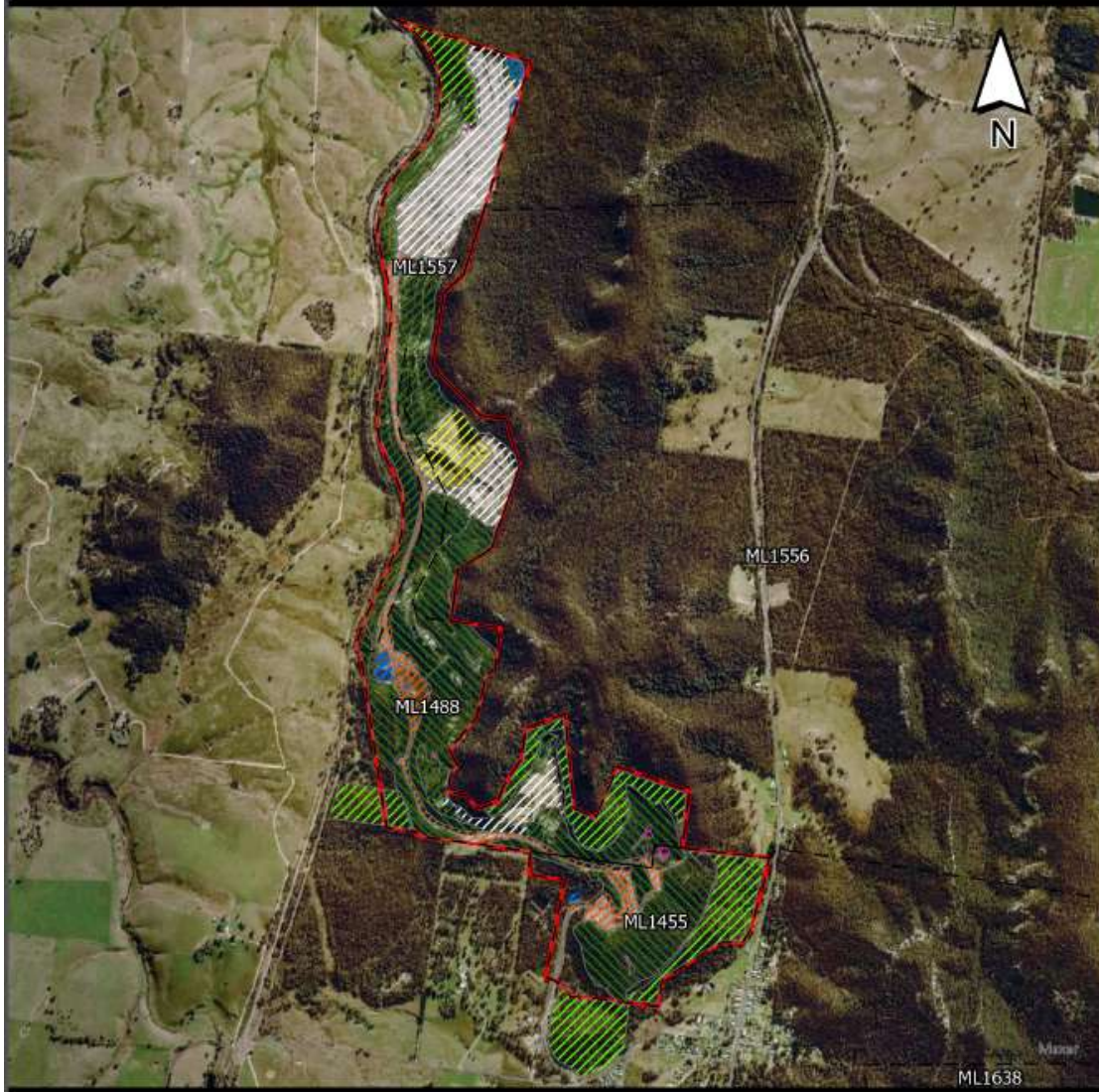
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Map Reference: ATLGIS25-002_A4-5

Figure 1



Cullen Valley Mine

2024 Mining & Rehabilitation Areas



Cullen Valley Project Approval Boundary (DA-200-5-2003)
 Mining Lease Boundaries

- Active Mining Area (Open Cut Void)
- Established Rehabilitation
- Infrastructure Area
- Rehabilitation Area
- Stockpile Area
- Unshaped Emplacement Area
- Water Management Area
- Conservation & Compensatory Habitat Area



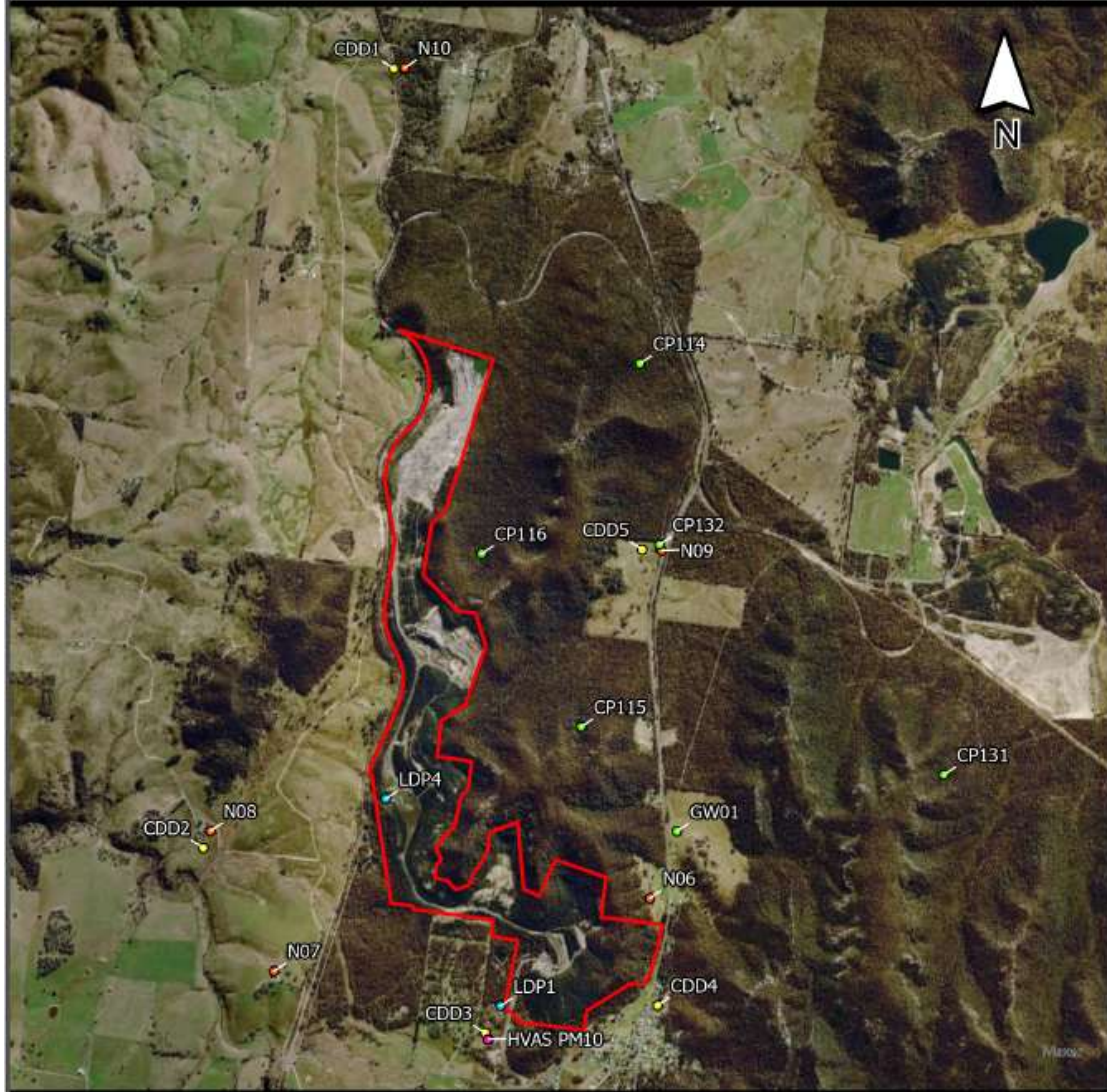
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Figure 2



Cullen Valley Mine

Environmental Monitoring Locations



Cullen Valley Project Approval Boundary (DA-200-5-2003)

- Air Quality Monitoring Locations
- Weather Station
- Surface Water Monitoring Locations
- Groundwater Monitoring Locations
- Noise Monitoring Locations



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Figure 3



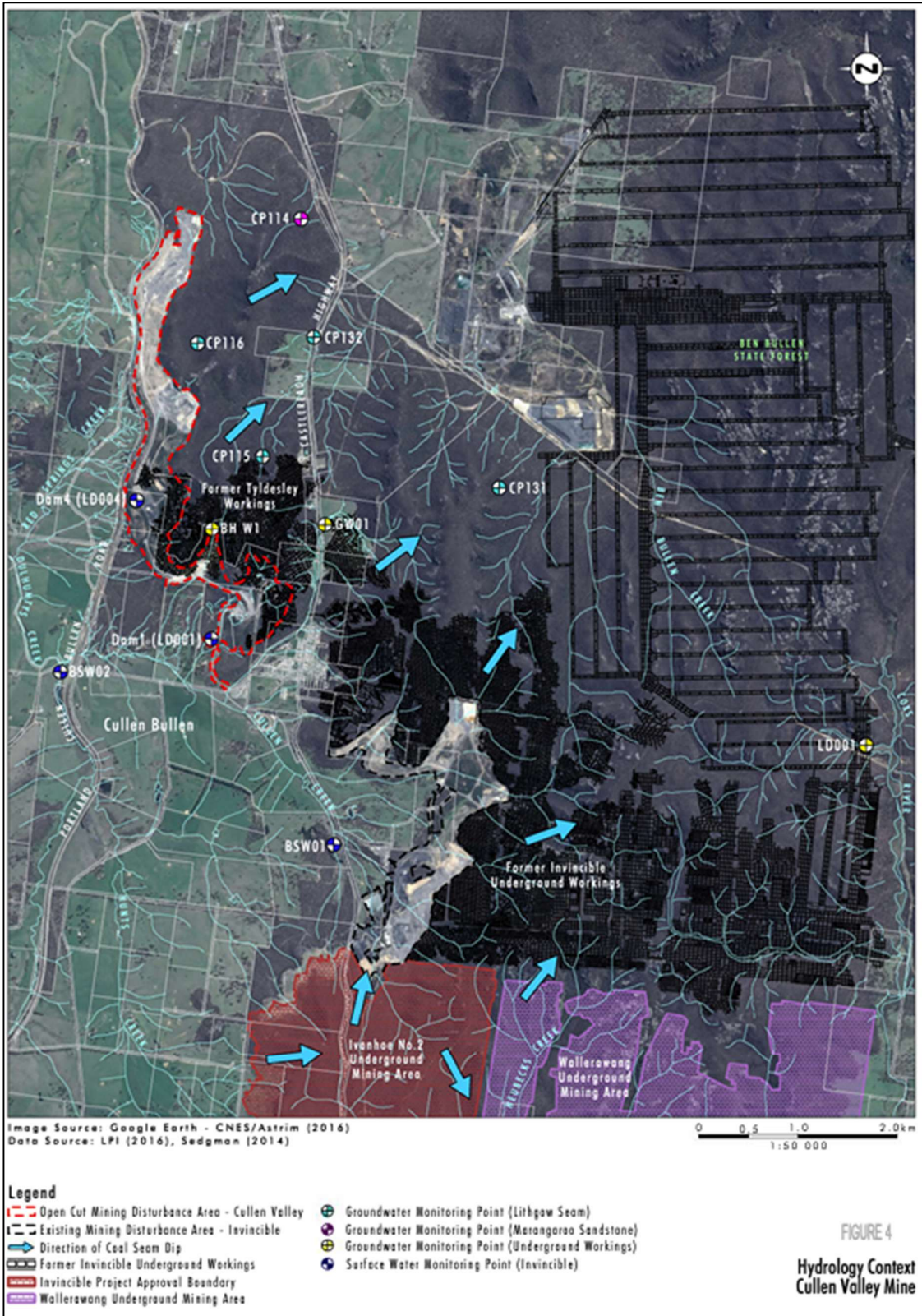
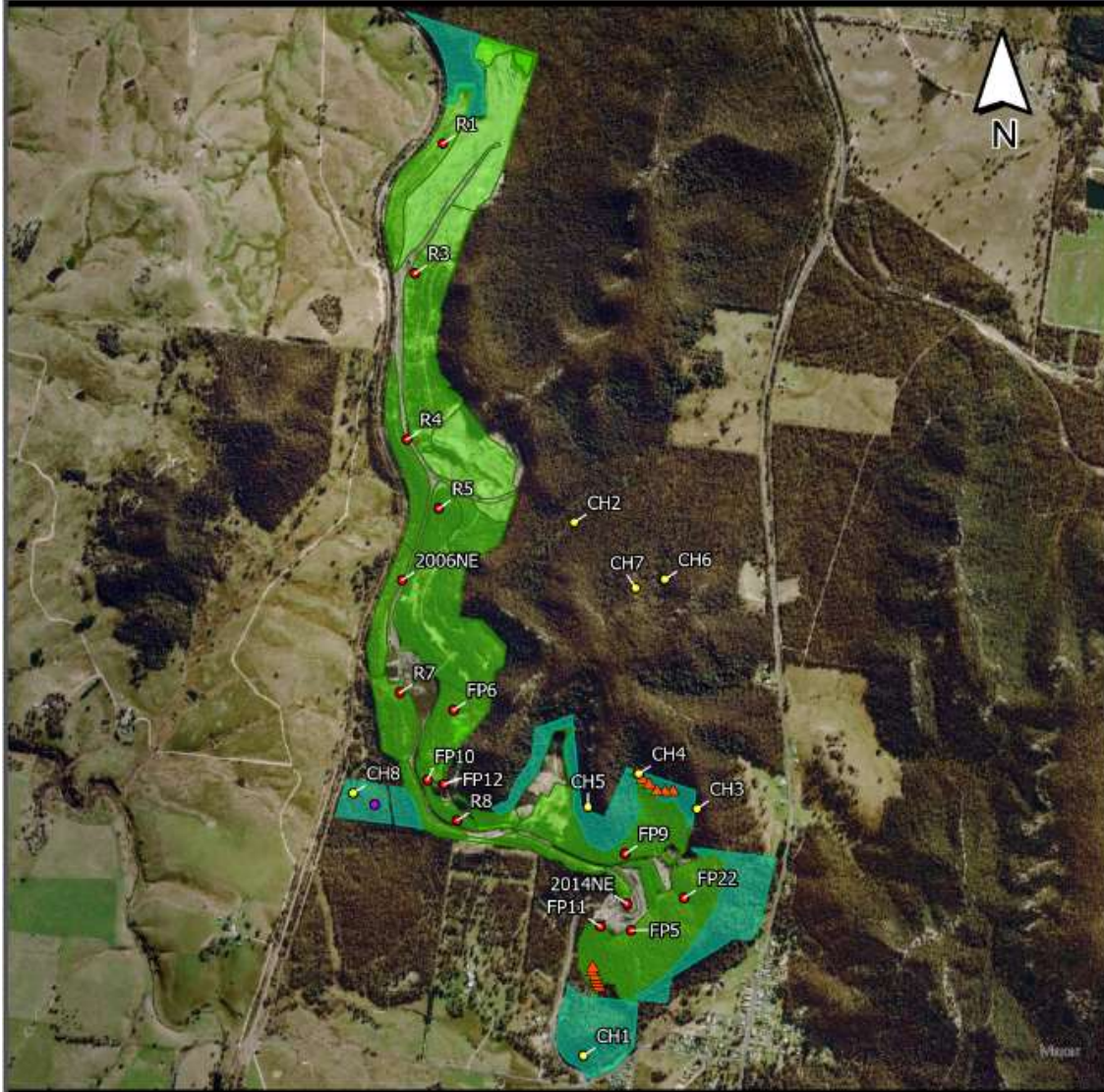


