ULAN COAL

GLENCORE

2024 Annual Review

Ulan Coal Mine

Name of operation	Ulan Coal Mine
Name of operator	Ulan Coal Mines Pty Limited
Development consent / project approval #	PA 08_0184
Name of holder of development consent / project approval	Ulan Coal Mines Pty Limited
Mining lease #	CCL 741, MPL 315, ML 1341, ML1365, ML 1366, ML 1467, ML 1468, ML 1511, ML 1554, ML 1656, ML1754, ML1796, ML1798, ML1799, ML1813, ML1863, EL 7542, EL 8687, EL9363 & EL9419.
Name of holder of mining lease	Ulan Coal Mines Pty Limited
Water licence #	WAL41492, WAL19047, WAL37192, WAL41817, WAL41906, WAL42900, WAL34921. WAL45983, WAL45084, WAL44842 (only allocation Licences listed).
Name of holder of water licence	Ulan Coal Mines Pty Limited
Annual Review start date	01/01/2024
Annual Review end date	31/12/2024

I, Lucy Stuart, certify that this audit report is a true and accurate record of the compliance status of Ulan Coal Mines Pty Limited for the period of 01 January 2024 to the 31 December 2024 and that I am authorised to make this statement on behalf of Ulan Coal Mines Pty Limited.

Note.

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 acknowledges 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.*

b) *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).*

Name of authorised reporting officer	Lucy Stuart
Title of authorised reporting officer	Environment and Community Manager
Signature of authorised reporting officer	
Date	31 March 2025

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ELECTRONIC COPY

Electronic copy of the 2024 Annual Review submitted via the NSW Planning Portal to government stakeholders and attachments is available electronically online via the website: *https://www.glencore.com.au/operations-and-projects/coal/current-operations/ulan-coal/reporting-documents*

1. Statement of Compliance

Compliance Table 1 Statement of Compliance

Were all conditions of the relevant approval(s) complied with?	Yes / No*
PA 08_0184	Yes
ML's	Yes
EL's	Yes
EPL 394	No
Water Licences	Yes
EPBC Approvals (2009/5252) & (2015/7511)	Yes

Notes:* Refer to Table 3 (Non Compliances), Section 3 (Approvals) Section 11 (Incidence and Non-Compliances) for details

Compliance Table 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: • 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: • 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)
Compliant	Compliant	Criteria met

Compliance Table 3 Non-Compliances

Relevant Approval	Condition	Compliance Issue	Compliance Status	Comment	Section in AR
EPL394	M2.2	The TEOM described in EPL 394, EPA ID number 30 failed to continuously record data due to communication issues from the 19/02/2024 to the 23/02/2024.		The root cause of this was a failure of the memory card within the TEOM unit preventing the storage of the real time results and therefore the subsequent delivery of information to the Sentinex Repository.	**Section 11**

2. Introduction

2.1 Report Scope

This 2024 Annual Review[1] (AR) was prepared to satisfy consent conditions and reporting obligations as specified by NSW Department of Planning, Housing and Infatsructure[2] (DPHI). The Reporting Period for this AR is from 01 January 2024 to 31 December 2024, with the AR due by 31 March 2025[3]. A copy of this AR will be distributed to:

- DPHI;
- NSW –Resources Regulator (RR);
- NSW Environment Protection Authority (EPA);
- Biodiversity, Conservation & Science Directorate (BSC) within DPHI;
- Water Group within DPHI; and
- Mid-Western Regional Council (MWRC).

Upon approval, this document will be uploaded to the Ulan Coal Mine website for public viewing at *www.ulancoal.com.au* and issued to Ulan Coal Mine's Community Consultative Committee (Ulan Coal CCC).

2.2 Mining Operations and Location

Ulan Coal Mines Pty Limited (UCMPL) is owned by Glencore Coal Assets Australia Pty Limited. UCMPL was granted PA08_0184 under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 15 November 2010 for the *Ulan Coal – Continued Operations Project.*

The Ulan Underground Mine (UUG), the Ulan West Underground mine (UW), the Ulan Surface Operations (USO) which includes the Ulan Open Cut mine, coal processing and train loading facilities; and land holdings, including the Bobadeen Irrigation Scheme (BIS), as a collective, are referred to as the Ulan Coal Complex (UCC) (**Figure 2-1**).

The UCC is located in New South Wales approximately 1.5 kilometres from Ulan Village, within the Mid-Western Regional Council (MWRC) Local Government Area (LGA). The Project Area is approximately 38 kilometres north-north-east of Mudgee and 19 kilometres north-east of Gulgong. The 13,000 hectare (ha) Project Area, straddles the Great Dividing Range and is located at the headwaters of the Goulburn and Talbragar River Catchments. Underground and open cut mining and associated infrastructure are approved under PA08_0184 (as modified) (**Figure 2-2**) for:

- Mining operations on site until 30 August 2033;
- Longwall mining of the Ulan Underground Mine (UUG);
- Longwall mining of the Ulan West Underground Mine (UW);
- Open cut mining over a 239 ha area;

[1] The AR was prepared in accordance with the DPE *Annual Review Guideline October 2015* and the AR reporting requirements contained in Condition 3, Schedule 5 and Statement of Commitments in Appendix 9 of the PA08_0184.
[2] This AR references the DPE as representing both Department of Climate Change, Energy, the Environment and Water (DCCEEW) and the Department of Planning, Housing and Infrastructure (DPHI).
[3] In accordance with Condition 3, Schedule 5 of Project Approval 08_0184 (PA08_0184).

- Coal Handling and Preparation Plant (CHPP) and rail loadout facilities with total coal production capacity of up to 20 million tonnes per annum (Mtpa) product coal; and
- Surface facilities and ancillary activities to support the above mentioned operations.

2.3 Mine Contacts

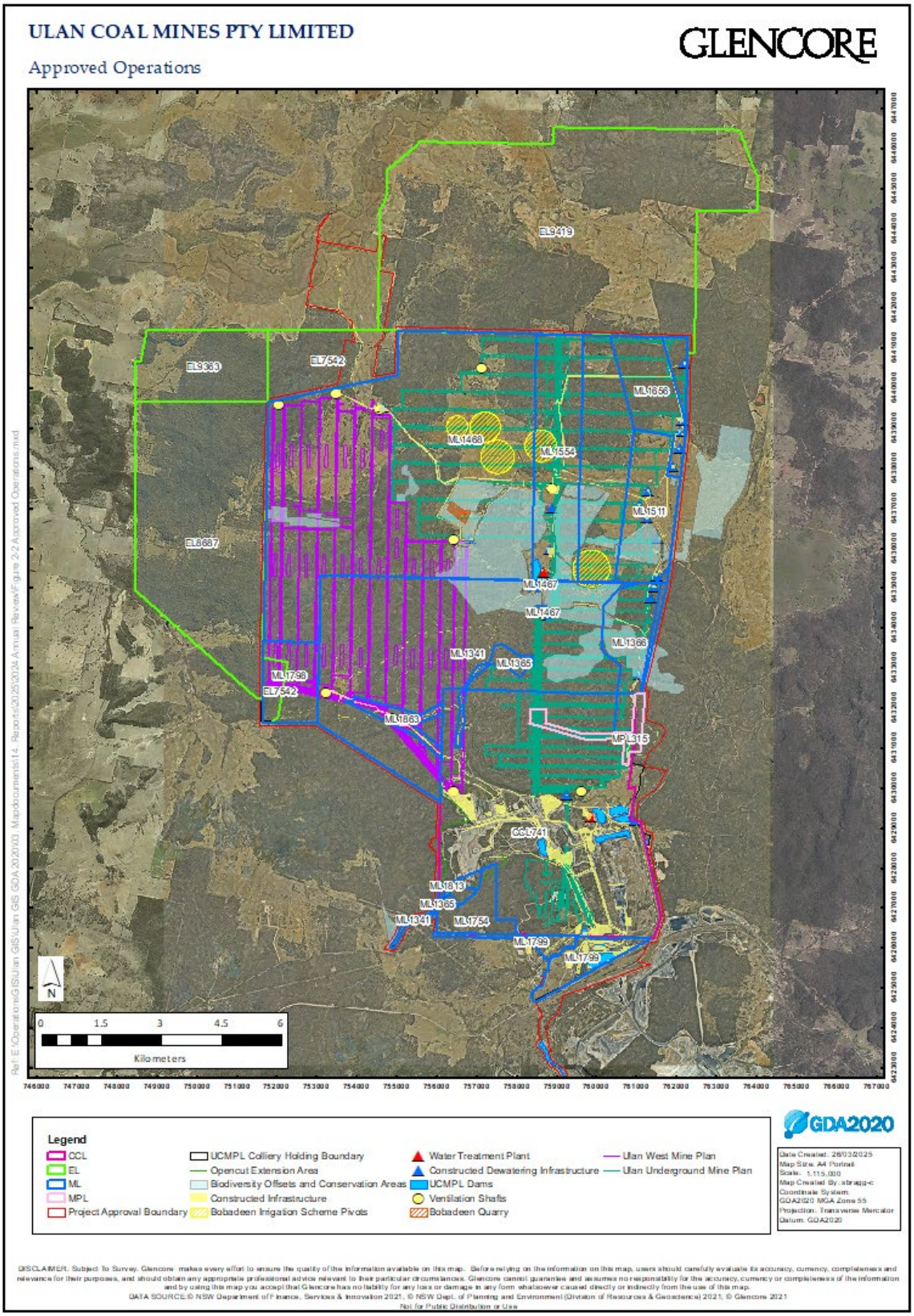
Table 2-1 outlines the contact details for site personnel responsible for mining, coal preparation, rehabilitation, environmental and community management at the end of the Reporting Period.

Table 2-1 – Ulan Coal Mine Contacts

Name	Position	Contact Details
Peter Ostermann	General Manager	Work: 02 6372 5300 Email: *peter.ostermann@glencore.com.au*
Sam Wiseman	Operations Manager – Ulan Surface Operations	Work: 02 6372 5400 Email: *sam.wiseman@glencore.com.au*
James Johnson	Operations Manager – Ulan Underground Operations	Work: 02 6372 5300 Email: *james.johnson@glencore.com.au*
Matthew Stone	Operations Manager – Ulan West Underground Operations	Work: 02 6370 9200 Email: *matthew.stone@glencore.com.au*
Lucy Stuart	Environment & Community Manager	Work: 02 6372 5368 Email: *lucy.stuart@glencore.com.au*

Figure 2-1 – Locality Plan

Figure 2-2 – Approved Ulan Complex Operations



3. Approvals

Table 3-1 presents the Project Approval PA08_0184 (as modified) granted under the EP&A Act, administered by DPHI that UCMPL operates under.

Table 3-1 –Project Approval (as modified)

Project Approval	Description	Approval Date
PA 08_0184	Ulan Coal – Continued Operations Project.	15/11/2010
MOD 1	Longwall extraction of the North 1 mining area. Modify UUG & UW mine plans. Concrete Batching Plant.	07/12/2011
Court Orders	Land & Environment Court Judgement.	April 2012
MOD 2	Modify UW mine plan LW1-5. Remove restrictions on construction blasts. Minor amendments to European and natural heritage sites where blasting measures are applicable.	25/05/2012
MOD 3	Modify UW Mine Plan realignment of main headings further to the south.	14/02/2016
MOD 4	Modify UW & UUG Mine Plan - extend the approved longwalls UUG LW30 - LW33 and LW W7-8 and UW LW07 and LW08.	17/07/2019
MOD 5	Administrative modification to amend a misdescription of the Project Approval Figures.	07/08/2020
MOD 6	Modify UW & UUG Mine Plan - extend the approved longwalls UUG LWW9 – LWW11 and UW LW10 to LW12. Minor changes to surface infrastructure	Awaiting Determination
MOD 7	Permit use of the Bobadeen West Offset Area as a replacement for the privately owned portion of Brokenback Conservation Area.	23/03/2022

Table 3-2 presents the mining and exploration authorisations, granted under the *Mining Act 1992*, administered by NSW-RR, that have been issued to UCMPL.

Table 3-2 – Mining and Exploration Titles

Mining Lease (ML)	Date of Grant	Duration of Approval	Mine Area Applicability
Consolidation Coal Lease (CCL) 741	2/01/1990	15/05/2027	All operations
Mining Purpose Lease 315	3/08/1993	3/08/2035	Ulan Underground (Surface Lease)
Mining Lease 1341	25/01/1994	25/01/2036	Ulan Underground and Ulan West
Mining Lease 1365	9/03/1995	9/12/2032	Ulan Underground (Surface Lease)
Mining Lease 1366	9/03/1995	9/12/2032	Ulan Underground (Surface Lease)
Mining Lease 1467	17/04/2000	16/04/2042	Ulan Underground (Surface Lease)
Mining Lease 1468	16/05/2000	16/05/2042	Ulan Underground and Ulan West
Mining Lease 1511	24/04/2002	23/4/2044	Ulan Underground (Surface Lease)
Mining Lease 1554	1/09/2004	31/08/2046	Ulan Underground (Surface Lease)
Mining Lease 1656	03/03/2011	03/03/2032	Ulan Underground (Surface Lease)
Mining Lease 1697	22/05/2014	22/05/2035	Ulan Open Cut
Mining Lease 1798	19/02/2020	19/02/2041	Ulan West
Mining Lease 1799	26/02/2020	26/02/2041	Ulan Open Cut

Mining Lease (ML)	Date of Grant	Duration of Approval	Mine Area Applicability
Mining Lease 1863	17/10/2023	17/10/2044	Ulan West – (Surface Lease)
Exploration Licence 5573	28/04/1999	28/04/2024**	Ulan Underground
Exploration Licence 7542	6/05/2010	06/05/2026	Ulan West
Exploration Licence 8687	31/01/2018	31/1/2024*	Ulan West
Exploration Licence 9363	24/02/2022	24/02/2028	Ulan West
Exploration Licence 9419	31/05/2022	31/05/2028	Ulan Underground
Mining Lease 1813	24/03/2021	24/03/2042	Ulan Open Cut

Notes: * Renewal Applied for. **EL5573 was allowed to expire.

Water licences for monitoring bores and wells are listed in **Table 3-3**.