FIGURE 4
 Hydrology Context
 Cullen Valley Mine

Cullen Valley Mine

Ecological Monitoring Sites



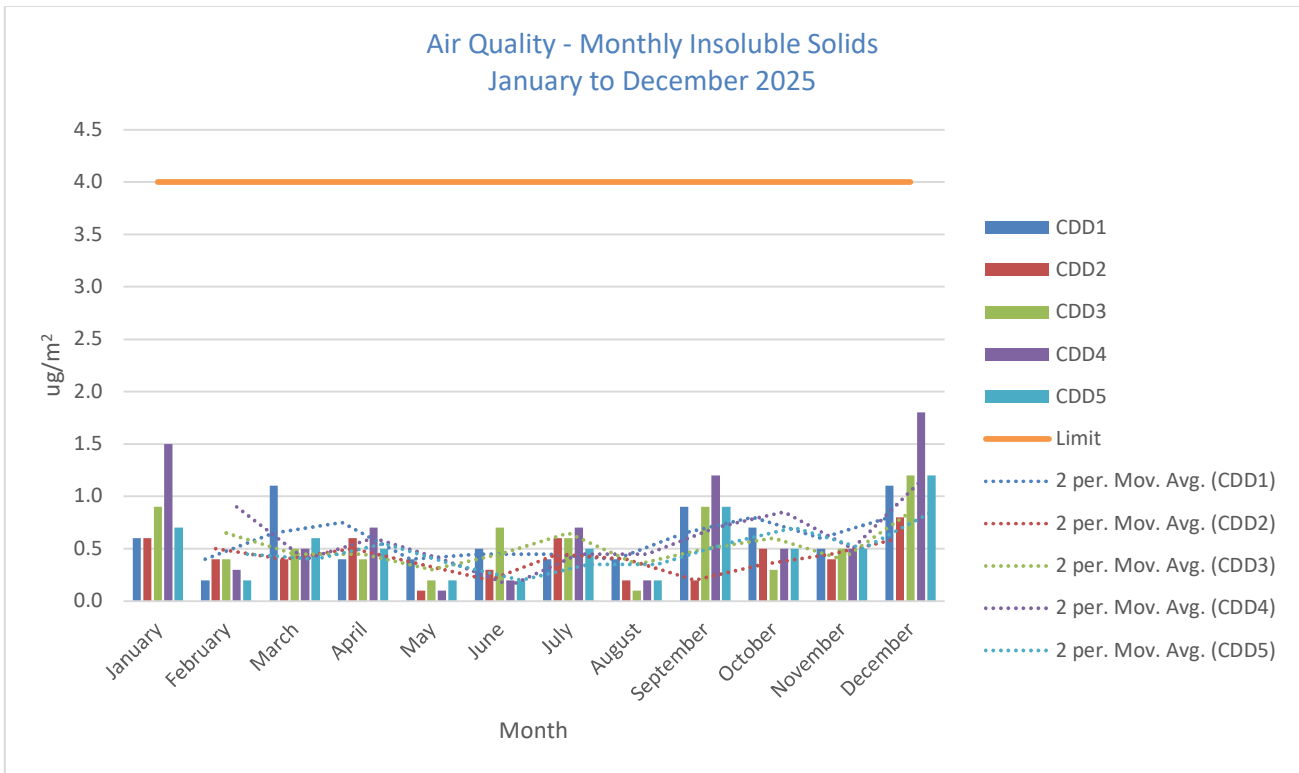
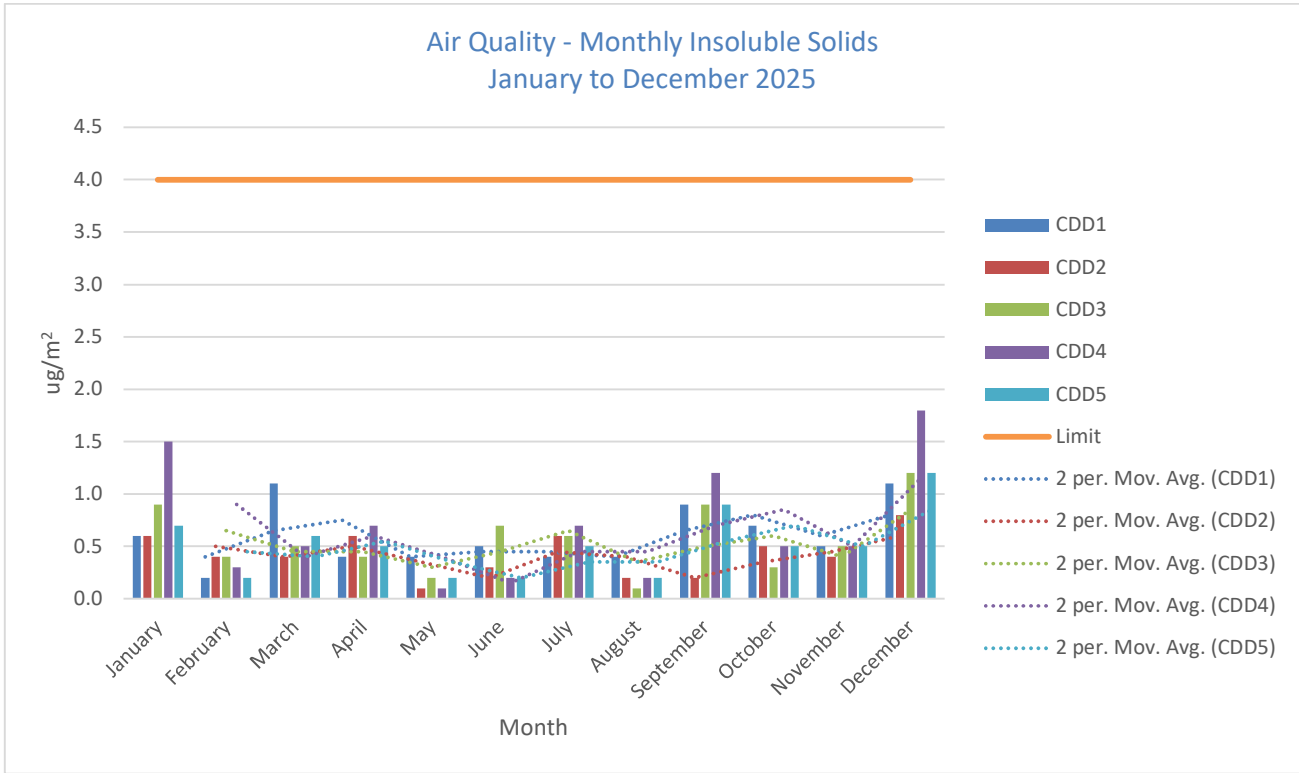
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|--|--|--|-----|-----|-----|
| Rehabilitation Area | Nest Box Locations | 0 | 0.3 | 0.6 | 1.2 |
| Conservation & Compensatory Habitat Area | Rehabilitation Monitoring Locations | | | | |
| | Clandula Geebung Monitoring Locations | Kilometers | | | |
| | Compensatory Habitat Area Monitoring Locations | Date Created: 14/03/2025 | | | |
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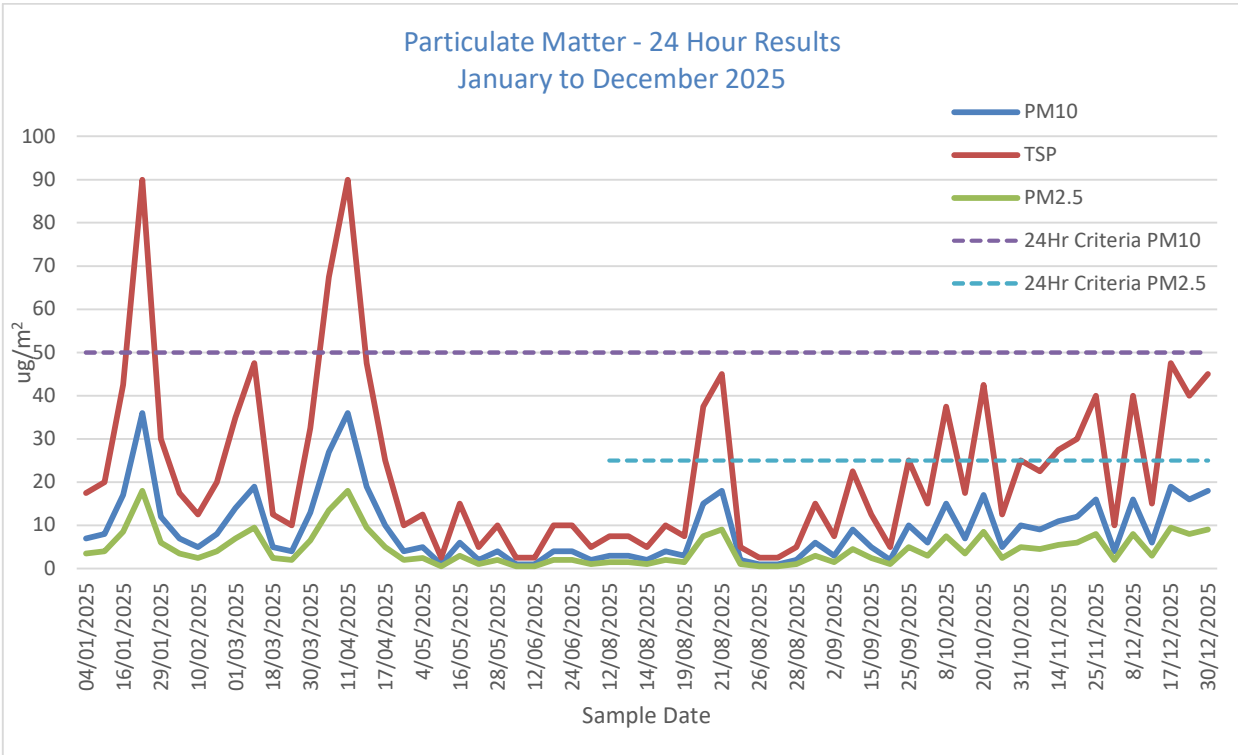
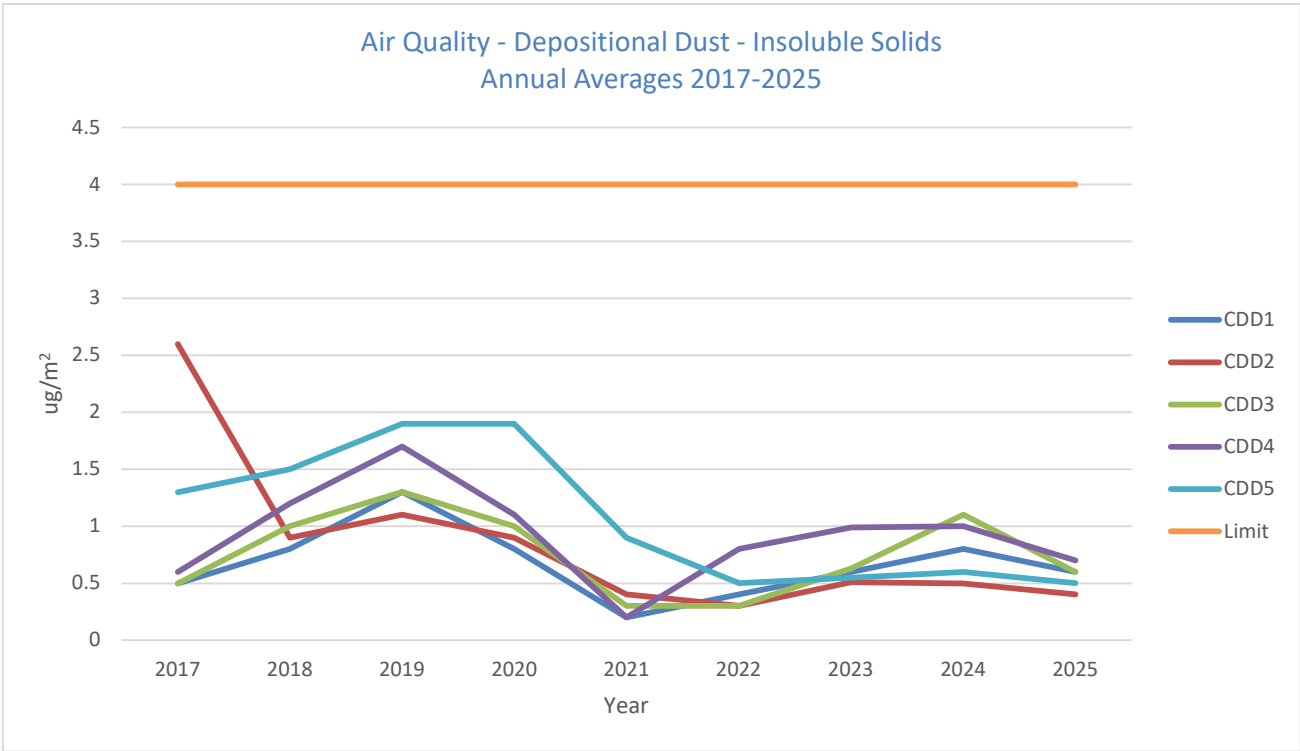
Figure 5