Table 3-3 - Groundwater Licences held under Part 5 of Water Management Act 1912

Licence No.	Description	Works Type	Extraction Limit (ML)	Expiry Date
20BL168100	Monitoring Bores	Monitoring Bore	NA	Perpetuity
20BL173736	Monitoring Bores	Monitoring Bores	NA	Perpetuity
20BL172841	Bobadeen Monitoring Network	Monitoring Bore	NA	Perpetuity
20BL172845	Goulburn River Diversion Monitoring Network	Monitoring Bore	NA	Perpetuity
20BL172846	Alluvium Monitoring Network	Monitoring Bore	NA	Perpetuity
20BL172847	Hydrocarbon Monitoring Network	Monitoring Bore	NA	Perpetuity
20BL172850	North Monitoring Network	Monitoring Bore	NA	Perpetuity
20BL172851	Intermittent Monitoring Network	Monitoring Bore	NA	Perpetuity
20WA216193	1977 Cope Road	Stock/Domestic Bore	NA	Perpetuity
80WA706045	2460 Blue Springs Road	Stock/Domestic Bore	NA	Perpetuity
80WA706112	2450 Blue Springs Road	Stock/Domestic Bore	NA	Perpetuity

Water licences for dewatering bores, dams, and wells are listed in **Table 3-4**.

Table 3-4 - Water Approvals held under Division 2 of the Water Management Act 2000

Licence No.	Description	Works Type	Extraction Limit* (Shares)	Water Source	Expiry Date
WAL41492 (20AL214787)	Aquifer	Water Allocation Licence	7060	Oxley Basin Coast Groundwater Source	Perpetuity
WAL37192 (20AL723743)	Aquifer	Water Allocation Licence	704	Murray Darling Basin Porous Rock Groundwater Source	Perpetuity
WAL41906 (80AL724736)	Aquifer	Water Allocation Licence	2215	Murray Darling Basin Porous Rock Groundwater Source	Perpetuity
WAL42900 (20AL220117)	Aquifer	Water Allocation Licence	4031	Murray Darling Basin Porous Rock Groundwater Source	Perpetuity
20FW213272	Goulburn River Flood Gates	Levy Licence	NA	NA	21/09/2027

Licence No.	Description	Works Type	Extraction Limit* (Shares)	Water Source	Expiry Date
WAL19047 20WA209953	Moolarben Creek Dam/Pump & Baseflow loss	Water Allocation Licence	600	Upper Goulburn River Water source	29/09/2023 WAL allocation Perpetuity
WAL41817	Aquifer	Water Allocation Licence	50	Upper Talbragar River Water Source	Perpetuity
WAL 34921	Aquifer	Water Allocation Licence	50	Talbragar Alluvial Groundwater Source	Perpetuity
WAL45083	Aquifer	Water Allocation Licence	180	Murray Darling Basin Porous Rock Groundwater Source	Perpetuity
WAL45084	Aquifer	Water Allocation Licence	10	Sydney Basin MDB - Macquarie-Oxley Management Zone Source	Perpetuity
WAL44842	W Aquifer AL allocation	Water Allocation Licence	30	Murray Darling Basin Porous Rock Groundwater Source	Perpetuity

Notes: *Annual extraction limits against licences provided in **Section 5.3** of this Report

Table 3-5 presents other approvals and licence issued to UCMPL that Ulan Coal Mine operates under.

Table 3-5 - Other Approvals and Licences

Licence/Approval	Licence/ Approval No.	Authority	Approval/Expires
Environment Protection Licence (EPL)	394	EPA	Anniversary Date 18 November
UW Extraction Plan LW1 to LW8	NA	DPHI	Approval 20/07/2022
UUG Extraction Plan LW30 – LW32 & W6-W8	NA	DPHI	Approval 29/09/2023*
Radiation Management Licence	5061101	EPA	Expires 02/08/2023
Radiation User Licence	5023004	EPA	Perpetuity
Dangerous Goods Notification	NDG023149	WorkCover NSW	Expires Sept 2031
EPBC Approval	2009/5252	DCCEEW	Expires 1 March 2036
EPBC Approval (MOD 3 extension area)	2015/7511	DCCEEW	22 December 2015 to Perpetuity
Bobadeen Grinding Groove Conservation Agreement	NA	BCS	Final signed copy received 11 December 2019
Conservation Agreement for Brokenback Conservation Area- Area 1 (UCMPL owned land)	NA	BCS	Final signed copy received 11 December 2019
Conservation Agreement for Bobadeen Vegetation Offset Area (UCMPL owned land)	NA	BCS	Final signed copy received 11 December 2019
Conservation Agreement for Highett Road Offset Area (UCMPL owned land)	NA	BCS	Gazetted 6 December 2019

Licence/Approval	Licence/ Approval No.	Authority	Approval/Expires
Conservation Reservation for Spring Gully Offset Area (Crown owned land)	NSW Government Gazettal No 165	Crown Lands	Gazetted 6 December 2019
Bobadeen West Offset Area Biodiversity Stewardship Agreement	NA	BCS	Final signed copy received 20 June 2023
Crown Combined Licence	600169	Crown Lands	Expiry or relinquishment of the relevant Mining Leases

Notes: * Secretary provided conditional approval of the revised Ulan Underground Extraction Plan submitted in August 2023. The approval is subject to the conditions outlined in Table 1. Refer to **Section 3.2.2** for an update of actions to address the conditions outlined in Table 1.

3.1.1 Surrender of Consents

Prior to PA08_0184, UCMPL formally operated under four major Development Consents, 18 modifications and 16 other minor development approvals. The final remaining Development Consent DA 113-12-98 was surrendered to DPHI on the 20/10/2017 within 3 months of the completion of LWW3, in accordance with Schedule 2 Condition 9 of PA08_0184. Resubmission was requested by DPHI, this occurred 23/11/17. Finalisation is pending due to one remaining landowner providing their consent for the surrender of DA 113-12-98.

3.2 Changes to Approvals

3.2.1 EPL 394

There was no variation to EPL 394 during the Reporting Period.

3.2.2 Extraction Plans

The Extraction Plan (EP) for Ulan Underground Longwalls LW30-LW32 and W6-W8[4] was conditionally approved in September 2023 to include LW31 and LW32 (**Table 3-6**). **Table 3-6** has been updated in response to completion of actions and in consultation with both the DPHI and DPE-Water during the 2024 Reporting Period.

During the 2024 Reporting Period and in consultation with DPHI, CCC and RAPs, UCMPL also commenced revision of the EP for Ulan West to include the next two longwalls LW9 and LW10. Submission of the revised Ulan West EP for LW1-LW10 is scheduled for Q1 2025.

Table 3-6 Status Update of Conditional Approval Requirements for UUG Extraction Plan

Conditional Approval Requirements	Completion Status
1. Within three months of the approval of this extraction plan, the Proponent must investigate monitoring bore PZ10B to determine if it is functioning appropriately. If it is determined to not be functioning appropriately, the Applicant must fix or replace the bore within six months of the approval of this extraction plan.	**Completed:** Investigation Complete. PZ10B is functioning correctly and equipped with datalogger. No further action.

[4] PA08_0184 Schedule 3, Condition 26. The Extraction Plan was prepared in accordance with the new Guidelines for the Preparation of Extraction Plans (as issued by the DPHI in October 2022).

Conditional Approval Requirements	Completion Status
2. Within 6 months of the approval of this extraction plan, unless otherwise agreed by the Secretary, the Proponent must install one or more new open hole monitoring bores in the Jurassic Pilliga and Purlewaugh formations. The location of the monitoring bore(s) must be determined in consultation with DPE Water the bore(s) must be equipped with a data logger (minimum daily measurements).	**Completed:** Three Jurassic open bore standpipes equipped with dataloggers have been installed. No further action.
3. Within three months of the approval of this extraction plan, unless otherwise agreed by the Secretary, the Proponent must equip monitoring bores PZ10A and PZ10B (if functioning appropriately) with data loggers (minimum daily measurements). If a replacement bore is required for PZ10B under condition 1 then the replacement bore must be fitted with a data logger(minimum daily measurements). Within 12 months of the approval of this extraction plan, the Proponent must: a) review the remaining groundwater monitoring sites that will be impacted by mining and identify those that would most benefit from the frequency of monitoring associated with data loggers, in consultation with DPE Water and to the satisfaction of the Secretary; and b) install data loggers at the identified monitoring sites.	**Completed:** PZ10A has been determined to be dry (as predicted) and therefore installation of a data logger is not considered warranted. As per Condition 1, PZ10B is functioning, and a data logger was installed in January 2024. **Complete:** UCMPL completed a review and installed 8 dataloggers in consultation with DPE-Water and DPHI, including groundwater monitoring bores: PZ28A, PZ28B, PZ06A, PZ06C, PZ10A, PZ14B, PZ14C and PZ24B. Monitoring of these bores commenced 30/09/2024.
4. By 30 September 2024, unless otherwise agreed by the Secretary, the Proponent must: a) update and recalibrate the numerical groundwater model and predictions, in consultation with DPE Water, to the satisfaction of the Secretary; b) reassess the predicted groundwater take, aquifer drawdown predictions (including in the Jurassic Pilliga and Purlewaugh formations) and baseflow losses; c) provide revised predictions based on the updated numerical model including predicted cumulative impacts from approved mining; and d) complete an independent peer review of the updated model by a technical expert endorsed by the Secretary.	**Completed:** Meeting with DPE-Water occurred on 1 August 2024 to discuss updates and confirm peer reviewed. Groundwater model has been re-calibrated and the predicted takes, aquifer drawdown and baseflow losses re-assessed. Extension was granted until 31 December 2024, GW model re-calibration report and the corresponding peer review completed by Doug Weatherill from EMM Consulting in December 2024. Refer to **Section 7.11.3** for further details of the Groundwater Model Recalibration in 2024.
5. The Proponent must prepare a subsidence monitoring and mitigation program for the Mona Creek Rock Shelter Sites (Ulan ID # 180-187) to the satisfaction of the Secretary, prior to the commencement of secondary extraction in Longwall LWW8. This program must include a comprehensive: a) baseline data set to enable meaningful comparison of subsidence impacts; b) Trigger Action Response Plan for the sites; and c) mitigation plan for the sites, to cover all actions to ensure the performance measure of nil impact upon these sites is achieved.	**Completed:** UCMPL prepared an Addendum (to the approved Extraction Plan to address the DPHI's request to develop a specific TARP for the Mona Creek Rock Shelters (MCRSS). The Addendum was approved by the DPHI on the 31 July 2024 and can be accessed via UCMPL's website. *https://www.glencore.com.au/operations-and-projects/coal/current-operations/ulan-coal/management-plans#extraction-plans* Refer to **Section 6.9.2.2** for further details of the MCRSS Monitoring Program.

3.2.3 Modification 6

UCMPL lodged MOD 6 with the DPHI and public exhibition commenced on the 18 November 2022 and ran through to 15 December 2022. MOD 6 remained under assessment by the DPHI at the end of the 2024 Reporting Period. In summary MOD6 proposes:

- Extension of Ulan Underground Long Wall (LW) panels LWW9 to LWW11 to the west;
- Widening of Ulan Underground LWW11 by approximately 30 metres; and
- Extension of Ulan West LW10 to LW12 to the north.

UCMPL is also proposing some minor changes to surface infrastructure to support underground mining activities including provision of:

- 1 ventilation shaft and associated infrastructure corridor;
- 2 dewatering bores and associated infrastructure corridors; and
- Infrastructure corridor and power borehole to the south west of Ulan West.

At the time of preparing the 2024 Annual Review, UCMPL had received draft consent conditions for MOD 6 by the DPHI. UCMPL are expecting the final approved PA08_0184 (MOD 6) in Q2 of 2025.

3.2.4 First Workings

There were no changes to the approved First Workings at the UUG or UWO during the Reporting Period.

3.2.5 Management Plans

UCMPL have revised and resubmitted for approval, a number of management plans as required by Condition 4, Schedule 5 of PA08_084. UCMPL's management plans and their current approval status include:

- Air Quality & Greenhouse Gas Management Plan (AQMP) (Version 9) approved on the 2 August 2024.
- Biodiversity Management Plan (BMP) (Version 7) approved on the 29 April 2024.
- Environmental Management Strategy (EMS) (Version 14) approved 13 Novmber 2023.
- Blast Management Plan (BMgP) (Version 8.3) approved 20 April 2023.
- Water Management Plan (WMP) (Version 11) consolidating the Groundwater Monitoring Program (GWMP), the Surface Water & Groundwater Response Plan (SWGWRP) and the Surface Water Monitoring Program (SWMP) approved on the 17 June 2024.
- Erosion and Sediment Control Plan (ESCP) (Version 12) approved 28 April 2023
- Heritage Management Plan (HMP) (Version 9) approved on the 5 April 2024.
- Noise Management Plan (NMP) (Version 8.4) approved on 01 August 2023.
- Waste Management Plan (WMgP) (Version 12.5) approved 20 April 2023.

UCMPL reviewed all management plans after submission of the 2023 AR, in June 2024, however no changes were required. UCMPL will be undertaking a review of management plans in accordance with Schedule 5, Condition 4(a) submission of this Annual Review, 4(c) submission of an audit report

(**Section 10**) and 4(d) modification to the conditions of this consent (**Section 3.2.3**) of PA08_0184 during the next reporting period.

3.3 Mining Lease Reporting Conditions

There was no change to the Mining Lease Reporting Conditions during 2024.

3.4 RMP and ARPFP

UCMPL have prepared a Rehabilitation Management Plan (RMP) in accordance with the NSW Resources Regulator (NSW RR) *Form and Way-Rehabilitation Management Plan for Large Mines*. The RMP has been developed to satisfy the requirements of Condition 57, Schedule 3 of PA08-0184 to prepare an RMP. The development of the RMP also satisfies the rehabilitation requirements of UCMPL's relevant mining leases (**Table 3-2**).

The RMP was updated in 2024 after the approval of UCMPL's Rehabilitation Objectives (ROBJs) (ROBJ0001514) and Final Landform and Rehabilitation Plan (FLRP) (FLRP0001331) by the NSW RR.

UCMPL have also prepared an Annual Rehabilitation Report and Forward Program (ARPFP) in accordance with NSW RR *Form and Way – Annual Rehabilitation Report and Forward Program for Large Mines.* The ARRFP provides for a three-year surface disturbance and rehabilitation activities.

4. Operations Summary

Total product coal for the Reporting Period was 10.785 Million tonnes (Mt). **Table 4-1** provides an overview of production for 2024, production for 2023 and a forecast for the 2025 Reporting Period.

Table 4-1– Production Summary

	Unit	Approved limit (specify source)	2023 Reporting Period	2024 Reporting Period	2025 Reporting Period (Forecast)
Waste Rock/Overburden	m^3	NA	0	0	0
ROM Coal - **Open Cut** - **Underground:** Ulan West Ulan Underground	Mt Mt Mt	4.1 NA NA	0 8.786 3.301	0 6.818 3.816	0 7.296 1.642
Coarse Rejects & Tailings	Mt	NA	0.261	0.212	0.571
Fine Tailings	Mt	NA	0.223	0.194	0.547
Product Coal*	Mt	20	11.357	10.785	8.882

Notes: M = 1 Million Tonnes * Railed

4.1 Other Operational Conditions

4.1.1 Ulan West Underground

During the Reporting Period, underground mining operations were in accordance within current approvals with LW9 and mains development. LW7 commenced in August 2022 and was completed in April 2024. LW8A commenced in May 2024 and was completed in early January 2025 (**Figure 4-1**). Ulan West produced 6.818 Mt of ROM coal during the Reporting Period (**Table 4-1**).

During 2024, UW coninued installation of LW8 end of block infrastructure. This included completion of road and pad construction a powerline corridor to support dewatering and ventilation to underground operational areas and drilling and installation of casing of a ventilation fan..

4.1.2 Ulan Underground

During the Reporting Period, underground mining operations were in accordance within current approvals with LWW8, LWW9, LW32 and mains development. LW31 commenced in October 2023 (**Figure 4-1**) and had retreated approximately 1,965m at the end of the reporting period. Ulan Underground produced 3.816 Mt of ROM coal during the Reporting Period (**Table 4-1**).

During 2024, UUG completed site preparation activities and installation of two service boreholes (concrete and ballast) at 82ct, located adjacent to existing infrastructure. Minor upgrades to compressors at 56ct including an additional buried cable and access road at Bobadeen (**Section 4.1.7**).

Figure 4-1 Underground Longwall Retreat in 2024

4.1.3 Open Cut

The Open Cut mining area has been in care and maintenance since 10 October 2016. No open cut mining activities occurred during the Reporting Period.

4.1.4 Bobadeen Basalt Quarry

The Bobadeen Basalt Quarry (the Quarry) (**Figure 2-2**) produced no Basalt Road Base in 2024 for road works or infrastructure construction. Annual production limit for the Quarry is 100,000 tonnes (EPL394, A1.2).

4.1.5 Extension of East Pit Tailings Dam

During the 2024 Reporting Period construction of East Pit Tailings Dam (No.4) or TD4 was completed and became operational.

4.1.6 Coal Processing & Rail Movements

The Coal Handling Preparation Plant (CHPP) processed 1.458 Mt of UW ROM coal and 1.080 Mt of UUG ROM coal. The reject waste produced represents approximately 14.91% of the ROM coal processed by the CHPP; classified as either coarse reject (212,152 tonnes) and emplaced in the Barrier Pit or tailings (193,963 tonnes) emplaced in East Pit TD4.

All product coal, approximately 10,842,077.86 tonnes, was transported via rail on the Sandy Hollow rail corridor to the Port of Newcastle during the Reporting Period (**Attachment J**) as required by Schedule 2, Condition 7 of PA08_0184 (**Table 4-2**). No product coal was transported on the Tallawang to Wallerawang rail corridor in the 2024 Reporting Period.

Table 4-2 - Coal Loaded and Train Movements in 2024

Month	Average and Maximum Trains Leaving Site per Day (Maximum allowed 10)		Total Movements for the Month	Coal Loaded for the Month (tonnes)
Year 2024	Average	Maximum		
January	4	6	127	1,174,655.26
February	3	6	95	885,845.14
March	3	4	85	790,866.93
April	2	5	66	607,298.00
May	3	6	103	974,355.45
June	4	6	109	1,027,554.13
July	2	5	70	639,976.24
August	4	6	113	1,054,087.70
September	4	6	108	1,014,774.12
October	3	6	92	841,701.16
November	3	5	100	931,553.15
December	3	6	99	899,410.58

4.1.7 Land Preparation

Land preparation activities are carried out in accordance with the RMP and ARPFP. Land preparation ahead of mining operations and infrastructure involves the construction of appropriate erosion and sediment control structures, the clearing of vegetation and stripping and stockpiling of topsoil. This applies to major surface disturbance works[5] and is not limited to open cut mining operations.

There was a total of 2.97ha of land disturbed associated with exploration activities including tracks and drill pads during the Reorting Period. Approximately 0.31ha of land was disturbed associated with the extension of the UUG compressor shed at Bobadeen in the Reporting Period.

[5] Ground Disturbance Permit (GDP) is signed off by Senior Environment personnel and the applicable Mine Surveyor.

5. Actions Required From Previous AR

The 2023 AR was submitted to the DPHI on 28 March 2024 as required under Schedule 5, Condition 3 of PA08_0184.

The DPHI's review of the 2023 AR considered it generally satisfied the reporting requirements of the consent and the department's *Annual Review Guideline (October 2015)* in their repsonse letter dated 27 May 2024.

As required by Schedule 5, Condition 10, of PA08_0184, a copy of the 2023 AR is provided at *www.ulancoal.com.au*

The DPHI also requested that details and discussion of the investigation into the 2023 groundwater trigger exceedances and responses to the recommendations are included in the 2024 Annual Review (refer to **Section 7.11** and **Attachment D**).

6. Environmental Performance

6.1 Meteorological Monitoring

The weather station (WS1), located adjacent to the USO administration office (**Attachment I**), continuously records meteorological data[6] using multiple sensors and a data-logging system on a 30 metre tall mast. Logged meteorological parameters are listed in **Table 6-1**. WS1 is linked directly to the Sentinex[7] repository database providing access to real time weather conditions and rainfall events.

Table 6-1 - EPL 394 Meteorological Monitoring Parameters

Parameter	Unit of Measure	Frequency	Averaging period	Sampling Method
Wind Direction	Degrees	Continuous	15 minute	AM-2 & AM-4
Wind Speed	Metres per second	Continuous	15 minute	AM-2 & AM-4
Sigma Theta	Degrees	Continuous	15 minute	AM-2 & AM-4
Rainfall	Millimetres	Continuous	15 minute	AM-4
Air Temperature	Degrees Celsius	Continuous	1 hour	AM-4
Relative Humidity	Percent	Continuous	1 hour	AM-4

Notes: wind speed at 10, 20 and 30 metres above ground, wind direction at 10, 20 and 30 metres above ground sigma-theta from sampled wind direction measurements, temperature at 2 metres and 10 metres above ground. WS1 was maintained and operated in accordance with 'Approved methods for the sampling and analysis of air pollutants in NSW' (EPA, 2006) which refers to *Australian Standard AS2923 - 1987* (Guide for measurement of horizontal wind for air quality applications).

The rainfall recorded at WS1 for the Reporting Period (**Table 6-2**) was 806.5mm, approximately 391mm more than 416mm received in 2023 (**Figure 6-1**) and approximately 135mm above the long term average of 672mm for the region (2009 EA). As with 2023, larger monthly rainfall volumes were recorded in Summer and late Sprirng. The wettest month was November with 122mm of rainfall recorded. The driest month was May with 26.7mm of rainfall recorded.

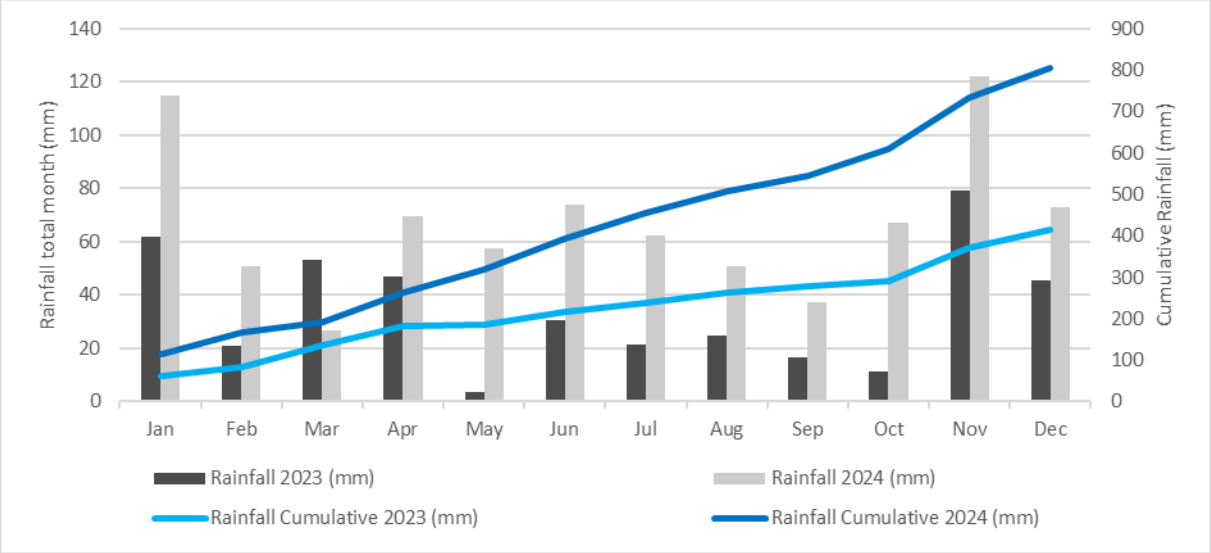


Figure 6-1 - Rainfall Comparison to Previous Reporting Period

[6] Condition 23, Schedule 3 of PA08_0184 and EPL394
[7] Sentinex is a web-based platform to communicate from monitoring locations

Monthly maximum and minimum 15-minute temperatures were recorded at WS1 (**Figure 6-2** and **Figure 6-3**). The highest temperature over a 15-minute period of 38.9°C was recorded in January 2024 and the lowest temperature over a 15 minute period of -3.7°C was recorded on June 2024.

Prevailing winds were generally from the south west during winter and from the north east during summer, consistent with the historical data presented in the 2009 EA. A westerly wind pattern is more common during winter through to early spring, in contrast to an easterly wind pattern during summer and autumn. Monthly wind roses for 2024 are presented in **Attachment I**.

Table 6-2 - Summary of Meteorological Conditions for 2024

Date	Rainfall (mm)	Rainfall Cumulative (mm)	Temperature Max (°C)^	Temperature Min (°C)^	Prevailing Wind Directions
Jan-24	115	115	38.9	10.5	North East
Feb-24	51	166	38.0	13.3	North East
Mar-24	26.7	192.7	37.0	5.5	North East
Apr-24	69.5	262.2	30.3	1.3	North East
May-24	57.7	319.9	22.7	-1.8	North East
Jun-24	74	393.9	19.6	-3.7	South West
Jul-24	62.4	456.3	19.2	-3.6	South West
Aug-24	50.8	507.1	28.2	-3.1	North East
Sep-24	37.1	544.2	27.5	-2.6	South West
Oct-24	67.2	611.4	28.9	2.3	South West
Nov-24	122	733.4	19.0	5.8	North East
Dec-24	73.1	806.5	35.7	5.1	South West

Notes: ^15 minute capture period for data used.

The 2024 monthly maximum and minimum temperatures were generally below 2023 and mostly comparable against their respective long-term averages with the exception of the November's monthly maximum and February's monthly minimum temperatures (**Figure 6-2** & **Figure 6-3**).