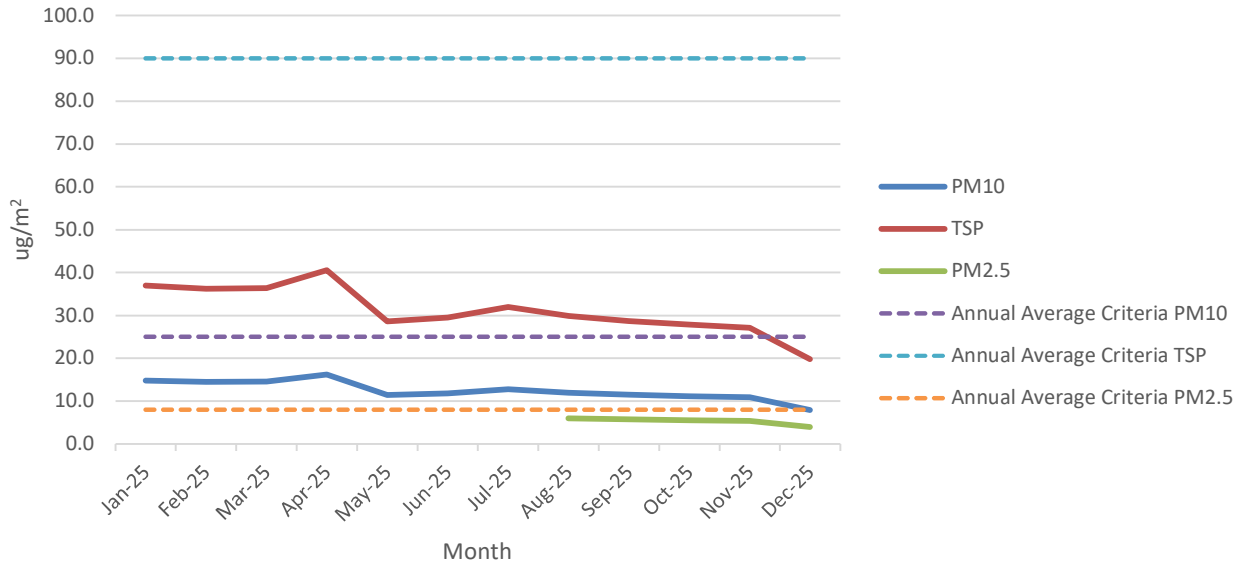
APPENDIX 2 - Monitoring Results

Air Quality

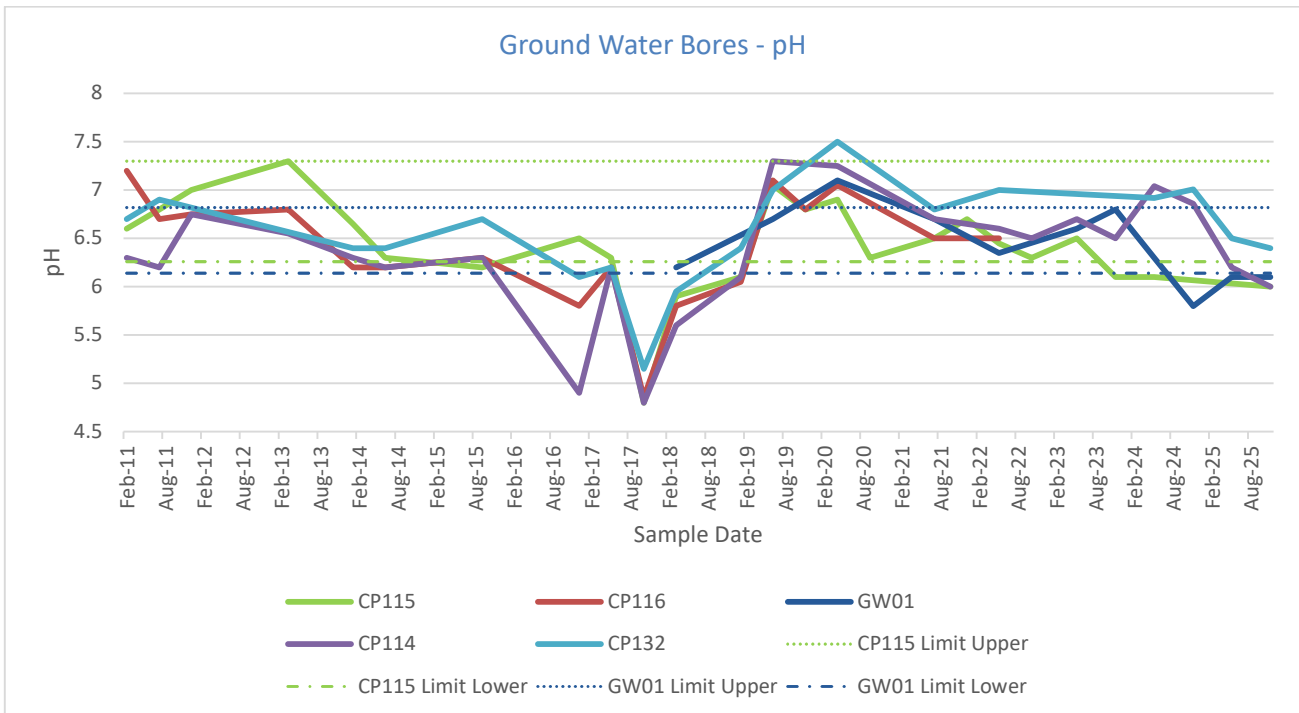
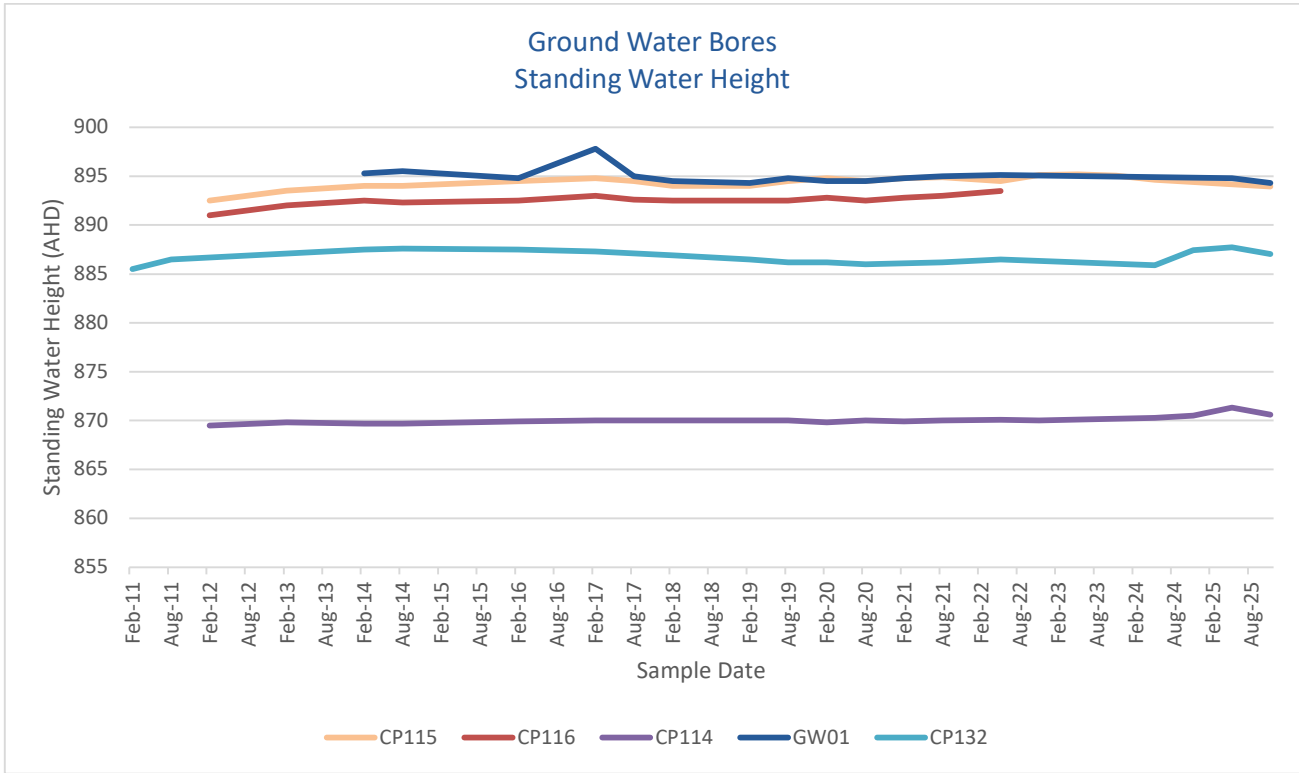