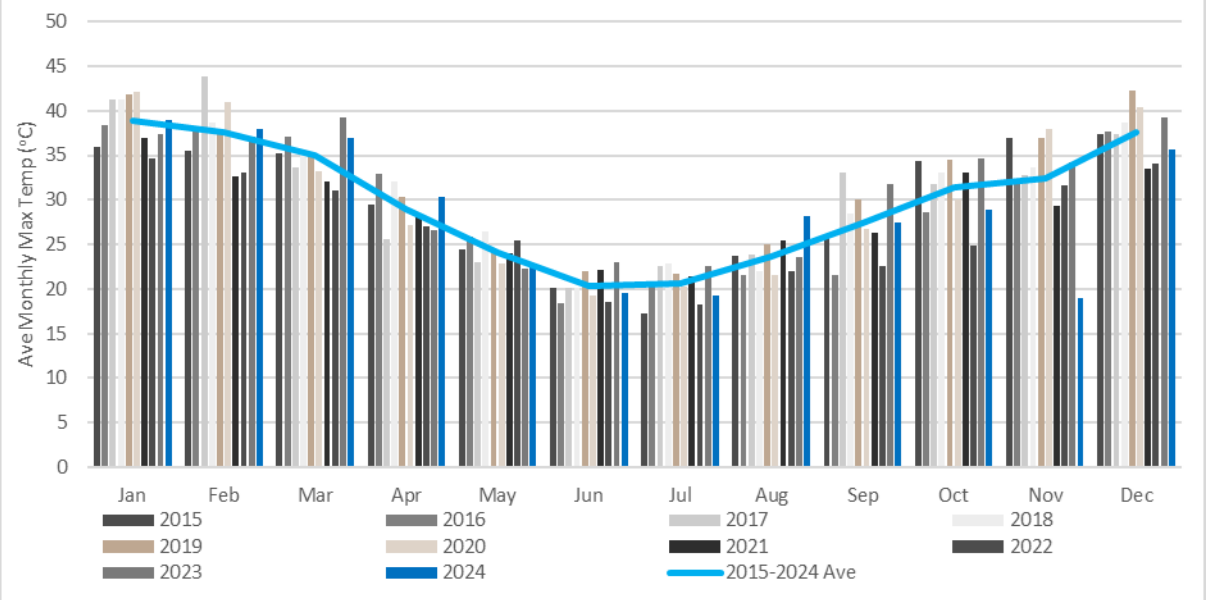


Figure 6-2 - Maximum Temperature Trends

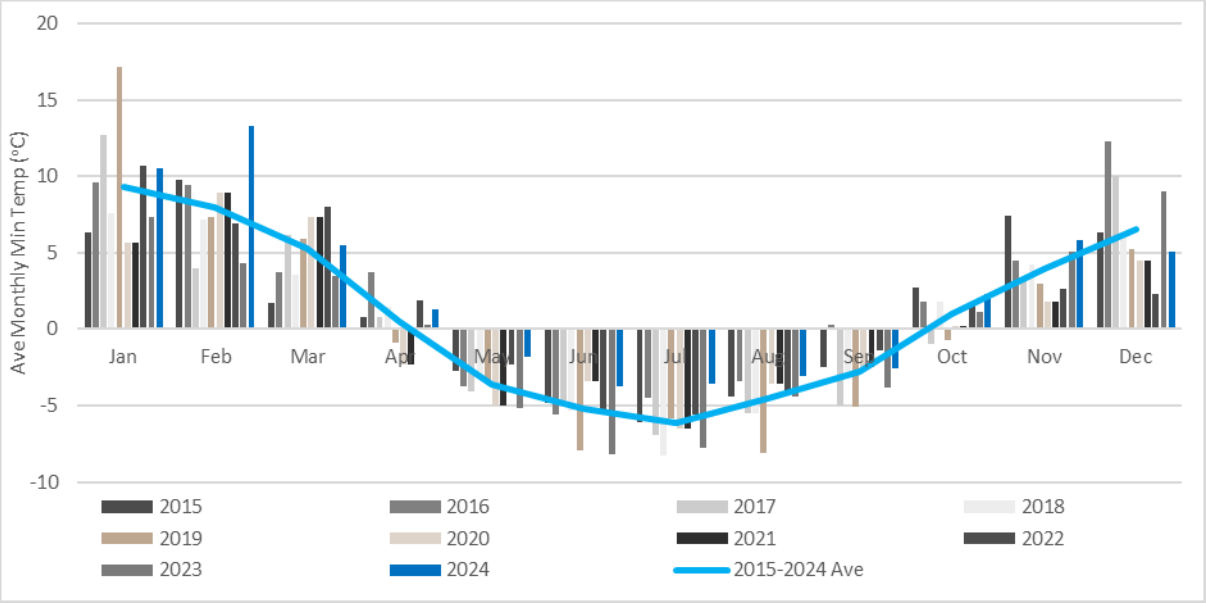


Figure 6-3 - Minimum Temperature Trends

6.2 Operational Noise

The Noise Management Plan (NMP)[8] describes the attended noise monitoring, primarily used for determining compliance against the noise criteria, and unattended or real-time monitoring, which is used for proactive noise management.

The locations of the real time noise monitors (which may be relocated as required) and attended noise monitoring sites required by the NMP are provided in the attended noise monitoring reports. Attended noise monitoring[9] results for June and December 2024 are summarised below in **Table 6-3**, with attended noise monitoring reports provided in **Attachment A**.

There was one noised related complaint in 2024 provided via the EPA on the 2 June 2024. A complaint to the EPA had been registered for excessive noise over the weekend from 31 May to 3 June 2024. UCMPL engaged its noise monitoring specialist to process and analyse data from the nearest real-time noise monitoring (SX73) in response to the noise complaint. Mining noise did not appear to be present or quantifiable during the complaint period in measurements collected at SX73, which is approximately 1.5 km closer to the nearest noise source compared to the complainant.

UCMPL also established a real time noise monitoring unit at the complainant's property for approximately 3 months. A Ngara unit was installed from 9 August to 11 November 2024. The Ngara unit is a Type 1 instrument that continuously records noise levels as well as audio recordings. There were no potential exceedances of relevant limits in the statistical or detailed analysis of unattended noise monitoring data.

[8] NMP (Version 8.5) as required by PA08_0184 Schedule 3, Condition 9 last approved on the 1/08/2023.
[9] Reference methods*: NSW Environment Protection Authority, Noise Policy for Industry, 2017. (NPfI,2017) and Australian Standards: AS 1055.1, AS 1055.2 and 1055.3 Acoustics - Description and measurement of environmental noise; AS 2659.1 - Guide to the use of sound measuring equipment; and AS 2659 - Sound level meters.*

Table 6-3 - Attended Noise Monitoring Summary LAeq (15-min) and Maximums (dB) for 2024

Noise Criteria/Predictions	Performance During the Reporting Period	Trends/Key Management Implications

Ulan Monitoring ID/ EPL394 Licenced Monitoring Point	Property Number	DayLAeq,15minute	Evening[1] LAeq,15minute	Night[1] LAeq,15minute	Night[1] LA1,1minute[3]
NM2/ 38	60	35	35	35	45
NM3/ -	274	NA	NA	NA	NA
NM4[2]/26	Ulan School[4]	35	NA	NA	NA
NM6/ 38	1	35	35	35	45
NM7/ 24	254	38	38	37	45

Notes: [1.] NA indicates criteria is not applicable at this location during this time. [2.] Criteria for Ulan Public School (internal) 'when in use'. [3] All LA_{max} results are interchangeable with LA1(1min) for assessment purposes. [4] Ulan Public School currently in recess.

The updated noise assessments for Mod 3 and Mod 4, combined with the *Environmental Assessment (2009)* indicate that three private residences are predicted to exceed 35dBA LAeq (15 min) at some stage of the project and have higher criteria limits to allow for short term elevated noise as indicated in the above table. Other residences have since been acquired and are no longer subject to the specified noise criteria.

Monitoring Site	Property Number	Maximum Result LAeq 15min dB	Criterion Complies	Maximum Result LA1(1min) dB	Exceedance
June 2024					
NM2	60	IA	Yes	IA	Nil
NM3	274	48	Yes	48	Nil
NM4	Ulan School[1]	-	-	-	-
NM6	1	IA	Yes	IA	Nil
NM7	254	26	Yes	30	Nil
December 2024					
NM2	60	28	Yes	IA	Nil
NM3	274	43	Yes	44	NA
NM4	Ulan School[1]	-	-	-	-
NM6	1	IA	Yes	IA	Nil
NM7	254	<30	Yes	<30	Nil

Notes: IA = Inaudible NA = noise criteria does not apply NM=Not Measurable. [1] Ulan Public School currently in recess, therefore no monitoring was required at this location in 2024.

Attended noise monitoring in 2024 occurred during the evening and night periods in July and December, as follows:

- During the evening and night periods of 18 to the 20 June 2024; and
- During the evening and night periods of 9-11 and 16-17 December 2024.

Ulan Complex complied with project specific criteria at all monitoring locations during the June and December 2024 survey (**Attachment A**).

Ulan Public School was in recess and not in use for the entirety of 2024 Reporting Period, therefore monitoring was not undertaken at this location during this survey.

Criteria may not always be applicable due to meteorological conditions at the time of monitoring. Stability class data (atmospheric data for wind speed and direction) rendered criteria not applicable on occasion (**Attachment A**).

There was one noised related complaint in 2024 provided via the EPA to UCMPL on the 2 June 2024. A complaint to the EPA had been registered for excessive noise over the weekend from 31 May to 3 June 2024 (the excessive noise period). Mining noise could not be quantifiable for the potential excessive period (**Section 6.3**).

Current attended noise monitoring results for Property ID 274 align with noise levels predicted for Year 12 of the project (Table 8-4 and Appendix 12) in the EA.

The trend for attended noise monitoring results over time is considered stable (**Table 6-4**).

Table 6-4 - Attended Noise Monitoring LAeq Maximums (dB) 2011 – 2024

Location	NM2	NM3	NM4[1]	NM6	NM7
Noise Criteria	35	n/a[2]	35	35	38
2011	48	50	52	42	-
2012	IA	43	30	IA	29
2013	29	50	<20	31	37
2014	20	49	IA	26	<20
2015	20	46	IA	27	IA
2016	<23	53	IA	<25	<27
2017	<25	47	<35	28	25
2018	IA	45	IA	IA	26
2019	IA	44	IA	<20	38
2020	<20	47	IA	26	<25
2021	<20	51	IA	<25	33
2022	<25	48	-	IA	33
2023	26	52	-	26	30
2024	28	48	-	IA	<30
General Trend (Stable, Increasing, Decreasing)	Stable	Stable	Stable	Stable	Stable

Notes: IA = Inaudible. N/A = Not Applicable. [1] Ulan Public School currently in recess, therefore no monitoring was required at this location in December 2024. [2]NM3 must be acquired on request noise criteria do not apply (n/a).

6.3 Blasting

The Blast Management Plan (BMgtP)[10] describes the monitoring, blast criteria and mitigation measures regarding blasting activities at the Ulan Complex. No blasts were undertaken at the Ulan Complex in 2024. There have been no blasting activities undertaken by UCMPL since 2018.

6.4 Air Quality

The Air Quality & Greenhouse Gas Management Plan (AQ&GHGMP)[11] describes the monitoring, air criteria and mitigation measures to reduce the potential for air quality impacts at the Ulan Complex. Air quality monitoring is carried out using a combination of monitors consisting of two (2) high volume air samplers (HVAS), one Tapered Element Oscillating Microbalance (TEOM), and of one (1) meteorological station (WS1).

Air quality monitoring locations are shown in **Attachment B**. The requirement to monitor depositional dust was removed by EPL394 in 2020 and subsequently removed in the revision of the AQMP (Version 7.4), approved on 1 October 2020.

The following summary table (**Table 6-6**) compares the 2024 Reporting Period HVAS and TEOM monitoring results with the air quality impact assessment criteria, predictions in the 2009 EA and monitored dust levels in previous Reporting Periods. Further air quality monitoring results are provided in **Attachment B**.

6.4.1 Extraordinary Event

There were no extraordinary events such as bushfires, prescribed burning, dust storms or fire incidents recorded during the 2024 Reporting Period.

[10] BMgtP (Version 8.3) as required by PA08_0184 Schedule 3, Condition 16 last approved 20/04/2023.
[11] AQ&GHGMP (Version 9) as required by PA08_0184 Schedule 3, Condition 16 last approved 31/07/2024

Table 6-5 – Air Quality Performance for 2024

Air Quality Criteria/Predictions	Performance During the Reporting Period	Trends/Key Management Implications

Air Quality Criteria/Predictions

Pollutant	Averaging Period	Criteria
Total suspended particulate (TSP) matter	Annual mean	[a] 90 µg/m³
Particulate matter < 10 µm (PM_{10})	Annual mean	[a] 30 µg/m³
Particulate matter < 10 µm (PM_{10})	24 hour maximum	[a] 50 µg/m³

Notes: *a Total Impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to other sources). b Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed by the Secretary in consultation with EPA.*

EA Predicted Impact Year 12: Annual Average TSP 33-49 µg/m³

Pollutant	Averaging Period	[b] Criteria
Particulate matter < 10 µm (PM_{10})	Annual mean	[a] 30 µg/m³
Particulate matter < 10 µm (PM_{10})	24 hour maximum	[a] 50 µg/m³

Notes: *a Total impact (i.e. incremental increase in concentrations due to the project plus background concentrations due to other sources); b Excludes extraordinary events such as bushfires, prescribed burning, dust storms, sea fog, fire incidents, illegal activities or any other activity agreed to by the Director-General in consultation with EPA.*

EA Predicted Impact Year 12: Annual Average PM_{10} 26 µg/m³

Performance During the Reporting Period

TSP	Flannery's (HV1) µg/m³	Merlene (HV3) µg/m³
Capture Rate	100%	100%
Annual Average	32.4	23.3
Maximum Result	77.0	68.7

TEOM PM_{10} Results^	
Capture Rate	97%
Annual Average	13.0 µg/m³
Annual Average excluding extraordinary events*	13.0 µg/m³
Maximum (24hr)	38.7 µg/m³
Maximum (24hr) excluding extraordinary events*	38.7 µg/m³

Notes:* No extraordinary events occurred during the Reporting Period.

^ Capture rate of the TEOM was impacted by a communications fault with the modem during the 19 to the 23 February 2024. PM_{10} data for the 20 and 21 February was supplied by the nearby MCO TEOM.

Trends/Key Management Implications

The annual average TSP concentrations recorded at HV1 and HV3 were below the project specific criteria[12] of 90 µg/m³ in 2024 (**Figure 6-4**) and in line with predictions provided in the air quality assessment from the *2009 Environmental Assessment* (**Attachment B**).

The TSP annual averages for HV3 and HV1 in 2024 were comparable with the previous 2023 monitoring period of 24.5 µg/m³ and 31.0 µg/m³ respectively.

For further information and monitoring results for TSP refer to **Attachment B**.

The annual average PM_{10} for 2024 was 13.0 µg/m³, well below the annual average criteria of 30µg/m³ and slightly higher than 12.9 µg/m³ in 2024.

TEOM monitoring data shows that the 24-hour average PM_{10} concentration did not exceed the 24hr 50 µg/m³ impact assessment criteria. The maximum of 38.7 µg/m³ during the Reporting Period of was recorded on the 27 March 2024.

For further information and monitoring results for the TEOM, refer to **Attachment B**.

[12] Condition 19 of Project Approval PA 08_0184

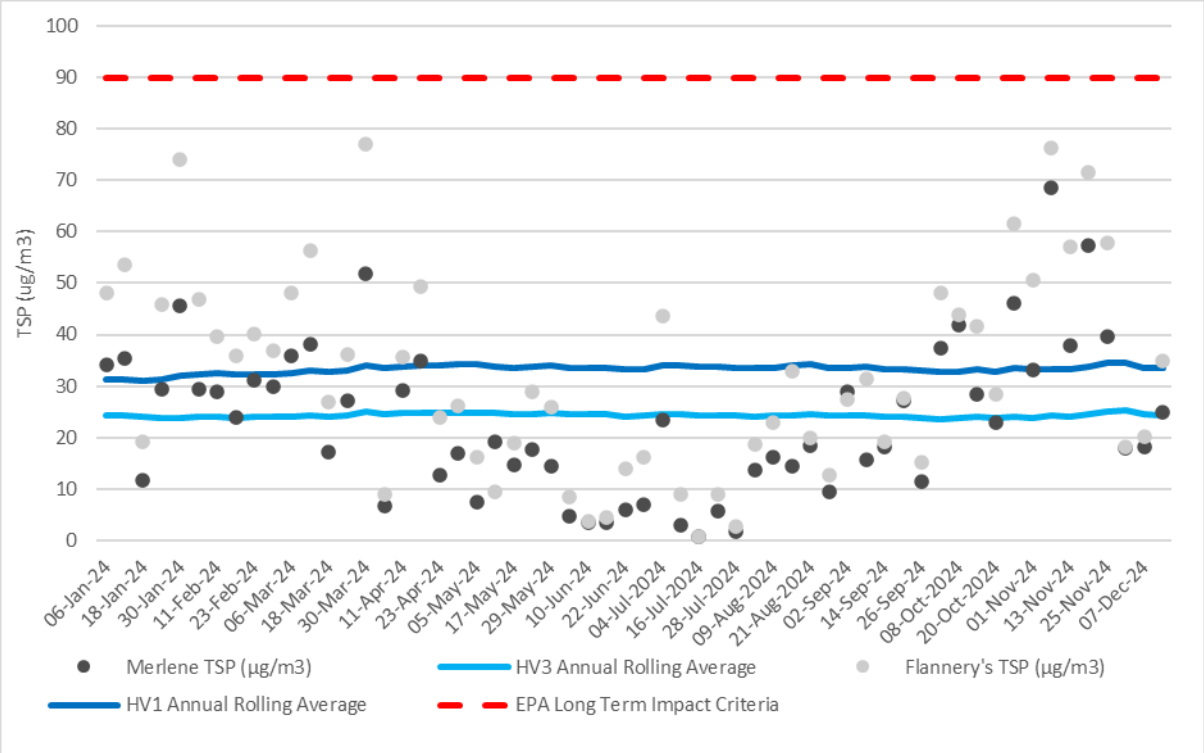


Figure 6-4 – TSP 2024 Monitoring Results During Reporting Period

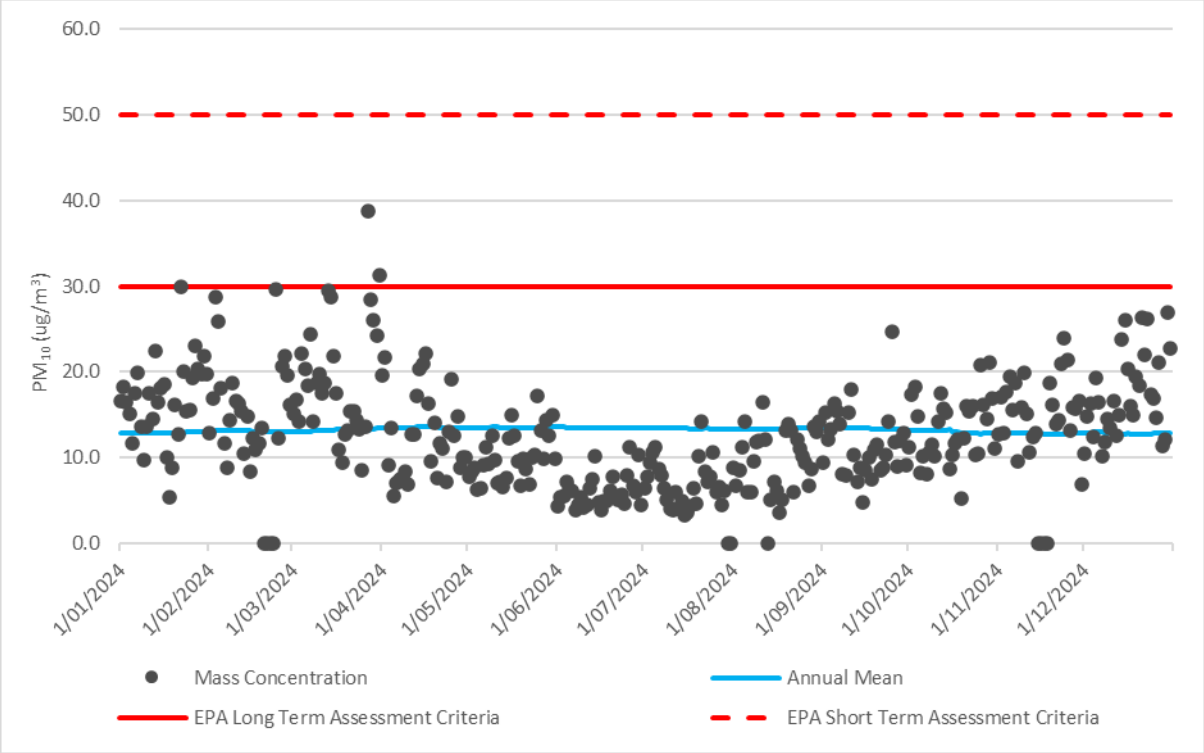


Figure 6-5 – TEOM PM_{10} 2024 Monitoring Results During the Reporting Period

6.5 Heritage

6.5.1 Aboriginal Heritage

The Heritage Management Plan (HMP) describes the management and mitigation of the Project impacts on Aboriginal, European and natural heritage. On the 5 April 2024 the HMP (Version 9) was approved by the DPHI. Aboriginal heritage activities undertaken in accordance with the HMP in 2024 included but not limited to:

- Surface salvage within three exploration drill pad access track areas in March 2024;
- February 2024 inspection of two rock shelters (Ulan ID #1668 and #1673);
- GDP due diligence in March and October 2024 for access and exploration pads
- Rock shelter salvage at Ulan ID#284 and Ulan ID#1580 in October 2024;
- Rock shelter testing at Ulan ID#162;
- Subsidence crack inspection in February 2024 within the Colinta Lease area (Bobadeen) at site Ulan ID#604 in February 2024;
- Inspections of the Bobadeen and Valley Way Grinding Groove Conservation Areas (Section 6.5.2); and
- Monitoring of Aboriginal rock shelter sites in accordance with the Ulan West Extraction Plans (**Attachment G**).

Aboriginal Heritage Meetings were held in July and December 2024. Items discussed included:

- Overview of UCMPL activities and General Business;
- UCMPL's Exploration Program;
    - EL 9419 - North of Ulan Underground;
    - EL8687 and EL9363 – Ulan West Continued Operations
- Mining Leases;
- Ulan West Continued Operations;
- MOD 6 Approval Process (update);
- Extraction Plan update for LW9 and LW10 at Ulan West;
- OzArk's Exploration inspections and salvage reports;
- The upcoming 2024 program of heritage works.

6.5.2 Bobadeen and Valley Way Grinding Groove Conservation Areas

Inspections of the Bobadeen and Valley Way Grinding Groove Conservation Areas were undertaken in August, September and December 2024 with representative RAPs present. Weathering was observed at some of the grinding groove sites, however the sites still visible. OzArk and RAPs are to re-survey and record sites in 2025. No mining impact to either grinding groove sites observed. UCMPL's weed management contractor had completed weed control in the Bobadeen Grinding Groove Conservation Area in November 2024.

Photo 1 Valley Way Grinding Grooves September 2024

Photo 2 Bobadeen Grinding Grooves August 2024

6.5.3 European and Natural Heritage

During 2024, an annual inspection of the Bobadeen Homestead was undertaken, and throughout the year maintenance of surrounds in accordance with the Bobadeen Homestead Management Plan[13] to reduce the risk of a bushfire further damaging the house and associated out buildings.

[13] PA08_0184, Schedule 3, Condition 47 (d) and ULN SD EXT 0094 April 2011, revised scope of works ULN SD EXT 0135 January 2014.

6.6 Biodiversity

Flora, terrestrial and aquatic fauna/stream health monitoring was completed consistent with the approved Biodiversity Management Plan (BMP). During the 2023 Reporting Period, the BMP was updated BMP (Version 7.0) and submitted for re-approval. The BMP (Version 7.0) was approved by the DPHI on the 29 April 2024. The annual flora and fauna monitoring reports prepared by Eco Logical Australia (ELA) for the Reporting Period are provided in **Attachment E** and summerised below. The locations of the 2024 flora and fauna monitoring sites are provided within each respective elcogical monitoring report.

6.6.1 Floristic Monitoring

Eco Logical Australia (ELA) were engaged by UCMPL to undertake floristic monitoring during autumn and spring 2024 at the Ulan Mine Complex (UMC). Monitoring was undertaken in accordance with the requirements of the BMP. Performance indicators and completion criteria for the UMC are presented for the BMP (**Section 8.2**). Refer to **Attachment E** for the complete report by ELA. The following summary is from *UCMPL Flora Monitoring Report 2024* (ELA, March 2025).

Summary of Assessment Against BMP Completion Criteria

Floristic monitoring within UCMPL's Biodiversity Offset Areas (BOAs) was undertaken in accordance with the BMP during the Reporting Period (**Figure 6-6**) by Eco Logical Australia (ELA). Floristic monitoring within the BOAs was undertaken by ELA ecologists in Spring and Autumn and included: Bobadeen Vegetation Offset Area (VOA); Highett Road *Acacia ausfeldii* Management Area; Brokenback Conservation Area – Area 1; Brokenback Conservation Area – Area 2; Bobadeen West Offset Area; and Spring Gully Cliff line Management Area. The BMP contains completion criteria and performance indicators relevant to the BOAs. The BOAs are stratified into the following Management Zones (MZs):

- MZ1a – benchmark vegetation including forest and woodland communities which are relatively intact, in good condition and have high species richness.
- MZ1b – benchmark vegetation including forest and woodland communities which are relatively intact, in good condition, have high species richness and have regenerated from historical clearing activities.
- MZ2 – naturally regenerating areas which are close to sources of natural recruitment.
- MZ3 – assisted revegetation through planting tube stock and / or seedling.

Table 6-7 summarises the MZs present within each BOA.

Table 6-6 MZs Mapped within each BOA

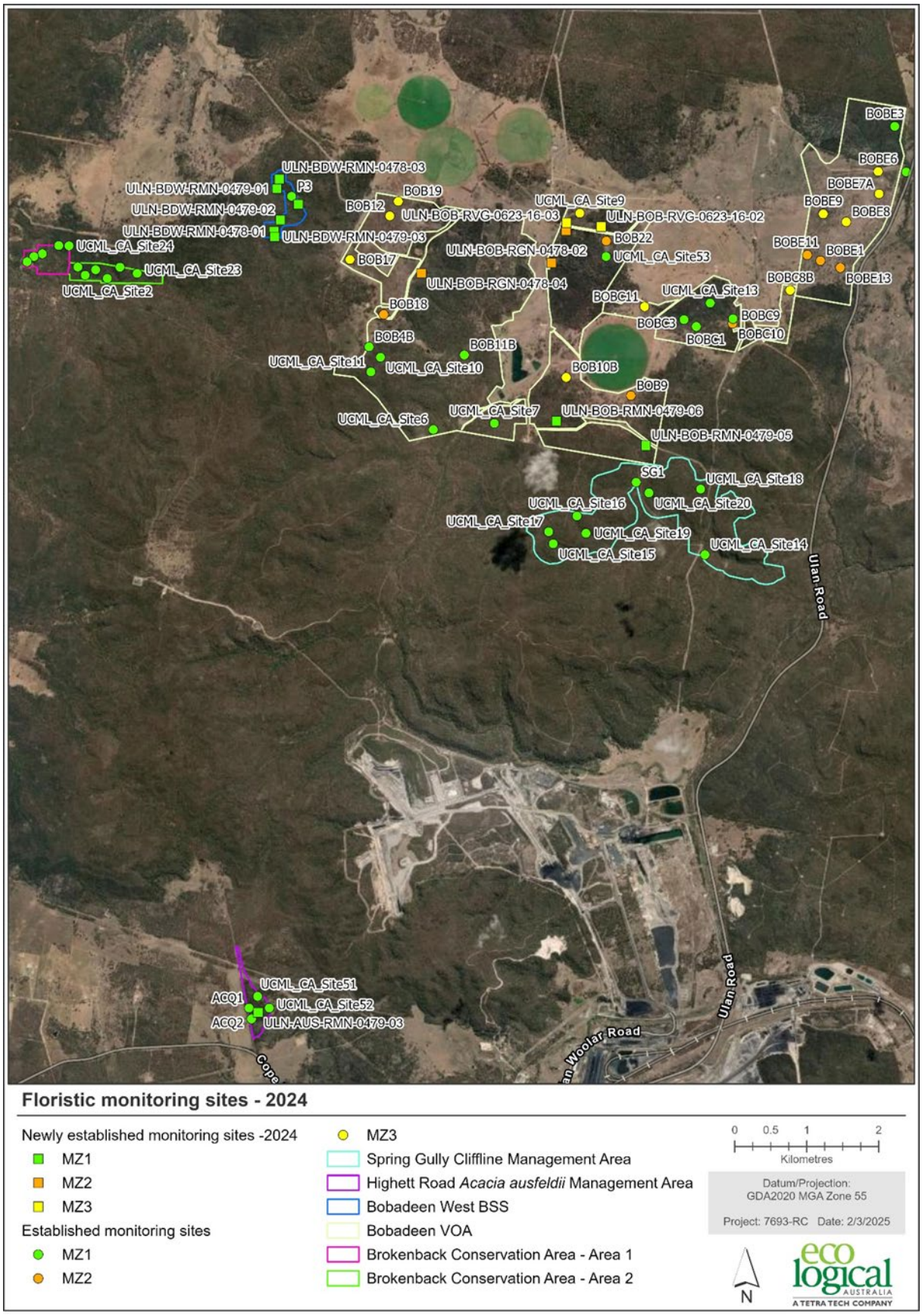
BOAs	MZs
Bobadeen VOA	MZ1, MZ2, MZ3
Spring Gully Cliff line Management Area	MZ1
Brokenback Conservation Area – Area 1	MZ1
Brokeback Conservation Area – Area 2	MZ1
Highett Road *Acacia ausfeldii* Management Area	MZ1 and MZ2
Bobadeen West Offset Area	MZ1

Table 6-7 BMP Completion Criteria Assessment Summary

Domain Objective	Completion criteria	Summary
Facilitate the natural regeneration of MZ2 areas	Monitoring to indicate upward trend in species diversity and density towards analogue sites within the targeted vegetation community	**Dry sclerophyll forest sites** **Achieved –diversity** Native species richness is within the range recorded at MZ1 sites. The linear trendline for MZ2 sites indicates that the MZ2 median is trending towards the MZ1 median. **Achieved - density** Stem density within the majority MZ2 sites has remained above the MZ1 historical minimum since 2016. **Box gum woodland sites** **Achieved - diversity** Native species richness is within the range recorded at MZ1 sites. The linear trendline for MZ2 sites indicates that the MZ2 median is not trending towards the MZ1 median, however both management zones are displaying a continual increase in species diversity since 2011. **Not yet achieved - density** Stem density within the majority MZ2 sites has remained above the MZ1 historical minimum since 2016. Median stem density for MZ2 sites remains lower than the median stem density for MZ1 sites.
Re-establish native woodlands / open forest within MZ3 areas	Monitoring to indicate upward trend in species diversity and density towards analogue sites within the targeted vegetation community	**Dry sclerophyll forest sites** **Achieved – diversity** Native species richness is within the range recorded at MZ1 sites. The linear trendline for MZ3 sites indicates that the MZ3 median is trending towards the MZ1 median. **Not yet achieved - density** Stem density within the majority MZ2 sites has remained above the MZ1 historical minimum since 2016 (Figure 70). Median stem density for MZ3 sites remains lower than the median stem density for MZ1 sites. **Box gum woodland sites** **Achieved – diversity** Native species richness is within the range recorded at MZ1 sites. The linear trendline for MZ3 sites indicates that the MZ3 median is on a similar trajectory to the MZ1 trendline as both management zones are displaying a continual increase in species diversity since 2011. **Not yet achieved - density** Stem density within the majority MZ3 sites has remained above the MZ1 historical minimum since 2016. Median stem density for MZ3 sites remains lower than the median stem density for MZ1 sites.
Weeds and feral animal species do not present a risk to rehabilitation	Weed presence does not pose a risk to the establishment of rehabilitation areas	**Not yet achieved** *Hypericum perforatum* and *Paspalum dilatatum* are hindering restoration success throughout some MZ2 & MZ3 areas within Bobadeen VOA.
Erosion does not present a safety hazard or compromise the post mining land capability	Visual monitoring indicates that there is no erosion present that compromises land capability or the intended final land use	**Not yet achieved** One area of partially stabilised gully erosion was recorded within Bobadeen VOA.