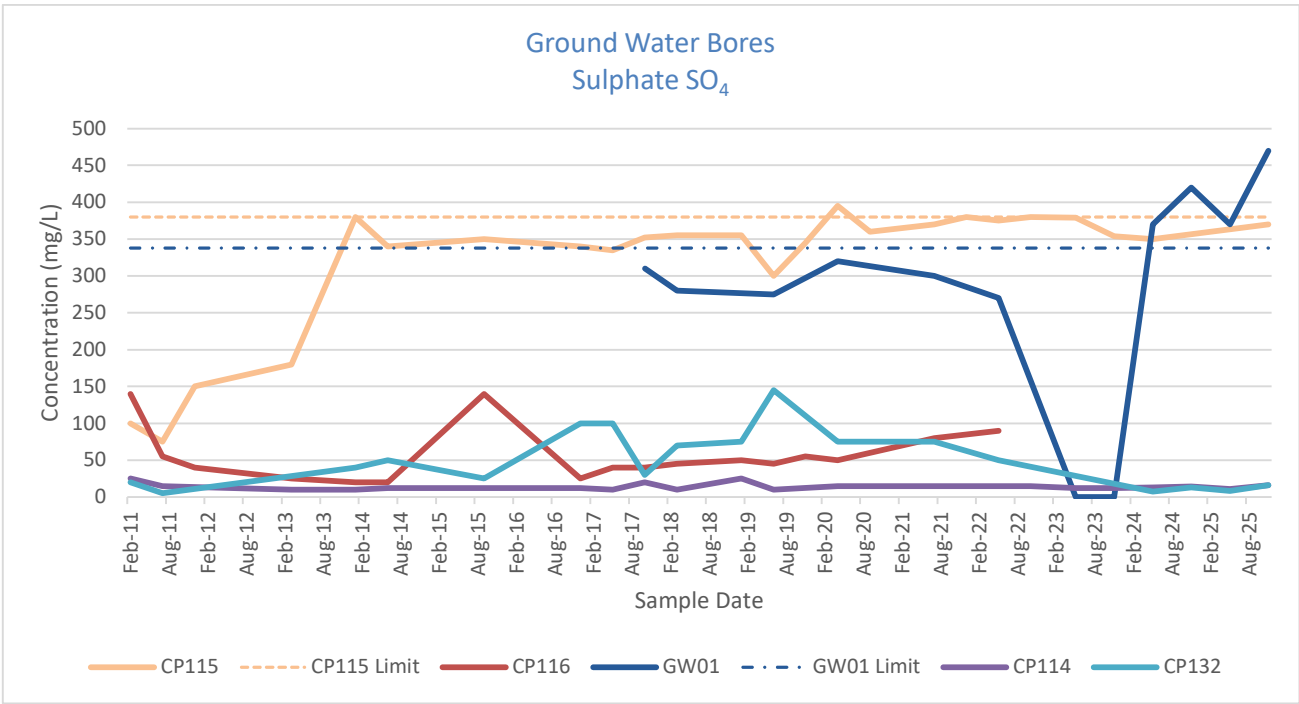
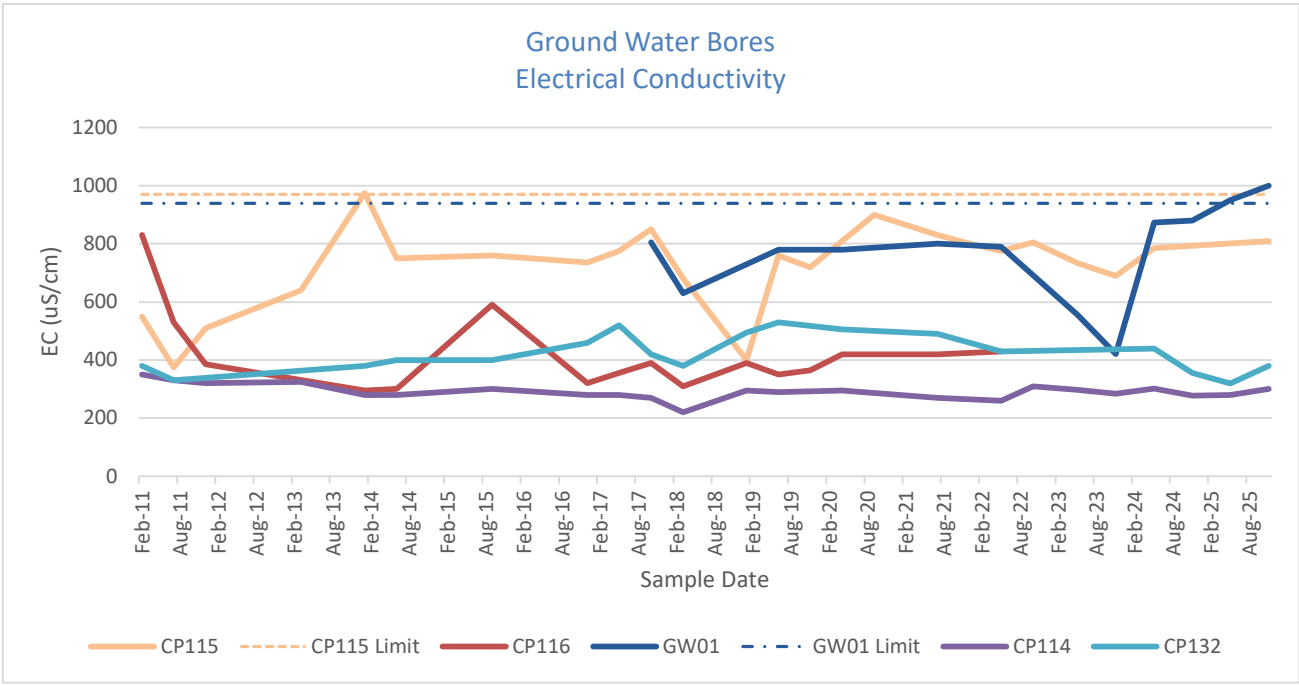


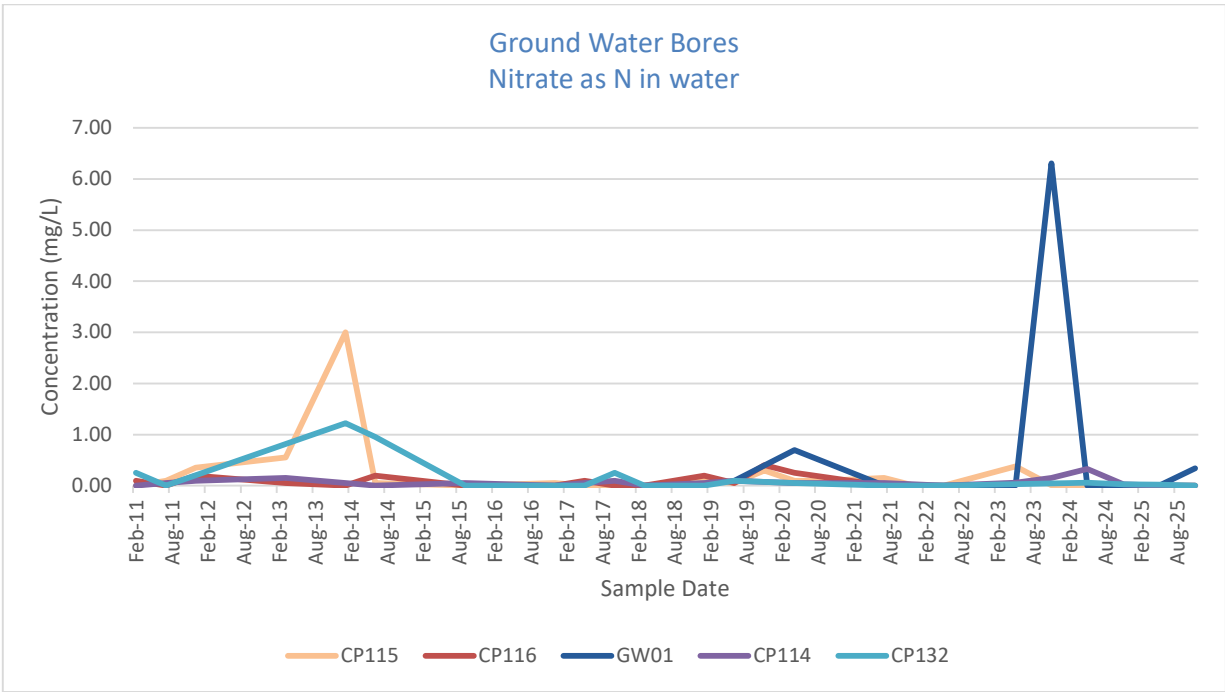
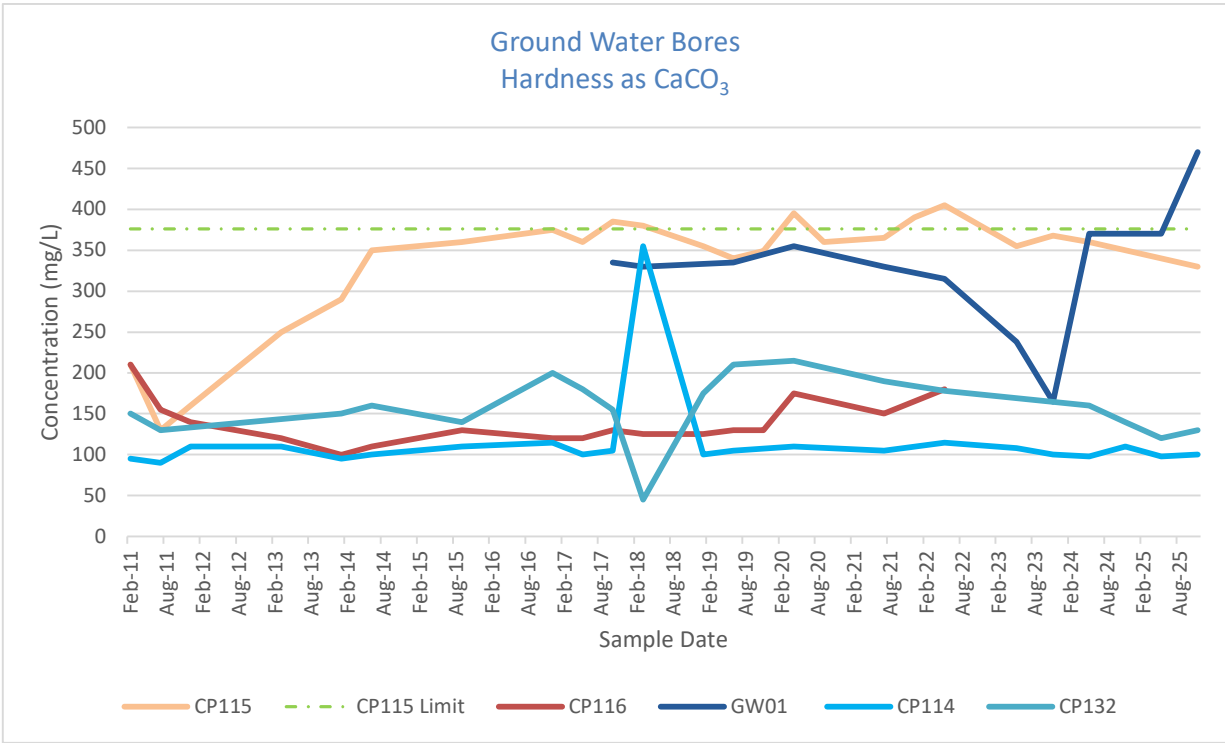
Particulate Matter - Rolling Averages January to December 2025