Source: UCMPL Biodiversity Monitoring 2024: Annual Flora Monitoring (ELA, 2025).

Figure 6-6 BOA Floristic Monitoring Sites 2024



Summary of Assessment Against Floristic Based Subsidence Performance Indicators

The 2024 floristic monitoring by ELA also comprised of floristic based subsidence (FBS) monitoring undertaken above nine longwall panels (**Figure 6-7**) during autumn and spring with the results assessed against the relevant Extraction Plan subsidence performance measures and indicators from the BMP (**Attachment E**). Baseline data was collected at two longwall panels during 2024, namely UW LW9 and UUG LWW8. An assessment of the BMP performance indicator relating to FBS monitoring, specific to the Extraction Plans include:

- Analysis of FBS data indicates a >10% (percentage points) decrease in canopy foliage cover of a site within the subsidence zone inconsistent with canopy foliage cover in the transition zone; and
- Analysis of FBS data indicates >10% (percentage points) decrease in canopy foliage cover in the selected vegetation community located above mining areas, not seen in non-mined reference sites.

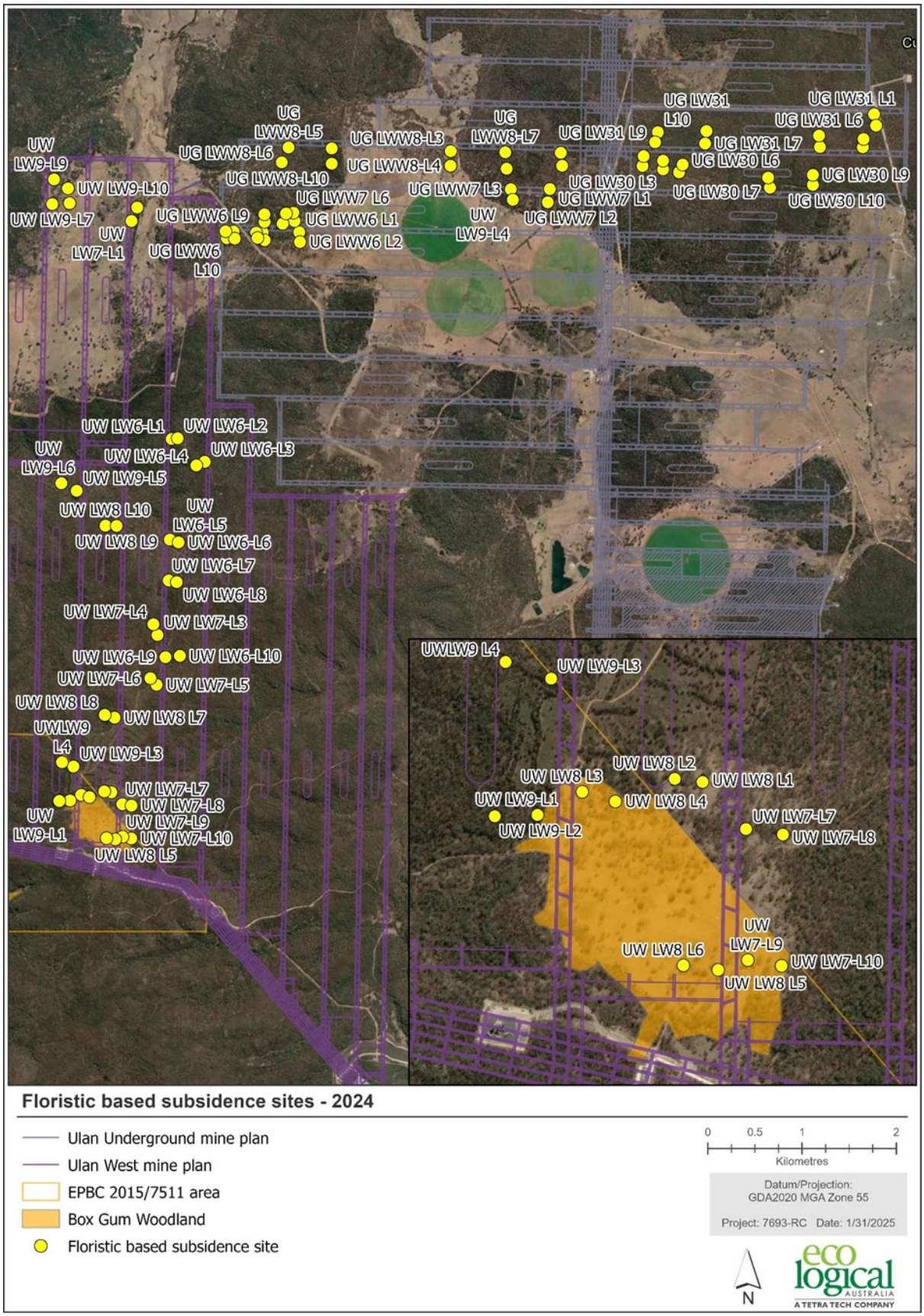
Change in project foliage cover (PFC) at all longwalls remains less than the subsidence Performance Indicator of a >10% decrease in canopy foliage cover (ELA, 2025).

For sites with three of more years of data (UG LW30, UG LWW6, UG LWW7, UW LW6 and UW LW7), trends over time between maximum subsidence and transition sites have been compared. Fluctuations in PFC were recorded at each longwall for the duration of monitoring, with maximum subsidence and transition sites following similar trajectories (ELA, 2025).

The greatest decrease in average PFC for both maximum subsidence and transition sites occurred at UG LWW6, however, this is only attributed to 4% decreases in PFC at only two transition sites (L1 and L3) and one maximum subsidence site (L8) out of 10 sites at UG LWW6 (Autumn 2019 compared to Spring 2023). All other sites recorded either no change or an increase in PFC. Slight fluctuations in PFC are expected for remnant vegetation (ELA, 2025).

Despite the presence of subsidence cracks at recently undermined locations, monitoring results demonstrate that tree health has not been affected by the mining activities across UCMPL over the monitoring periods (ELA, 2025).

Figure 6-7 Floristic Based Subsidence Sites 2024



Summary of Assessment Against Ulan West EPBC 2015/7511 Performance Indicators

Development of a monitoring program for, and subsequent baseline monitoring of Box Gum Woodland condition and extent throughout the Ulan West Underground EPBC Referral Area was undertaken during 2022 (ELA 2023) as required by Condition 3 of EPBC Referral 2015/7511. The monitoring program and baseline monitoring also seeks to track progress against Condition 2 of EPBC Referral 2015/7511 (ELA, 2025).

The EPBC 2015/7411 referral area contains ten FBS monitoring sites (**Table 6-9** & **Figure 6-7**). Six of these sites are located within the area mapped as Box Gum Woodland during baseline assessments (ELA 2023). Areas of UW LW10, UW LW11 and UW LW12 are also within the EPBC 2015/7411 referral area. Sites will be established on these longwalls once mining progresses (ELA, 2025).

Table 6-8 EPBC 2015/7511 Referral Area Monitoring Sites and Corresponding Vegetation

Longwall	Site	Vegetation
UW LW7	L9	Box Gum Woodland
	L10	Box Gum Woodland
UW LW8	L3	Box Gum Woodland
	L4	Box Gum Woodland
	L5	Box Gum Woodland
	L6	Box Gum Woodland
UW LW9	L1	Dry Sclerophyll Forest
	L2	Dry Sclerophyll Forest
	L3	Dry Sclerophyll Forest
	L4	Dry Sclerophyll Forest

Assessment against the Ulan West EPBC 2015/7511 Area performance measures from the 2024 monitoring results is provided in **Table 6-10**.

Table 6-9 Assessment Against Ulan West EPBC 2015/7511 Area Performance Indicators

Performance Measure	Performance Indicator	Assessment of performance indicator/measure	Assessment
Negligible impact on Box Gum Woodland.	Box Gum Woodland located above longwall panels in the subsidence zone are not expected to experience changes in condition different to changes in the corresponding sites located in the transition zone.	An indicator will be considered to have been triggered if: • Analysis of FBS data indicates a >10% (percentage points) decrease in canopy foliage cover of a site within the subsidence zone inconsistent with canopy foliage cover in the transition zone; and • Analysis of FBS data indicates >10% (percentage points) decrease in canopy foliage cover in the selected vegetation community located above mining areas, not seen in non-mined reference sites. The performance measure is exceeded if investigation shows subsidence has resulted in greater than negligible impacts to the Box Gum Woodland within mined areas.	**Ongoing** – No sites have recorded a >10% decrease in canopy cover between pre mining data and spring 2024 data, noting that autumn monitoring is yet to be undertaken for completion of the monitoring program.
	At the completion of undermining, Box Gum Woodland patches continue to meet the condition thresholds described in the Policy Statement (DEH 2006).	An indicator will be considered to have been triggered if assessment against the condition thresholds within the Policy Statement (DEH 2006) are no longer met, with no negative impacts and/or decline in condition also recorded in Box Gum Woodland reference.	**Ongoing** – Ongoing This will be assessed upon completion of autumn monitoring.

6.6.2 Fauna

ELA was engaged by UCMPL to undertake fauna monitoring in accordance with the requirements of the BMP. The 2024 Fauna Monitoring Report details the results of autumn and spring feral pest monitoring, spring targeted threatened bird monitoring, and spring nest box monitoring (**Attachment E**). The following summary is from *UCMPL Fauna Monitoring Report 2024* (ELA, March 2025).

A large quantity of data was collected during formal surveys as well as opportunistic observations throughout 2024. General woodland bird surveys recorded 78 different bird species across 20 monitoring locations, including four threatened bird species listed under the NSW *Biodiversity Conservation Act 2016* and/or the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*. Furthermore, three additional threatened bird species were identified through opportunistic sightings in the UCMPL Complex in 2024.

General woodland bird surveys and opportunistic observations in 2024 resulted in the absence of three threatened woodland bird species that were previously identified within the Bobadeen BOAs for two or more consecutive monitoring periods. Meeting Condition Amber requires to investigate whether threatened species habitat has reduced within the Bobadeen BOAs and undertake additional monitoring to confirm absence of threatened species from within the BOAs. Despite the absence of records during 2024, it is considered unlikely that habitat availability for Brown Treecreeper (eastern subspecies), Speckled Warbler and Varied Sittella has decreased within the Bobadeen BOAs

The target threatened bird species *Tyto novaehollandiae* (Masked Owl) was not recorded during the 2024 surveys, and this species has yet to be recorded within the UCMPL complex. Since Ulan West Longwall 6 (UWLW6) L6 contains suitable hollow-bearing trees for the Masked Owl, an assessment of hollow conditions and abundance was required. During the monitoring period between pre-mining and post-mining, the number of large hollows increased from zero to one, and therefore the subsidence impact on Masked Owl is considered negligible.

An assessment of potential foraging habitat for *Anthochaera phrygia* (Regent Honeyeater) and *Lathamus discolor* (Swift Parrot) was also undertaken at floristic-based subsidence monitoring sites UWLW6 and Ulan Underground Longwall West 6 that located above undermined longwalls which contain key and supplementary feed trees for these species. The assessment found that percent foliage canopy cover of feed trees at monitoring sites had not declined by >10% post-mining and as such, the relevant subsidence performance measure for these two threatened bird species has been met.

A total of 118 nest boxes were monitored in 2024, of which 86% remained fit for use, with 22% of all nest boxes monitored demonstrating signs of use. A total of two *Trichosurus vulpecula* (Common Brushtail Possum), three eggs and a nestling were observed in five nest boxes. Sixteen nest boxes require either repair or total replacement due to damage to the box or misalignment.

Given the successful implementation of the UCMPL fauna monitoring program in 2024 and the results detailed in this report, UCMPL is considered to be compliant with their relevant Project Approval conditions.

6.6.3 Microbat Monitoring

ELA was engaged by UCMPL to undertake microbat monitoring in accordance with the requirements of the BMP and the Extraction Plans. The following summary is from *UCMPL Microbat Monitoring Report 2024* (ELA, March 2025).

Microbat monitoring in 2024 was undertaken in accordance with the approved management plans for the management of threatened species habitat across the UCC. This annual report details the results of microbat monitoring of eight control sites, 15 impact sites and four microbat monitoring sites within the Bobadeen West Biodiversity Stewardship Site (BSS), during December 2024.