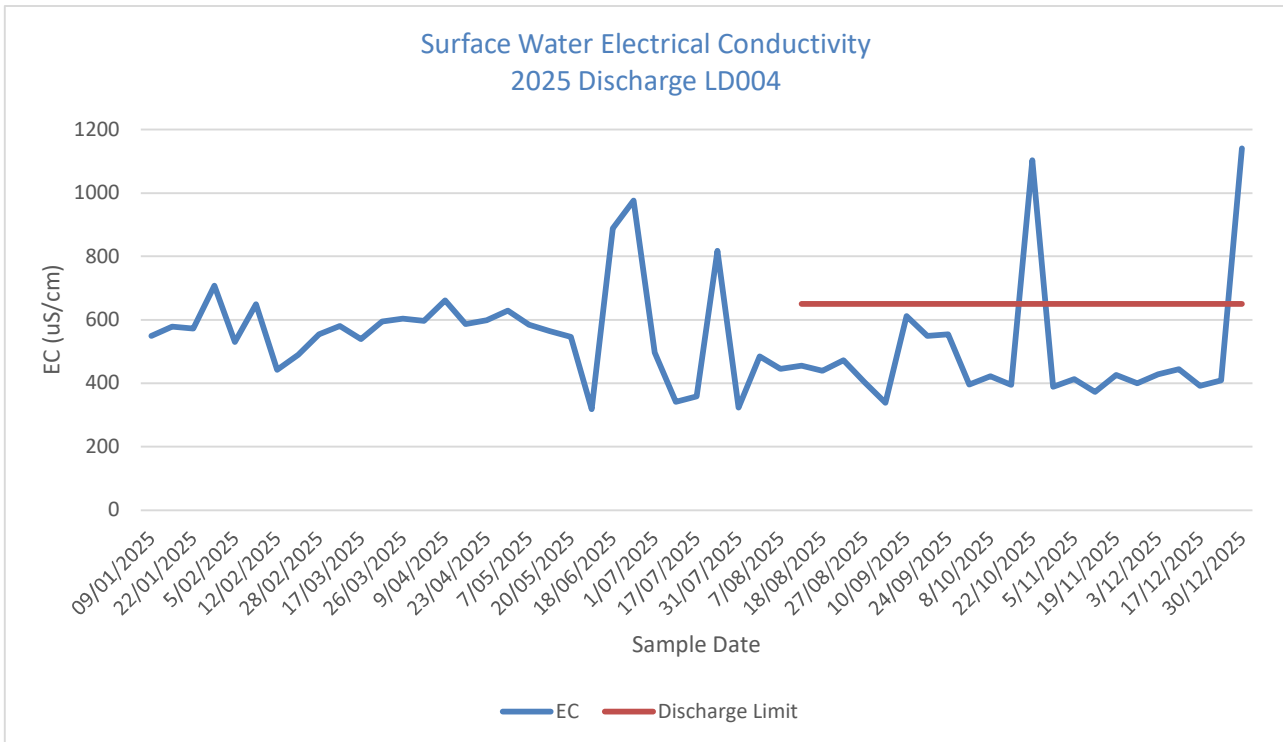
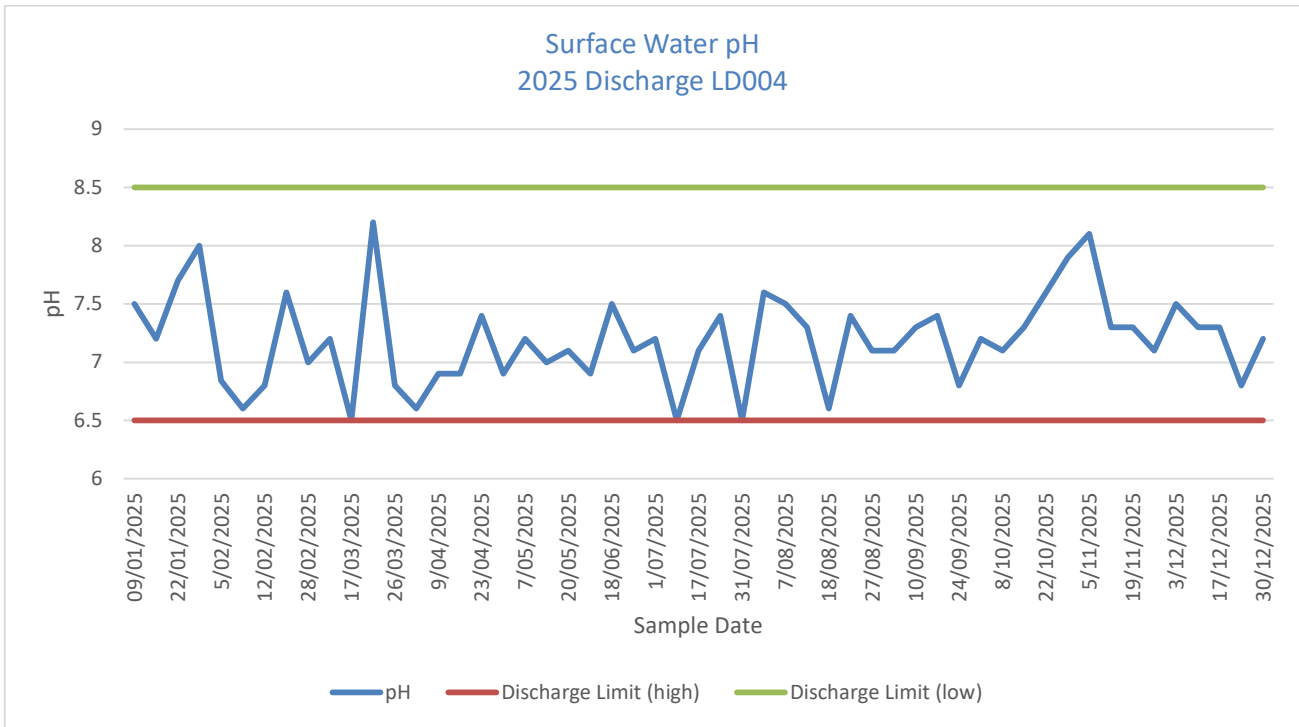
Ground Water



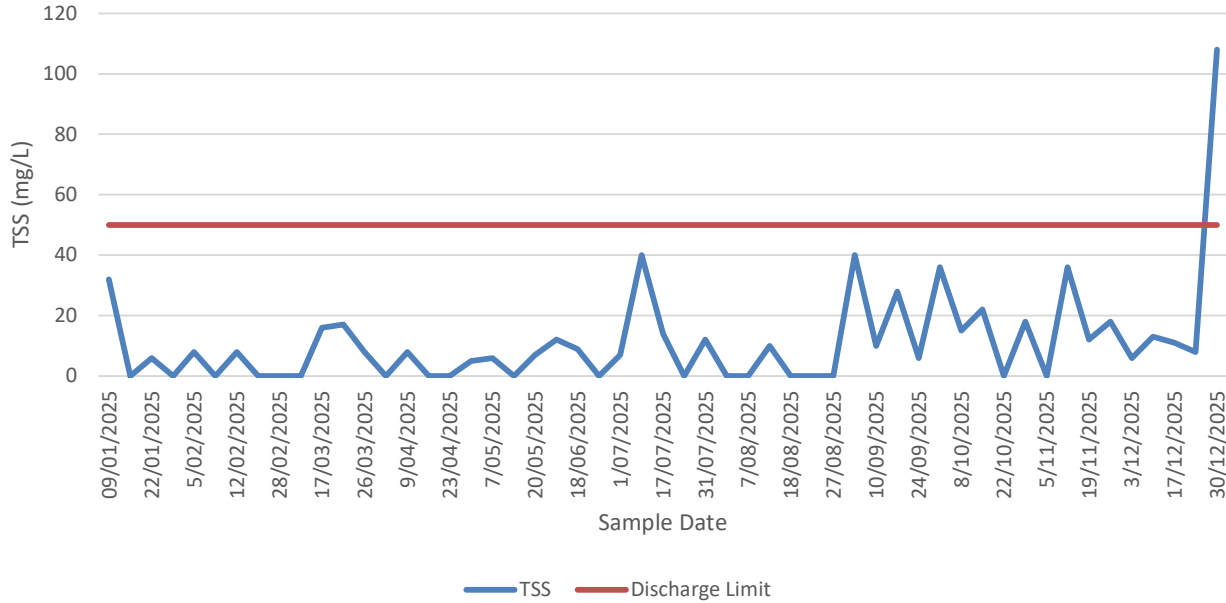




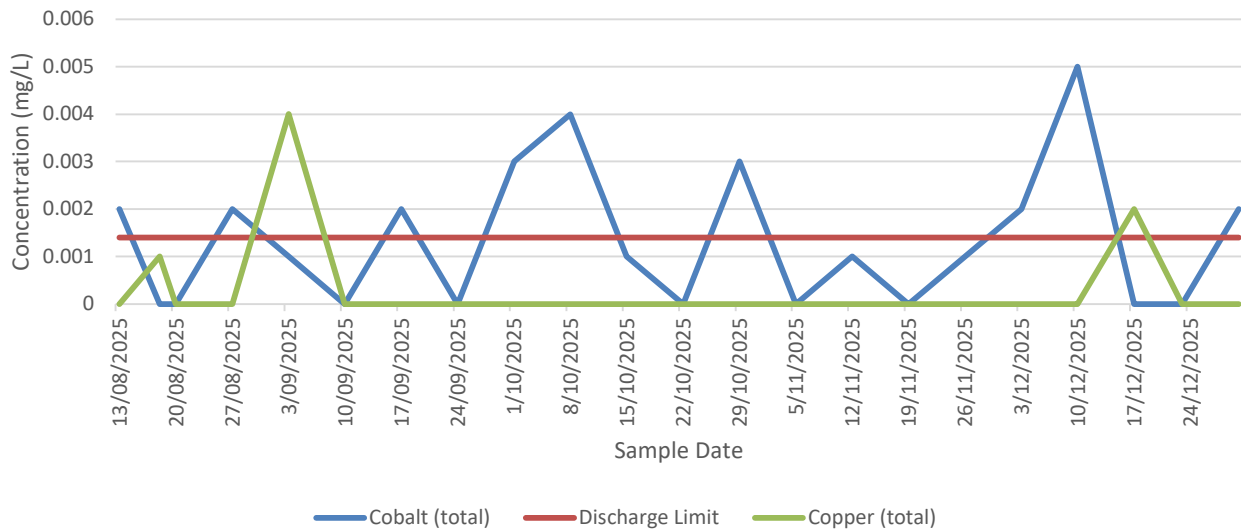
Surface Water

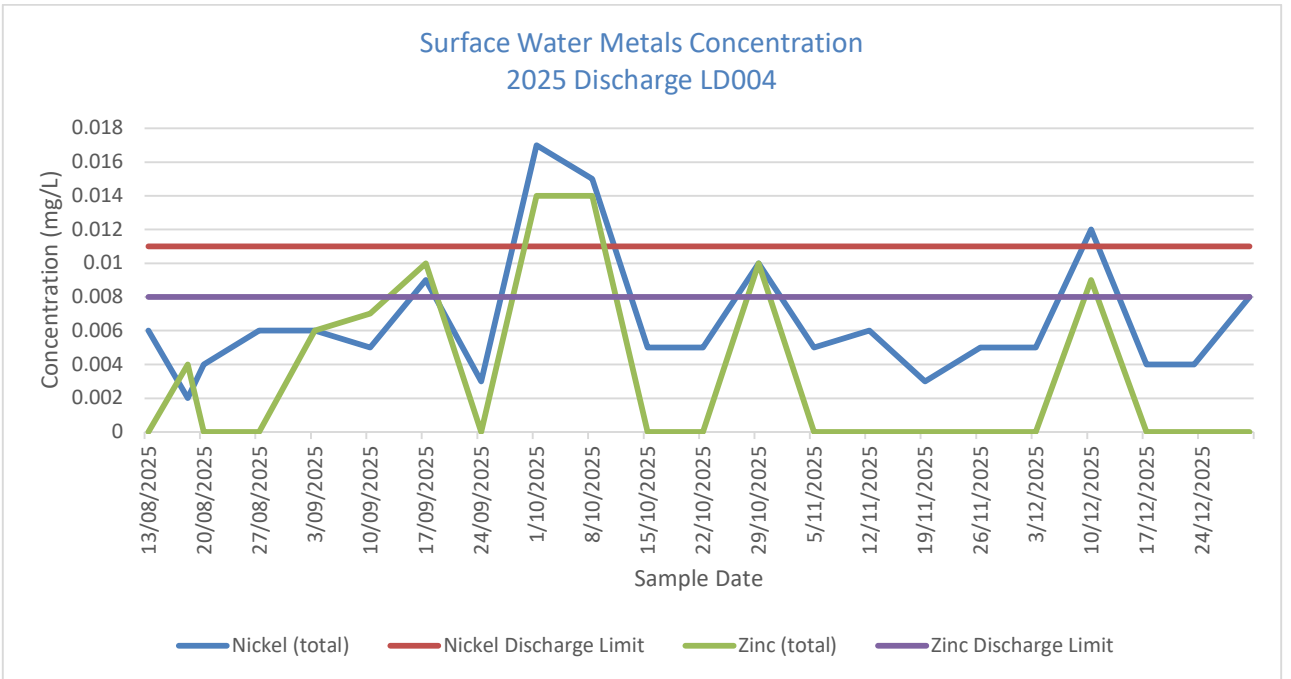
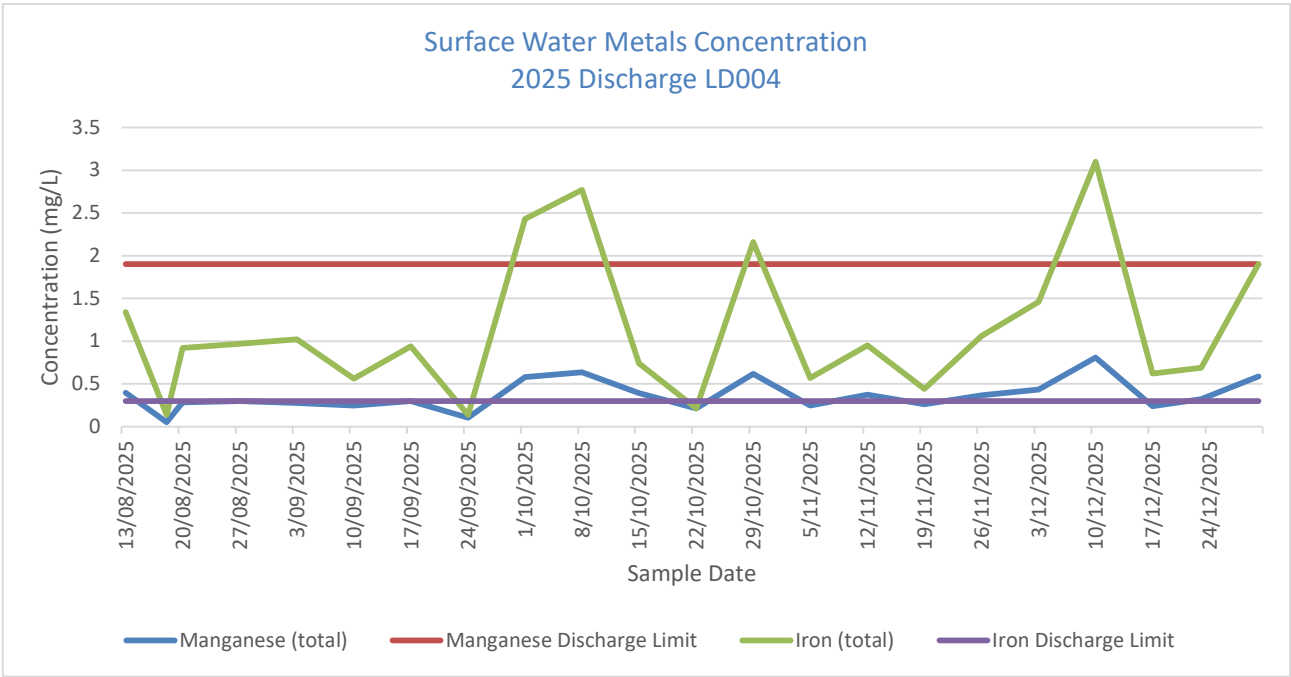