Targeted cliffline monitoring was undertaken at non-mined control and both mined and non-mined impact sites above Ulan West longwall panels, to record the presence and activity of threatened cave-roosting microbat species Chalinolobus dwyeri (Large-eared Pied Bat) and Miniopterus orianae oceanensis (Large Bent-winged Bat). Monitoring at Bobadeen West BSS sites was undertaken to confirm the ongoing presence of the Large-eared Pied Bat within the BSS.

The Large-eared Pied Bat was definitely or potentially recorded via acoustic call detection at all eight previously established targeted cliffline - control sites, whilst the Large Bent-winged Bat was potentially recorded at all eight sites. The consistent recording of both target threatened cave-roosting species in relatively high quantities, including the capture of Large-eared Pied Bat across multiple control sites, confirms their suitability for use as control sites for monitoring the population of both target species.

Monitoring was also completed at 15 targeted cliffline - impact sites, of which four sites, located above the UWLW9 longwall panel, were established and monitored for the first time. Acoustic call detection surveys recorded a diversity of species richness, with at least 12 individual microbat species recorded across all impact sites, inclusive of at least two and up to seven threatened microbat species listed under the NSW Biodiversity Conservation Act 2016 and/or Commonwealth Environment Protection and Biodiversity Conservation Act 1999. Mean species richness was highest in 2024 at previously mined sites above both UWLW7 and UWLW8 longwall panels, in comparison to non-mined (ULWL8 and UWLW9) impact sites. This result indicates the maintenance of habitat in the post-mining UCC landscape, which continues to provide habitat for a diverse range of microbat species. The capture of 20 microbat individuals from six different species at site UWLW7a, including the target threatened cave roosting Large-eared Pied Bat, provides a further positive indication as to the continued provision of suitable quality microbat habitat post-mining.

Large-eared Pied Bat call activity across all previously undermined sites increased substantially in 2024, compared to the previous year, and as such the relevant performance indicators for the management of habitat for the species (being a decline in call activity >10%) have not been exceeded. This increased call activity was also recorded at UWLW7 sites in isolation, and with 2024 being the final year of the sites' post-mining monitoring period, the conclusion of targeted monitoring at these sites is recommended.

In contrast, Large Bent-winged Bat call activity across previously mined sites, as well as non-mined control sites, decreased substantially in 2024, in comparison to the abnormally high call activity recorded for the species during 2023. The high call activity of 2023 monitoring was also recorded at UWLW7 sites during what was the first year of their post-mining monitoring period and as such,

combined with the consistent declines in both control and impact site call activity during 2024, the performance indicator has not been exceeded for the species, across the two-year post-mining monitoring period.

Given the successful implementation of the UCMPL microbat monitoring program in 2024 and the results detailed in this report, UCMPL is considered to be compliant with their relevant project approval conditions.

6.6.4 Aquatic Monitoring

ELA was engaged by UCMPL to undertake aquatic monitoring in 2024 as required by the BMP. The following summary is from *UCMPL Aquatic Monitoring Report 2024* (ELA, January 2025).

This report outlines results from surveys conducted in spring 2024 and makes comparisons to data from previous monitoring events. Due to inherently low baseflow of creeks, despite above average rainfall in the preceding six months leading up to the 2024 monitoring period, only 13 of the 16 monitoring sites had enough water for the full suite of ecological surveys to be undertaken. Flow at most downstream sites was dominated by discharged mine water that had first been treated with reverse osmosis.

Aquatic macroinvertebrate taxonomic richness in 2024 ranged from seven to 24 taxa and was highest at downstream site AQ19. The Stream Invertebrate Grade Number Average Level (SIGNAL) 2 scores ranged from 2.7 to 4.7, with upstream site AQ15 recording the highest SIGNAL2 score. Three of the 13 sites sampled had SIGNAL2 scores equal to or above 4.0, with two of these sites located upstream of the licenced discharge points (LDPs), and one downstream of mine operations. The mean SIGNAL2 score across all sites was 3.6, which is consistent with the long-term average across all previous monitoring years (3.6). Assessment of SIGNAL2 since the commencement of monitoring in 2011 demonstrates that downstream sites have a higher long-term mean SIGNAL2 score (4.0) compared to upstream sites (3.5) where water level is generally low to extremely low. Despite this trend, SIGNAL2 scores continue to be reflective of moderately to severely disturbed systems, and assemblages of macroinvertebrates were generally dominated by pollution-tolerant taxa. Across all years, macroinvertebrate results indicate that historical disturbances (e.g. clearing of riparian habitat) and regional land use practices, in conjunction with prevailing climatic conditions, remain the key factors influencing macroinvertebrate communities.

The 2024 Riparian Channel and Environmental (RCE) Inventory scores were largely consistent with previous years for each site. Five sites scored RCE inventories of ‘Excellent’, five sites scored ‘Very Good’ whilst the remaining six sites scoring RCE inventories of ‘Good’. Sites AQ2 and AQ21 in the Goulburn River Diversion have maintained elevated RCE scores since 2016 when remediation works commenced. Overall, the RCE results indicate that the riparian environment is not subject to any ongoing adverse effects resulting from mining operations and is rather reflective of historical disturbances and regional land use practices in the catchment.

Six water quality parameters were measured at each site. High water temperatures reflected the high ambient temperatures of November, as well as a small volume of water in most streams. Electrical Conductivity (EC) was variable across monitoring sites both upstream and downstream of LDPs,

however, measurements were still below the trigger values adopted for the UCC at downstream sites (UCMPL 2019).

DO (% saturation) was generally higher during 2024, and all downstream sites and two upstream sites met the ANZECC and ARMCANZ (2000) guidelines. Results from upstream and downstream sites and across multiple years indicate high variability in DO concentrations, which is also evident from year-round monitoring at UCMPL surface water sites in 2024.

Alkalinity results vary but remain consistent across both monitoring sites and years. Turbidity was higher than the upper limit recommended by the ANZECC and ARMCANZ (2000) guidelines at six sites, all of which were located upstream of the UCMPL LDPs, and lower at two sites located downstream.

There was no clear correlation evident between SIGNAL2 and DO results over time, whereas only a very weak positive correlation was identified between SIGNAL2 and RCE results.

In conclusion, the direct impacts of the coal mining operations at UCMPL on aquatic ecology are minimal and monitored streams retain the typical biodiversity values and water quality expected of similar streams in the area.

For the complete *UCML Aquatic Monitoring Report 2024* (ELA, Jan 2025) refer to **Attachment E.**

6.6.5 Pest and Weed Monitoring

Remote camera monitoring recorded seven feral animal species, five of which are listed as feral pest species in the *Central Tablelands Regional Strategic Pest Management Plan 2024-2028* (Local Land Services 2024). All but *Ovis aries* (Feral Sheep) have been previously recorded within the UCMPL complex. An activity index of each pest species from 2018 suggests that the feral animal activities remain comparable to past monitoring, particularly in comparison to both 2018 and 2021 when the same two remote camera transects were last monitored. The detection of Feral Sheep through camera monitoring and opportunistic observations within the Open Cut Rehabilitation Area for the first time triggered Condition Amber, requiring appropriate pest control responses (UCMPL 2024a). It is recommended that the Rehabilitation Area undergo pest control measures for not only Feral Sheep but also *Sus scrofa* (feral pigs) for their widespread presence (ELA, 2025).

During the Reporting Period, UCMPL carried out feral pig baiting and control on UCMPL controlled land and lease holder land throughout 2024. Wild dog baiting in conjunction with Local Land Services (LLS) aerial baiting program was undertaken across UCMPL controlled lands in 2024. Feral animal monitoring was completed using trail cameras, inspections and opportunistic sightings to target areas for feral animal control.

Weed control and weed surveys in 2024 continued within Biodiversity Offset Areas, Open Cut Rehabilitation Areas, and within other areas of UCMPL land holdings undertaken by land management specialist, including:

- February 2024: Weed surveys, including mapping extent and density of *Chrysanthemoides monilifera* (Boneseed) infestation in Bobadeen BOA. Weed spraying in Bobadeen East for *E. curvula, Opunita spp* (Prockly Pear), *Heliotropium amplexicaule* (Blue Heliotrope) *and H.performatum* (St Johns Wort). Weed spraying within Highett Road Offset Area.

- April 2024: Manual removal of *C. monilifera in sensitive areas of* Bobadeen Offset Area. Basal bark application treatement of *A. altissima* (Tree of Heaven) along Ulan Creek.
- June 2024: Weed control for *C. monalifera* infestation Bobadeen Loop Road, *Opuntia spp*. control was undertaken south of Pivot 5. Spot spraying of *Opuntia spp*. and Blackberry in Bobadeen East and Bobadeen Offset Area. Weed spraying for S*. sisymbriifolium* and map other weeds of concern, such as *G. pubescens, H. amplexicaule, Marrubium vulgare* (Horehound) and *Tagetes minuta* (Stinking Roger) in Polygon 8 with the Open Cut.
- July 2024: The removal of seed laden *L. lucidum* adjacent to Bobadeen Loop Road and a large *A. baileyana.* Manual removal of *C. monilifera subsp. monilifera* across the upper slopes in sensitive areas in Bobadeen Offset Area. Removal of *O. europaea subsp. cuspidata* along the northern edge of the Bobadeen Vegetation Corridor.
- August 2024: Weed spraying for St Johns Wort in Bobadeen East. Follow up works for *C. monalifera* infestation Bobadeen Loop Road.
- September 2024: Boom spray works were undertaken, targeting dense infestations of Fireweed and St John's Wort on Bobadeen East and adjacent UCMPL land.
- October 2024: Boom spray works were undertaken, targeting dense infestations of Fireweed and other invasive species under SWER powerline, northern sections of Bobadeen Offset Area and the edges of open areas north of road in Bobadeen East. High volume spot spraying of Fireweed and other invasive species was undertaken along Bobadeen Road, Irrigation Road and Bobadeen Loop Road. Follow up weed treatment in Polygon 8 with the Open Cut.
- November 2024: Boom spraying of St John's Wort and Cineraria was undertaken through slashed areas of Bobadeen Offset Area. Boom spraying of St John's Wort, Fireweed and Blue Heliotrope in Bobadeen East.
- December 2024: Boom spraying of Paterson's Curse, Blue Heliotrope and other invasive species was undertaken throughout the slashed and accessible areas within Bobadeen Offset Area. Inspection and mapping of invasive and ornamental species surrounding the Bobadeen Homestead was undertaken, which will inform future control works. Boom spray works were undertaken, targeting infestations of Blue Heliotrope and Paterson's Curse in the eastern section of Bobadeen East, and St John's Wort and Cineraria adjacent to November's spray works.

6.7 Conservation Area Monitoring

Conservation Area (CA) monitoring was completed by ELA during the 2024 Reporting Period. The locations of UCMPL's CA are provided in **Attachment E**. A summary against the relevant BMP completion criteria is provided in **Table 6-8** and **Attachment E**.

For Highett Road Offset Area, overall, the Conservation Area retains its typical floral biodiversity with the condition of vegetation within the Conservation Area remaining consistent with previous monitoring and with Plant Community Type (PCT) descriptions provided in the Conservation Agreement (UCMPL 2019) (ELA, Dec 2024).

For Brokenback Conservation area – Area 1, overall, the Conservation Area remains ecologically stable with the condition of the vegetation monitored in 2024 remaining consistent with the results from

previous monitoring and with Plant Community Type (PCT) descriptions provided in the Brokenback Conservation area – Area 1 Conservation Agreement (UCMPL 2019) (ELA, Dec 2024).

For Bobadeen Vegetation Offset Area, except for the weed infestation, the Offset Area retains its typical level of floral biodiversity. The condition of the vegetation and associated biodiversity values within the Offset Area remain largely consistent with monitoring undertaken in 2017 and with Plant Community Type (PCT) descriptions provided in the Conservation Agreement (ELA, Dec 2024).

6.8 Energy and Greenhouse Gas (GHG)

UCMPL reports GHG in accordance with National Energy and Greenhouse Gases (NGER) legislation. Each financial year UCMPL is required to submit to the federal government the emissions from their NGERs registered facility. The following table (**Table 6-11**) contains the Scope 1 (direct emissions from the mining activities during the financial year), and Scope 2 emissions (electricity consumption by the mine during the financial year).

Table 6-10 - Summary Scope 1 and 2 emissions Statistics for FY23/24

	FY18/19	FY19/20	FY20/21	FY21/22	FY22/23	FY23/24	EA Prediction (Yr8-Yr11)[1] Annual Average (Calendar Year)
Scope 1 Total (tCO_2-e)	59,805	40,416	41,154	51,039	44,723	53,550	76,749[2,3]
Scope 2 Total (tCO_2-e)	133,908	147,216	151,559	155,941	142,102	116,076	171,517
Total Scope 1 & Scope 2 (tCO_2-e)	193,713	187,632	192,713	206,980	**186,825**	**169,626**	**248,266**

Notes: [1]EA Scope 1 and Scope 2 predictions based on forecast ROM Tonnes/Product Tonnes per annum. Year 8 to Year 11 forecast ROM Tonnes and Product Tonnes of 14,382,578 T and 12,527,720 T respectively. The Reporting Period ROM and Product Tonnes (**Table 4-1**) is considered within this forecast predictions. Yr8-Yr11 assumes both Ulan West and Ulan Underground are operating. Beyond Yr12 assumes only Ulan West is operating. [2] Inclusive of upgraded Methane emissions factor of 28. [3]Scope 1 emissions below Safeguard Mechanism baseline.

6.8.1 Comparison Against Predictions

During the FY23/24 UCML's Scope 1 and Scope 2 emissions were below the EA prediction as provided in **Table 6-11**.

6.8.2 Steps Taken to Improve Energy Efficiency and Reduce GHG Emissions

Ulan Coal Mine is a part of the wider coal assets held by Glencore across Australia. Glencore Coal Assets Australia (GCAA) are themselves a part of the global Glencore mining portfolio. In line with the ambitions of the 1.5^{o}C scenarios set out by the IPCC, Glencore target a short-term reduction of 15% by 2026 and a medium-term 50% reduction of our total (Scope 1, 2 and 3) emissions by 2035 on 2019 levels. Post 2035, Glencore's ambition is to achieve, with a supportive policy environment, net zero total emissions by 2050.