Surface Water Total Suspended Solids 2025 Discharge LD004

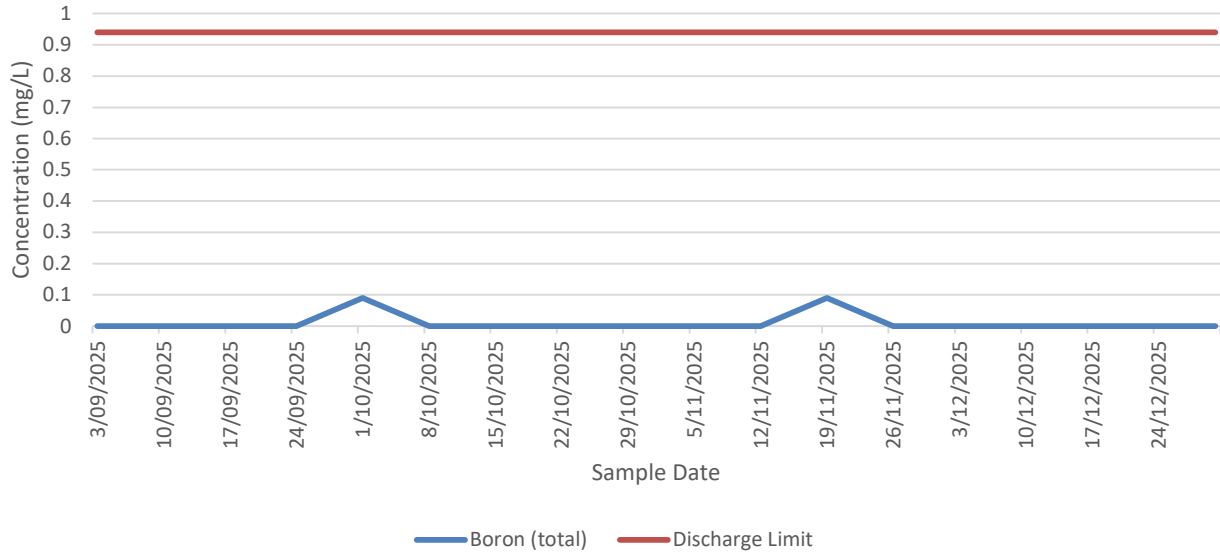


Surface Water Metals Concentration 2025 Discharge LD004





Surface Water Metals Concentration 2025 Discharge LD004



Noise

Historical Noise monitoring results for years the past six (6) years (2019-2024) are shown in **Tables A to F**.

Table A 2024 Quarterly Monitoring Results

Location	Criterion (dB)	Quarter 1 (L _{Aeq})	Quarter 2 (L _{Aeq})	Quarter 3 (L _{Aeq})	Quarter 4 (L _{Aeq})
Red Springs (N07)	37	IA	IA	IA	IA
Hillcroft (N08)	35	IA	IA	IA	IA
Forest Lodge (N10)	40	IA	IA	IA	IA
Doble Gate (N09)	43	IA	IA	IA	IA
Tilley (N06)	43	IA	IA	IA	IA

IA – Inaudible

Table B 2023 Quarterly Monitoring Results

Location	Criterion (dB)	Quarter 1 (L _{Aeq})	Quarter 2 (L _{Aeq})	Quarter 3 (L _{Aeq})	Quarter 4 (L _{Aeq})
Red Springs (N07)	37	IA	IA	IA	IA
Hillcroft (N08)	35	IA	IA	IA	IA
Forest Lodge (N10)	40	IA	IA	IA	IA
Doble Gate (N09)	43	IA	IA	IA	IA
Tilley (N06)	43	IA	IA	IA	IA

IA – Inaudible

Table C 2022 Quarterly Monitoring Results

Location	Criterion (dB)	Quarter 1 (L _{Aeq})	Quarter 2 (L _{Aeq})	Quarter 3 (L _{Aeq})	Quarter 4 (L _{Aeq})
Red Springs (N07)	37	IA	IA	IA	IA
Hillcroft (N08)	35	IA	IA	IA	IA
Forest Lodge (N10)	40	IA	IA	IA	IA
Doble Gate (N09)	43	IA	IA	IA	IA
Tilley (N06)	43	IA	IA	IA	IA

IA – Inaudible

Table D 2021 Quarterly Monitoring Results

Location	Criterion (dB)	Quarter 1 (L _{Aeq})	Quarter 2 (L _{Aeq})	Quarter 3 (L _{Aeq})	Quarter 4 (L _{Aeq})
Red Springs (N07)	37	36 (IA)	34 (IA)	41 (IA)	35 (IA)
Hillcroft (N08)	35	36 (IA)	36 (IA)	38 (IA)	32 (IA)
Forest Lodge (N10)	40	36 (IA)	31 (IA)	36 (IA)	42 (IA)
Doble Gate (N09)	43	49 (IA)	63 (IA)	43 (IA)	50 (IA)
Tilley (N06)	43	63 (IA)	68 (IA)	48 (IA)	53 (IA)

IA – Inaudible

Table E 2020 Quarterly Monitoring Results

Location	Criterion (dB)	Quarter 1 (L _{Aeq})	Quarter 2 (L _{Aeq})	Quarter 3 (L _{Aeq})	Quarter 4 (L _{Aeq})
Red Springs (N07)	37	44 (IA)	35 (IA)	43 (IA)	42 (IA)
Hillcroft (N08)	35	41 (IA)	33 (IA)	30 (IA)	33 (IA)
Forest Lodge (N10)	40	44 (IA)	38 (IA)	26 (IA)	38 (IA)
Doble Gate (N09)	43	52 (IA)	52 (IA)	60 (IA)	54 (IA)
Tilley (N06)	43	61 (IA)	66 (IA)	68 (IA)	63 (IA)

IA – Inaudible

Table F 2019 Quarterly Monitoring Results

Location	Criterion (dB)	Quarter 1 (L _{Aeq})	Quarter 2 (L _{Aeq})	Quarter 3 (L _{Aeq})	Quarter 4 (L _{Aeq})
Red Springs (N07)	37	39 (IA)	44 (IA)	41 (IA)	43 (IA)
Hillcroft (N08)	35	40 (IA)	44 (IA)	39 (IA)	38 (IA)
Forest Lodge (N10)	40	36 (IA)	43 (IA)	43 (IA)	32 (IA)
Doble Gate (N09)	43	62 (IA)	54 (IA)	63 (IA)	59 (IA)
Tilley (N06)	43	72 (IA)	67 (IA)	64 (IA)	68 (IA)

IA – Inaudible

APPENDIX 3 - CVM IEA 2021 Response to Recommendations

IEA Recommendations	Condition Reference No #	Condition Detail	Condition Type	Risk Level of Non-compliance	Auditor Comments and Recommendations	CVM Response	Target Due Date	Completion Status	Comments - Status Update
Development Consent DA 200-5-2003 Non-compliance Recommendations	Sch 3 Cond 1	The Applicant shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the development.	Administrative	Administrative	The applicant has generally implemented practicable measures to minimise harm to the environment. However, several notices have been issued over the audit period. The applicant should implement reasonable and practical measures to investigate anomalies in the readings even if no harm has been done to the environment.	CVM accepts the recommendation. During the audit period 2016 - 2021, there was no dedicated environmental manager onsite to manage the performance and delivery of consultants undertaking monitoring and associated reporting and follow up. CVM has directly employed a full time environmental manager onsite to manage these items toward establishing and maintaining compliance.	28-Feb-22	Completed	
	Sch 4 Cond 25	The Applicant shall monitor the air quality impacts of the development at representative locations around the site, using the specified averaging period, frequency, and sampling method in Table 12 to the satisfaction of DEC and the Director-General.	Specific environmental conditions	Administrative	2018 AEMR - A power outage of the HVAS unit caused by thunderstorm resulted in a failure to monitor air quality in accordance with this condition. 2019 AEMR - The 30/- 2 day monitoring period for depositional dust was exceeded on one occasion (dec). 2020 AEMR - A mechanical fault with the HVAS unit resulted in a failure to monitor air quality in on two occasions. This item has no defined recommendation.	Power outages and mechanical failures are generally beyond control of site personnel, nevertheless a dedicated environmental manager is now employed onsite to manage the operation and performance of monitoring equipment and consultant technicians engaged to conduct monitoring toward establishing and maintaining compliance.	28-Feb-22	Completed	
	Sch 4 Cond 27	The Applicant shall not cause or permit the emission of offensive odour beyond the boundary of the site in accordance with section 129 of the Protection of the Environment Operations Act 1997.	Specific environmental conditions	Low	There have been odour complaints in every year of the audit period regarding subsurface heating. 2016- 4 complaints 2017- 2 complaints 2018- 3 complaints 2019- 2 complaints 2020- 2 complaints 2021- 1 complaint 2022- 6 complaints Continue to monitor and implement current subsurface management plan. Consult and review if the situation worsens.	CVM addressed the complaints in consultation with the complainants, whilst undertaking physical inspections and remediation activities on areas found to be the source of odours which are associated with sub-surface heatings on the CVM site. CVM consulted closely with the Resources Regulator during 2022, implementing an agreed trial irrigation methodology to address the heating issues and assist in extinguishing / management of the heatings, whilst continued treatment as per the approved spot treatment methods continued in parallel. The Resources Regulator conducted a site inspection of the trial irrigation in (date please Almy) indicating satisfaction with the process.	2-Jul-22	Ongoing	Trial irrigation of heating areas was initiated on 14/6/2022 following close consultation with the Resources Regulator demonstrating a measurable decrease in groundbased heat. A number of adverse weather conditions contributed to several odour incidents in the first half of 2022 prior to and at the initiation of the irrigation program, however the sole complainant stated in a meeting on the 31 August 2022 that there was a significant improvement overall in the odour from CVM following start of the trial irrigation. Continuation of the irrigation of heating areas is proposed during 2023 in accordance with the methodology agreed with the Resources Regulator in addition to compaction methods to help extinguish / manage heatings/continuing treatment as per the approved methods in addition to further capping / sealing of heating areas with overburden / rehabilitation materials as remnant mining occurs at CVM.
	Sch 4 Cond 31a	describe the immediate and long-term compensatory habitat proposal, and demonstrate how this proposal would be integrated with the proposed rehabilitation of the site and surrounding areas of remnant vegetation;	Specific environmental conditions	Administrative	An explicit plan covering expected short, medium and long-term should be summarised in AEMR.	CVM will provide an account in the AR of the Annual Biodiversity Monitoring Report outcomes which includes assessment of the Compensatory Habitat, and further, consult with its ecologists toward and required revision if necessary of the management plan which are currently undergoing agency consultation. CVM management plans are currently undergoing agency consultation, and required changes will be adopted in the appropriate plans.	21-Apr-22	Completed	The approved CVM Flora and Fauna Mgt Plan (21 April 2022) describes the compensatory habitat area establishment and management techniques to protect the land and exclude open cut mining. The plan addresses short, medium- and long-term maintenance and management actions and permanent protection options to be determined prior to the cessation of approved mining and includes 2 options to be determined in consultation with the NSW Government. A dedicated area for <i>Personia marginata</i> has been established within the CVM approval boundary, the ongoing management of which is described within the approved CVM Special Mgt Plan. The Annual Biodiversity Monitoring program includes assessment and reporting of the status of CHA areas.
	Sch 4 Cond 31f	set completion criteria for the compensatory habitat proposal.	Specific environmental conditions	Administrative	No completion criteria were found for compensatory habitat. The criteria should be developed and reported in AEMR. Criteria should be developed in tandem with short, medium and long-term goals.	CVM will provide an account in the AR of the Annual Biodiversity Monitoring Report outcomes which includes assessment of the Compensatory Habitat, and further, consult with its ecologists toward and required revision if necessary of the management plan which are currently undergoing agency consultation. CVM management plans are currently undergoing agency consultation, and required changes will be adopted in the appropriate plans.	21-Apr-22	Completed	Completion criteria as described are outlined with the approved CVM Flor and Fauna Mgt Plan. JB, you may want to add some of the criteria from the mgt plans to the report).
	Sch 4 Cond 36a	Within 2 years of the date of this consent, and every 5 years thereafter, unless the Director-General directs otherwise, the Applicant shall commission, and pay the full cost of, an Independent Audit of the compensatory habitat proposal. This audit must be conducted by a suitably qualified, experienced, and independent person whose appointment has been approved by the Director-General.	Specific environmental conditions	Administrative	Previous audit was completed on the 25 Nov 2016 by SR Consulting Australia. An extension date was granted for the this audit to March 2022. CARAS was endorsed on 15 December 2021 to conduct the current audit period. Date of this audit was 2 February 2022. There item has no defined recommendation.	Castlereagh Coal (CVM) wrote to DPIE on the 15th of December 2021 requesting an extension for completion of the Independent Environmental Audit for CVM stating reasons as to the request. A subsequent extension was granted until 18 March 2022.	15-Mar-22	Completed	Report completed and submitted 15th March 2022.
	Sch 4 Cond 42	For each monitoring/discharge point, the Applicant shall monitor (by sampling and obtaining results by analysis) the concentration of each pollutant in Table 15, using the specified units of measure, frequency, and sampling method.	Specific environmental conditions	Administrative	Monthly water quality monitoring is carried out at discharge points. Monitoring in 2019 and 2020 were affected due to bushfires. No discharge events occurred from 2016 to 2020. This item has no defined recommendation.	CVM employs an external organisation to conduct environmental sampling associated with its monitoring program. During the well documented extreme bushfire conditions in late 2019 / early 2020 directly impacted environmental monitoring preventing access to monitoring sites.	NA	Completed	
	Sch 4 Cond 43	Within 6 months of the date of this consent, the Applicant shall prepare (and then implement) a Site Water Management Plan for the development, in consultation with DEC and DPI, and to the satisfaction of the Director-General. This plan must include: a) the predicted site water usage; b) a Surface Water Monitoring Program; and c) an Erosion and Sediment Control Plan.	Specific environmental conditions	Administrative	In 2017 a revised WMP has been sent to DPE for approval, however this is still pending. Monitoring and usage is outlined in AEMRs however they are very brief. Surface Water Monitoring program and Erosion and Sediment control plan are in place. This item has no defined recommendation.	CVM submitted an entire suite of new management plans to DPIE (and other agencies) for agency stakeholder consultation in February 2022 including a Site Water Management Plan. Additional plans / information includes predicted site water usage, surface water monitoring program and a standalone erosion and sediment control plan. CVM will work with agencies to finalise approval of these plans toward the restart of mining remnant coal resources at CVM in early 2022.	21-Apr-22	Completed	Matters addressed in CVM Erosion and Sediment Control Plan and Site Water Mgt Plans as approved on the 21 April 2022.
	Sch 4 Cond 44	The Surface Water Monitoring Program shall include: a) detailed baseline data on surface water flows and quality; b) surface water impact assessment criteria; c) a program to monitor surface water flows and quality; and d) a program to monitor the effectiveness of the Erosion and Sediment Control Plan.	Specific environmental conditions	Administrative	There is a Surface Water Monitoring Program in the EMP. However, it does not provide much detail on a) and b). Additional information is required. In 2017, a standalone water management plan that included a surface water monitoring program was issued to DPE for approval.	CVM accepts this recommendation. CVM submitted an entire suite of new management plans to DPIE (and other agencies) for agency stakeholder consultation in February 2022 including a Site Water Management Plan which includes a detailed surface water monitoring program. CVM will work with agencies to finalise approval of these plans toward the restart of mining remnant coal resources at CVM in early 2022.	21-Apr-22	Completed	Matters addressed in CVM Site Water Mgt Plan as approved on the 21 April 2022.
	Sch 4 Cond 45	The Erosion and Sediment Control Plan shall: a) comply with the requirements of the Department of Housing's b) Managing Urban Stormwater: Soils and Construction manual; c) identify activities that could cause soil erosion or discharge sediment or water pollutants from the site; d) describe the location, function and capacity of all erosion and sediment control structures, and nominate which, if any, of these structures would be used as water sources for the development; and e) describe the measures to minimise soil erosion and the potential migration of sediments to downstream waters.	Specific environmental conditions	Administrative	There is no discussion of compliance with requirements set by Department of Housing's Managing Urban Stormwater. b. Activities that cause erosion are identified in Section 5. c. The locations of structures are outlined but not described in detail. d. Measure to minimise soil erosion are covered in Section 5. This item has no defined recommendation.	CVM submitted an entire suite of new management plans to DPIE (and other agencies) for agency stakeholder consultation in February 2022 including an Erosion and Sediment Control Plan which includes reference to the Blue Book (Landcom), 2004 in Sections 2.4 and 2.5, Structures in Section 2.4 and measures to minimise soils erosion in Sections 2.4 and 2.6. CVM will work with agencies to finalise approval of these plans toward the restart of mining remnant coal resources at CVM in early 2022.	21-Apr-22	Completed	Matters addressed in CVM Erosion and Sediment Control Plan as approved on the 21 April 2022.
	Sch 4 Cond 59	The Applicant shall not cause, permit or allow any waste generated outside the mine to be received at the mine for storage, treatment, processing, reprocessing or disposal, or any waste generated at the mine to be disposed of at the mine, except as expressly permitted by a DEC licence. Note: This condition only applies to the storage, treatment, processing, reprocessing, or disposal of waste that requires a licence under the Protection of the Environment Operations Act 1997.	Specific environmental conditions	Administrative	VENM/ENM dirt have been received at CVM in 2018 and 2019 to help with rehabilitation works. DPE requires an approval and modification of current development consent.	CVM accepts the recommendation. A small quantity spoil from a major infrastructure project in the Sydney Metropolitan Region was imported to assist with rehabilitation works. The spoil was characterised as VENM or ENM in accordance with the NSW EPA Waste Guidelines. The import of all materials from offsite was stopped following correspondence / consultation with DPIE and the Resources Regulator. Should the import of VENM or ENM materials be considered in future, CVM will seek the appropriate approvals / modification in consultation with DPIE and other regulatory agencies.	NA	Completed	

Sch 6 Cond 6	The Applicant shall ensure that there is a Community Consultative Committee to oversee the environmental performance of the development. This committee shall: <ul style="list-style-type: none"> a) be comprised of: <ul style="list-style-type: none"> • 2 representatives from the Applicant, including the person responsible for environmental management at the mine; • 1 representative from Council; and • 4 representatives from the local community, whose appointment has been approved by the Director-General in consultation with the Council; b) be chaired by an independent person whose appointment has been endorsed by the Director-General; c) meet at least twice a year; and d) review and provide advice on the environmental performance of the development, including any environmental management plans, monitoring results, audit reports, or complaints. 	ENVIRONMENTAL MANAGEMENT, MONITORING, AUDITING & REPORTING	Administrative	Only one CCC meeting were held per year in 2019 and 2020. DPIE noted this is a technical non-compliance. During 2018 CCC, it was agreed that one CCC meeting held annually while on care and maintenance Table 1.3. Intent to start biannual once mine operations commence. This item has no defined recommendation.	It is anticipated that Cullen Valley Mine will be move from care and maintenance to operational status in early 2022. As such, it is the intent to restart the twice yearly CCC meetings covering both CVM and INV. This matter will be raised with the CCC members at the next meeting on the 15 March 2022.	15-Mar-22	Completed	CC Meeting of 15 March 2022 unanimously supported restart of the twice-yearly meetings.
Environment Protection Licence EPL 10341 Recommendations								
L4.4	For the purpose of condition L4.3: <ul style="list-style-type: none"> a) Data recorded by the meteorological station as EPA Licence Point 5 must be used to determine meteorological conditions; and b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy. 	Limit Conditions	Administrative	Meteorological data was sourced from the Bureau of Meteorology's Bathurst weather station in 2016 and 2017. This station is located 45km away and unlikely to be representative of onsite weather conditions. However, a new monitoring system was installed on site in 2018 and carries out the requirements of this condition.	As described, a new met station was installed at the CVM site in 2018. Monitoring data from that site now informs the CVM Met requirements.	NA	Complete	
L6.1	No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997. Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.	Limit Conditions	Low	Complaints regarding odours has been made every year of the auditing period.	CVM accepts the recommendation. During the audit period, CVM addressed the complaints in consultation with the complainants, whilst undertaking physical inspections and remediation activities on areas found to be the source of odours which are associated with sub-surface heating on the CVM site. Following issue of a 240 Notice by the Resources Regulator regarding heatings (the cause of the odours), CVM responded with an updated MOP and Plan of Works which was approved. CVM has since (Feb 2022) consulted closely with the Resources Regulator to add further measures to address the heating issues at CVM, including trial irrigation and compaction methods to help extinguish / manage heatings, and continued treatment as per the approved methods in addition to further capping / sealing of heating areas with overburden / rehabilitation materials as remnant mining occurs at CVM.	Ongoing	Open	Trial Irrigation of heating areas was initiated on 14/6/2022 following close consultation with the Resources Regulator demonstrating a measurable decrease in ground based heat. A number of adverse weather conditions contributed to several odour incidents in the first half of 2022 prior to and at the initiation of the irrigation program, however the sole complainant stated in a meeting on the 31 August 2022 that there was a significant improvement overall in the odour from CVM following start of the trial irrigation. Continuation of the irrigation of heating areas is proposed during 2023 in accordance with the methodology agreed with the Resources Regulator in addition to compaction methods to help extinguish / manage heating continuing treatment as per the approved methods in addition to further capping / sealing of heating areas with overburden / rehabilitation materials as remnant mining occurs at CVM.
Generic Recommendations Section 8 Audit Report								
8.1	Update all mgmt plans			CARAS recommend that after a prolonged period of care and maintenance, all management plans should be reviewed and updated prior to commencement of active mining.	CVM accepts this recommendation. CVM submitted an entire suite of new management plans to DPIE (and other agencies) for agency stakeholder consultation in February 2022. CVM will work with agencies to finalise approval of these plans toward the restart of mining remnant coal resources at CVM in early 2022.	21/04/2022	Completed	All CVM management plans were updated and approved by DPIE
8.2	Sub-Surface Heating Response Management Plan			The Sub-Surface Heating Response Management Plan should be included in the updated management plans for the operation of CVM. This will address the concerns in regard to nuisance odour from the Site. Our recommendation is that this plan will be implemented as part of the mine commencement works	CVM are presently in the process of preparing the new Rehabilitation Management Plans which replace the MOP from 2 July 2022. The RMP will address the sub-surface heating at CVM. CVM has since (Feb 2022) consulted closely with the Resources Regulator to add further measures to address the heating issues at CVM, including trial irrigation and compaction methods to help extinguish / manage heatings, and continued treatment as per the approved methods in addition to further capping / sealing of heating areas with overburden / rehabilitation materials as remnant mining occurs at CVM. These items will also be captured in the RMP.	21/04/2022	Completed	
8.3	Administrative Non-compliance			The Auditor identified nine (9) administrative non-compliance events, where CVM failed to comply with the consent conditions for the reasons as discussed in Section 7 of this report. Our recommendation is that CVM should engage a dedicated Environmental Manager ('EM'), prior to recommencing of extractive mining operations to ensure the implementation of all practicable measures to prevent and/or minimise any harm that may result from the construction, operation, or rehabilitation of the development	CVM accepts this recommendation. CVM has directly employed a full time environmental manager onsite to manage these items toward establishing and maintaining compliance.	28/02/2022	Completed	
8.4	Compensatory Habitat			Development Consent DA 200-5-2003 Non-compliance Recommendations	Issue addressed in recommendations and response in Development Consent DA 200-5-2003 Non-compliance Recommendations section above.	NA	NA	
8.5	Site Boundaries and Aboriginal Sites			The identification of the boundaries to Compensatory Habitat Areas and the locations of the Aboriginal Archaeology Sites (referenced in DA Condition 55 and 56) may have become enveloped in regrowth during the care and maintenance period. Our recommendation is that marking, and signage should be installed to clearly identify these nominated locations.	CVM accepts this recommendation. CVM will investigate existing signage and replace and / or refurbish as required.	30/06/2022	Completed	New signs have been purchased and the installation of sign has started

APPENDIX 4 - Resources Regulator Section 240 Notices and Targeted Assessment Program Action Plan

Castlereagh Coal Targeted Assessment Program Recommendation Status Update (31/12/2025)

Cullen Valley Mine

Response to 2020 Soils and Materials Management TAP Recommendations

Unique Finding Identifier	Resources Regulator TAP Recommendation	Proposed Action Due Date	Castlreagh Coal Update 31/12/2025
1	The mine should undertake a specific rehabilitation risk assessment to identify the range of risks and associated controls throughout the life of mine to achieve sustainable rehabilitation outcomes.	Complete	A Rehabilitation Risk Assessment (RRA) was conducted on 3/9/2025 to inform the update of the Rehabilitation Management Plan (RMP) for Cullen Valley Mine. Action complete
2	The mine should identify potential constraints/opportunities to maximise the salvage of additional soil resources for use in rehabilitation.	31/01/2026	CC is actively developing a Procedure for Management of Rehabilitation Materials (ENV_PRO_03) . The Procedure will include management of constraints and methods to maximise opportunities for the salvage of soil resources for use in rehabilitation. Action outstanding
3	The mine should identify and implement selective handling and management of mine materials (e.g. overburden, tailings, reject materials etc.) to address potential geochemical and geotechnical constraints for rehabilitation.	Completed	CC is not actively managing mine materials at the time of this response, however during active mining operations, mine materials will be selectively placed to ensure appropriate materials available to support rehabilitation. Reject materials will be managed in accordance to the RMP. All subsoil and topsoil will be sampled, tested and ameliorated where required prior to rehabilitation actions and recorded in the Stockpiled Materials Register (ENV_REG_CVM_14) .
4	The mine should characterise soil resources in existing soil stockpiles.	31/01/2026	All topsoil and subsoil stockpiles will be sampled, tested, mapped and logged in the Stockpiled Materials Register (ENV_REG_CVM_14) within the CC Environmental Management System. Action outstanding
5	The mine should develop and implement measures to protect and maintain biological resources (topsoil, subsoil seed bank, plant material, logs, hollows etc.) for use in rehabilitation.	31/01/2026	CC is actively developing a Procedure for Management of Rehabilitation Materials (ENV_PRO_03) . The Procedure will inform future clearing and stripping activities to ensure the protection of biological resources for use ion rehabilitation. Action outstanding

Response to 2021 Landform Establishment TAP Recommendations

Unique Finding Identifier	Resources Regulator TAP Recommendation	Proposed Action Due Date	Castlreagh Coal Update 31/12/2025
1	Risk Assessment – Undertake a revised risk assessment to identify all risks and risk controls (treatments) associated with mine rehabilitation and closure. The risk assessment should include information on how control effectiveness is assessed and how updates to the risk assessment are undertaken as a result. The risk assessment needs to be specific to actual causes and controls used rather than listing management plans only. The risk assessment should include input from a suitably qualified team of appropriately skilled people representing a cross-section of the workforce and activities undertaken at the mine. It is recommended that a suitably qualified landform design specialist is involved in the next rehabilitation risk assessment review process.	Complete	A Rehabilitation Risk Assessment (RRA) was conducted on 3/9/2025 to inform the update of the Rehabilitation Management Plan (RMP) for Cullen Valley Mine. Action complete
2	Landform Construction – Implement a landform construction quality assurance process to ensure a comprehensive validation that the landform has been constructed in accordance with the design, as well as provide evidence to support the final landform sign-off. The quality assurance process should also provide a Trigger Action Response Plan (TARP) for landform construction tolerances of the design.	30/06/2026	Original landform design by Coalpac not available to CC. Request 2012 Rehabilitation and Final Landform data from RR to determine if landforms have been built to design. Survey conducted Qtr4 2025 to assist reconciliation of constructed landforms with design. Upon reconciliation of data, a landform construction quality assurance process can be developed and implemented to correct any existing landform anomalies and inform upcoming landform emplacements and to assist final landform sign-off. Action outstanding

Response to 2025 Revegetation TAP Recommendations

Unique Finding Identifier	Resources Regulator TAP Recommendation	Proposed Action Due Date	Castlereagh Coal Update 31/12/2025
1a	<p>Review and refine the existing broad brush Rehabilitation Risk Assessment (RRA) to address matters identified in the Revegetation TAP including the following:</p> <p>The RRA should include input from a suitably qualified team of appropriately skilled people representing a cross-section of the workforce and activities undertaken at the mine. It is recommended that suitably qualified and experienced revegetation experts be involved in the next RRA review process.</p>	Complete	<p>A RRA was conducted on 3/9/2025 to inform the update of the RMP for Cullen Valley Mine. The RRA included a suitably qualified team of appropriately skilled people representing a cross-section of the workforce as well as suitably qualified and experienced revegetation experts. The RRA was specific and included the risk of fire and combustible material within the landform.</p> <p>Action complete</p>
1b	<p>Undertake a revised RRA to identify all risk and risk controls (treatments) associated with revegetation. The risk assessment needs to be specific to actual causes and controls used rather than listing management plans only. This should include the risk of fire and combustible material within the landform.</p>	Complete	<p>A RRA was conducted on 3/9/2025 to inform the update of the RMP for Cullen Valley Mine. The RRA was specific to actual causes and controls and included the risk of fire and combustible material within the landform.</p> <p>Action complete</p>
1c	<p>Explicitly address the geochemical properties of the soil and overburden in future RRA.</p>	Complete	<p>A RRA was conducted on 3/9/2025 to inform the update of the RMP for Cullen Valley Mine. Geochemical properties of the soil and overburden were addressed in the RRA</p> <p>Action complete</p>
2a	<p>Update the RMP to include the following: Any updates to the RRA, including additional controls.</p>	Complete	<p>The RMP was updated on 26/09/2025 to include updates to the RRA and additional controls.</p> <p>Action complete</p>
2b	<p>Any updates associated with the following recommendations (3-11)</p>	N/A	See below
3	<p>Address and implement the recommendations of the WSP Golder (2022) and "Final Landform Stability Invincible Colliery and Cullen Valley Mine" Report dated May 2022 (Umwelt (2022)) reports to ensure that the most recent data and</p>	Complete	<p>The RMP was updated on 26/09/2025 to include the most recent data and findings from the WSP Golder (2022) and Final landform Stability Invincible Colliery and Cullen Valley Mine Report (Umwelt 2022).</p> <p>Action complete</p>

	findings are incorporated into the RMP and the RRA. In the event knowledge gaps are identified, engage with a suitable qualified environmental expert to perform and implement the necessary soil analysis. The results should be used to update the relevant sections of the RMP/RRA, including any risk management or mitigation measures.		
4	Develop a centralised soil register than consolidates historic and current soil testing results, along with records of soil amendments (e.g. gypsum, ameliorants) used for revegetation. Assess potential soil or substrate constraints in affected areas and implement appropriate soil improvement strategies.	Complete	A centralised soil register has been developed. Stockpiled Materials Register (ENV_REG_CVM_14) within the CC Environmental Management System. The Register links to historic and current soil testing results and records of soil amendments used for revegetation. Note that amelioration treatment records for past revegetation activities have not been able to be accessed by CC. Future records will be maintained. Action completed
5	Develop a comprehensive TARP for revegetation activities, outlining thresholds for unseasonal or adverse weather conditions. Include clear, measurable trigger limits for key factors such as soil amelioration, pH levels, and species composition to enhance the decision-making process.	31/03/2026	The RMP was updated on 26/09/2025 to include a comprehensive TARP for revegetation activities. A review of the updated plan against Recommendation 5 requirements has shown deficiencies in the TARP by not providing clear, measurable trigger limits for soil amelioration, pH levels and thresholds for unseasonal or adverse weather conditions. The TARP will be updated to includes these as part of the next review process. Action outstanding
6	Develop and maintain a comprehensive register for topsoil and other stockpiled materials, as committed in Section 7.1 of the RMP.	Complete	A centralised soil register has been developed. Stockpiled Materials Register (ENV_REG_CVM_14) within the CC Environmental Management System. Action completed
7	Update the Biodiversity Management Plan (BMP) to reflect current soil stockpiling and topsoil management practices. Ensure consistency between the BMP and RMP, particularly regarding soil return processes.	31/03/2026	Cullen Valley Mine project approval DA200.5.2003 does not require CC to develop a Biodiversity Management Plan (BMP), however the project approval requires that the Flora and Fauna Management Plan (FFMP) includes a Vegetation Clearance Protocol which includes, amongst other things, salvage and reuse of material from the site and procedures for soil management. The FFMP will be reviewed and revised if necessary based on the requirements of Recommendation 7 to ensure consistency between the FFMP and RMP, particularly regarding soil return processes.

			Action outstanding
8	Actively engage with local or regional seed suppliers who specialise in native species suited to the mine's rehabilitation needs. Develop a record of all seed resources, including sourcing details, seed types, and quantities, to ensure transparency and continuity in rehabilitation efforts.	30/06/2026	CC has engaged a regionally based specialist seed supplier/collector and ecologist to supply and manage the collection of seed resources suitable for the site. Seed collection on local properties will be timed to suit targeted species where commercial seed quantities cannot be sourced. Action outstanding
9	Ensure future monitoring reports are used to finalise completion criteria for Regulatory approval. Monitoring should assess rehabilitation performance and compliance against these criteria, building an evidence base to support ESF2 rehabilitation completion applications. Additionally, it should validate the rehabilitation phase, such as ecosystem establishment or ecosystem development, to support progressive rehabilitation sign-off.	30/9/2026	CC commission an annual Biodiversity Monitoring Survey for Cullen Valley Mine which assesses rehabilitation performance and compliance against the completion criteria set in the RMP. The 2025 Biodiversity Monitoring Survey will provide detail on the validation of the rehabilitation phase to support rehabilitation sign-off. Action outstanding
10	Consider adoption of a rehabilitation scorecard system to track performance of rehabilitation for each rehabilitation campaign across the mine. This should include the results of the rehabilitation monitoring program to validate the nominated phase of rehabilitation maturity. Furthermore, the scorecard should incorporate the rehabilitation key performance indicators as presented in the Annual Rehabilitation Report and Forward Program to provide greater transparency of compliance / performance of rehabilitation at both the mine and corporate management levels.	30/9/2026	CC commission an annual Biodiversity Monitoring Survey for Cullen Valley Mine which assesses rehabilitation performance and compliance against the completion criteria set in the RMP. The 2025 Biodiversity Monitoring Survey Report will adopt a scorecard system to track performance of rehabilitation for each rehabilitation campaign across the mine and incorporate all requirements in Recommendation 10 of the Revegetation TAP. Action outstanding
11	Review findings and follow up commitments from the 2021 Landform TAP and the 2020 Materials and Soils Management TAP. Ensure current site managers and site personnel are familiar with the issues identified and the actions required and proposed, to resolve the issues of concern.	Completed 31/01/2026	Findings and recommendations included in this report. Commitments provided for completion of actions. Action completed Site managers and personnel to be updated on identified issues and actions for resolution of TAPs. Action outstanding

Response to 2022 Section 240 Notices NTCE0008974 and NTCE0008975

Unique Finding Identifier	Resources Regulator TAP Recommendation	Proposed Action Due Date	Castlereagh Coal Update 31/12/2025
1	Complete detailed monitoring, including an ecological evaluation, of established areas of final landform at CVM to establish current status. Biodiversity /rehabilitation/subsurface heating monitoring is an annual program (due 31/12/yearly) and can be complemented with the physical landform and structures stabilisation considerations.	Annually (due 31/12)	Annual Biodiversity survey conducted in Spring which includes an ecological evaluation of established areas of final landform and rehabilitation monitoring. Next survey due September 2026. Action Ongoing Consultant engaged in 2022 to complete a review of water management and erosion and sediment control structures within rehabilitation areas at CVM. Physical landform and structures stabilisation considerations included in monthly ESC inspections. Incorporate an annual inspection report of structural stability into program of works Action Outstanding
2	Consider sourcing high density LiDAR and develop DTM of CVM following completion of current mining at CVM and completion of review of future mining options at CVM.	Annually (due 31/12)	Annual LiDAR survey conducted to inform future mine plan, rehabilitation forward program and final landform design. Next survey due December 2026. Action Ongoing
3	Develop an ongoing monitoring and assessment strategy to identify established areas of final landform at CVM that require intervention to achieve long term stability	31/03/2026	Ongoing monitoring and assessment strategy to be developed 1 st quarter 2026 to inform action UF11 . Action Outstanding
4	Develop detailed final landform designs for areas at CVM yet to be established	Complete	Final landform designs completed and adjusted to suit as required. Action Closed
5	Develop long term drainage structure designs for revised CVM final landform designs	31/12/2026	Designs of long term drainage structures to be completed. Action Outstanding
6	Revise materials inventory assessment based on revised CVM final landform designs and detailed DTM	30/06/2026	Materials inventory in progress. Action Outstanding