Glencore incorporates energy costs and our carbon footprint into our annual planning process. Commodity departments, such as Glencore Coal Assets Australia, are required to provide energy and GHG emissions forecasts for each asset over the forward planning period and provide details of emissions reduction projects. In the case of Ulan Coal Mine this includes involvement with GCAA when

considering available GHG abatement technology and mine planning to optimise efficiency (which usually translates into reduced fuel consumption).

6.9 Mine Subsidence

Underground mining activities at UW and UUG during the Reporting Period are outlined in **Section 4.1**. Subsidence monitoring at UW and UUG is undertaken in accordance with the relevant Extraction Plan for each underground operation (**Section 3.2.2**). The scope of the subsidence monitoring includes subsidence effects monitoring and environmental, heritage, land management, built features and public safety monitoring programs, to evaluate the potential subsidence impacts and environmental consequences from the secondary extraction of longwalls on UCMPL land and non-UCMPL land.

6.9.1 Subsidence Effects Monitoring

UCMPL engaged SCT Operations Pty Ltd (SCT) to undertake a review of the subsidence monitoring conducted for the 2024 calendar year, including a comparison of observed behaviour with subsidence forecasts and assessment of compliance with subsidence performance measures of the Project Approval (PA) 08_0184 under which both mines operate (**Table 6-13**).

Table 6-12 compares the maximum forecast vales of primary subsidence parameters for conventional subsidence behaviour for LW7, LW8A at UW and LW31 at UUG with the subsidence movements measured on the F Line, C Line and I Line for the 2024 Reporting Period.

Table 6-11 – Summary of Primary Subsidence Parameters Measured -2024

	Subsidence (m)		Tilt (mm/m)		Strain (mm/m)			
					Compressive		Tensile	
	M	F	**M**	F	**M**	F	**M**	F
UW LW7 D Line	**1.46**	1.7	**29**	45	**7**	25	**9**	20
UW LW7 C Line	**1.4**	1.7	**35**	45	**4**	25	**8**	20
UW LW8A I Line	**1.2**	1.7	**25**	45	**8**	25	**7**	20

Notes: Measured maxima of primary subsidence parameters for conventional subsidence behaviour above each longwall shown (abbreviated M and shown in bold typeface) and the subsidence values forecast in the corresponding EP assessment for the longwall and depth on each subsidence monitoring line (abbreviated F and shown in normal typeface) (SCT, 2025).

SCT's review is based on analysis of the survey data from subsidence monitoring, site inspections, and reports by UCM personnel and other specialists. A surface inspection was conducted by SCT over areas the longwalls mined below during 2024 on 2 January 2025 in the company of UCM environmental staff. In summary, SCT concluded (SCT, 2025):

> *Our review indicates subsidence behaviour observed is consistent with expectation. The magnitudes of primary subsidence effects are within expectations and less than the maxima forecast for the extraction plans covering the areas mined by longwalls in 2024.*
>
> *Subsidence impacts and environmental consequences to natural and built features on private property and land owned or leased by UCM are consistent with expectations and less than the maxima forecast.*

No impacts or consequences were observed or are expected within the Brokenback Conversation Area, the Talbragar Fish Fossil Reserve, Mona Creek Rock Shelters and Grinding Groove Conservation Areas. All these significant sites are either remote from the active longwalls or protected by barriers of coal to prevent impacts by mining during 2024.

No significant impacts were observed within the Durridgere State Conservation Area.

Subsidence impacts and environmental consequences, including to water, biodiversity, land, heritage, built features and public safety risk, are likely to be compliant with the subsidence performance measures detailed in the UCCO Project Approval 08_0184 (as modified), notwithstanding the input of other specialists.

Impacts and risks on private property are being mitigated and remediated by management plans and agreements between the landholder and UCM.

No incidents relating to public safety on land owned or leased by UCM, private property or in a public space have been reported.

Ongoing monitoring is recommended consistent with subsidence monitoring programs detailed in relevant Extraction Plans for both the UW and UUG mines.

Analyses and interpretation of the subsidence monitoring conducted for the areas mined during the 2024 calendar year indicate that the observed subsidence behaviour is consistent with expectation. Measured subsidence effects are less than forecasts presented in SCT reports to inform the Environmental Assessment (EA) for the UCCO Project, the EP for Longwalls 7-8 at UW and the EP for Longwalls 30-32 and LWW6 LWW8 at UUG (SCT, 2025).

For further detail regarding the *2024 Annual Review of Subsidence Monitoring at Ulan West and Ulan Underground Mine (SCT, March 2025)* and the *2024 Annual Report for Ulan West and Ulan Underground* prepared by UCMPL refer to **Attachment G**.

6.9.2 Subsidence Monitoring

UCMPL completed environmental, heritage, land, built features and public safety monitoring during the Reporting Period as required by the Extraction Plans for UW and UUG, to evaluate the potential subsidence impacts and environmental consequences. A summary of subsidence monitoring undertaken by UCMPL in 2024 includes:

- Monthly inspections during longwall extraction at UW and UUG;
- Applicable cliff lines and heritage monitoring above LW7 and LW8A (**Section 6.9.2)**;
- Floristic based-subsidence (FBS) plots (**Section 6.6.1**);
- Targeted cliff line monitoring for microbats (**Section 6.6.3**);
- Property inspections on privately owned land above LW8A (**Attachment G**);
- Creek stability monitoring (**Section 7.9)**;
- Lower order tributary monitoring above UW and UUG (**Section 7.10**);
- Groundwater and private bore monitoring (**Section 7.11**); and
- Built feature monitoring (**Section 6.9.2**) and (**Attachment G**).

For further details regarding the results of the 2024 subsidence monitoring program, UCMPL have prepared the *2024 Annual Report for Ulan West and Ulan Underground* (Annual Report) for both UCMPL's underground mining operations in **Attachment G**.

Table 6-13 summarises the subsidence performance measures outlined in Table 14 of PA08_0184 and assessment against the status of compliance expected for the 2024 Reporting Period.

Table 6-12 – PA08_0184 Subsidence Performance Measures

Subsidence Performance Measures		Compliance Yes/No	Assessment of Performance Measure
Water			
Ulan, Mona & Cockabutta Creeks	No greater environmental consequences than predicted in the EA	**Yes**	Main channels of creeks remote from longwall mining in 2024. The main channels of Ulan Creek, Mona Creek and Cockabutta Creeks were not undermined during the Reporting Period by LW7, LW8A and LW31 (**Attachment G**).
Biodiversity			
Threatened species, populations, habitat or ecological communities	Negligible impact	**Yes**	No greater subsidence effects compared to EAs and EPs. An assessment of potential foraging habitat for *Anthochaera phrygia* (Regent Honeyeater) and *Lathamus discolor* (Swift Parrot) was also undertaken at floristic-based subsidence monitoring sites UWLW6 and Ulan Underground Longwall West 6 that located above undermined longwalls which contain key and supplementary feed trees for these species. The assessment found that percent foliage canopy cover of feed trees at monitoring sites had not declined by >10% post-mining and as such, the relevant subsidence performance measure for these two threatened bird species has been met (ELA, 2025) (**Section 6.6.2** and **Attachment E**).
Land			
Cliffs in the Brokenback Conservation Area	Nil environmental consequences	**Yes**	Recent mining too remote from this area to cause impacts. Significant features protected by barrier of coal to be left (SCT, 2025) (**Attachment G**). No perceptible impacts were observed during inspections by UCMPL of the BBCA during the 2024 Reporting Period (**Attachment G**).
Other cliffs	Minor environmental consequences	**Yes**	Approximately 7.0% of subsidence induced rockfalls occurring above cliff lines undermined by UW LW1-7 and UUG LWW4-LWW7, indicating the combined rock falls are lower than the 20% predicted in the 2009 EA (PE, 2024) (**Attachment G**). Assessment by Pacific Environmental and UCM (PE 2025aa) indicates compliance (SCT, 2024) (**Attachment G**).
Heritage			
Aboriginal sites	Nil impact in the Brokenback Conservation Area, Grinding Groove Conservation Areas; and on Mona Creek Rock Shelter Sites	**Yes**	Aboriginal heritage sites within the Brokenback Conservation Area, Grinding Groove Conservation Areas and on Mona Creek Rock Shelter Sites were not undermined by LW7, LW8A and LW31 during the Reporting Period. No perceptible impacts were observed during inspections by UCMPL of the BBCA during the 2024 Reporting Period (**Attachment G**). Compliant No impacts observed at Brokenback cliffs (PE 2025a). Significant features protected by barriers of coal to be left (**Attachment G**).
Talbragar Fish Fossil Reserve	Negligible impact	**Yes**	Recent mining too remote to cause significant impacts (SCT, 2025). No perceptible impacts were observed during inspections by UCMPL of the TFFR above LW9A during the 2024 Reporting Period (**Attachment G**).

Subsidence Performance Measures		Compliance Yes/No	Assessment of Performance Measure
Other Heritage Sites	No greater impact than predicted in the EA	**Yes**	Aboriginal heritage sites required for monitoring during the Reporting Period by the Extraction Plan for UW LW7 included Ulan ID#1210 and for LW8A included ID#488, ID#191 and ID#862. The grinding groves at Ulan ID#1210 are in a flow line with deposited material and extensive leaf litter and could not be relocated in 2024. No impacts observed at the scar tree Ulan ID#488. Minor cracking noted at Ulan ID#191 rockshelter but no rockfalls. Rockshelter site Ulan ID#862 experienced some rockfalls and cracking, consistent with predictions (**Attachment G**). There were no Aboriginal heritage sites required for monitoring by the Extraction Plan for UUG for LW31. Compliance expected (other specialists to assess) Subsidence effects are less than forecast in EP (SCT, 2025) (**Attachment G**).
Built Features			
All built features	Safe, serviceable and repairable unless the owner agrees otherwise in writing	**Yes**	LW8A at UW undermined a section of one private property, with the management and monitoring of impacts, completed as required by each applicable Private Property Subsidence Management Plan (PPSMP) (**Attachment G**). Repairs of surface cracking on private property was undertaken during the Reporting Period as required by each PPSMP (**Attachment G**). Impacts to natural features and the agricultural landform across the Farrs Hill property have been consistent with expectation and less than the maximum forecast Impacts to drainage lines, surface dams are consistent with expectation and less than the maximum forecast. Impacts to farm infrastructure and other built features are consistent with expectation and less than the maxima forecast (SCT, 2025). Compliance expected. Impacts managed via provisions of Built Features Management Plan (BFMP) and Private Property Subsidence Management Plans (PPSMP) (SCT, 2025) (**Attachment G**).
Public Safety			
Public Safety	No additional risk due to mining	**Yes**	There were no reportable safety incidents as a result from subsidence due to LW7, LW8A and LW31. Signage in place and access is restricted on UCMPL controlled land. Restricted access to one private property undermined during the Reporting Period is managed by the private landowner. Compliance expected. Hazards managed via Public Safety Management Plan (PSMP) and (PPSMP) (SCT, 2025) (**Attachment G**).

6.9.2.1 BBCA Monitoring Program

In addition to the visual monitoring program and subsidence effects monitoring program, SCT were engaged by UCMPL to design and develope a specific ground movement monitoring system (i.e BBCA Subsidence Monitoring Program) with appropriate management measures to ensure the subisdence perfromance mesures of 'nil environmental impact' for cliffs and 'nil impact for Aboriginal sites' within the BBCA is maintained. Baseline monitoring at the BBCA commenced in August 2022 with the installation of two GNSS[14] units located on the cliff line formation associated with LW8. Since then,

[14] Continuous global navigation satellite system (GNSS) provides continuous 3D ground movement data with alarm triggers.

UCMPL have installed potentiometer units (monitoring displacement change) commissioned 4 January 2024, a stress cell monitor installed April 2024 and six additional GNSS units within the BBCA (**Photo 3**).

The revision of the Extraction Plan for Ulan West to include the next two longwalls LW9 and LW10 prepared during the 2024 Reporting Period, includes in detail the BBCA Monitoring Program and BBCA specific TARP developed by SCT.

Photo 3 Example of a GNSS & Potentiometer Units within the BBCA

For the mining of Longwall 7, changes in horizontal and vertical movements at GNSS#1 (BBCA01) and GNSS#2 (BBCA02) clearly showed the influence of longwall mining and far-field, stress relief movements towards the goaf void as the face line of this panel approached and passed by these two GNSS units. The horizontal movements were initially to the east-northeast towards the approaching longwall face and then turned to the east-southeast to follow in the direction of mining. Similar patterns of horizontal movements have been recorded on all GNSS units during the approach of Longwall 8A and more recently with the start-up of Longwall 8B.

GNSS monitoring systems indicate there has been less than 10 mm vertical subsidence observed on any of the GNSS units. These instruments show less than 100 mm of general horizontal movement of the ground. GNSS monitoring indicate strains from BBCA01 to BBCA03 are less than 0.03 mm/m in a direction along the length of the sandstone outcrop. These levels of subsidence effects are within expectation for the mining geometry and subsidence management systems and strategies for impacts and consequences (SCT, 2025).

6.9.2.2 MCRSS Monitoring Program

In addition to the visual monitoring program and subsidence effects monitoring program, SCT were engaged by UCMPL to design and develope a specific ground movement monitoring system (i.e MCRSS Subsidence Monitoring Program) with appropriate management measures to ensure the subisdence perfromance mesures of 'nil environmental impact' for cliffs and 'nil impact for Aboriginal sites' within the MCRSS is maintained. Baseline monitoring at the MCRSS commenced in January 2024 with the initial monitoring system finalised in April 2024, therefore providing sufficient baseline date prior to the commencement of LWW8 scheduled for secondary extraction in late 2025. Since then, UCMPL

have installed seven (7) potentiometer units (monitoring displacement change), four (4) GNSS units and one (1) temperature probe within the MCRSS (**Photos 4**).

Photo 4 Example of a GNSS & Potentiometer Units within the MCRSS

On the 4 June 2024, UCMPL sought an Addendum to the approved Ulan Underground Extraction Plan for Longwalls 31 & 32 and Longwalls W6 - W8 detailing the subsidence monitoring and mitigation program, specific TARP for the Mona Creek Rock Shelter Sites (Ulan ID # 180-187) and SCT's technical report associated with the development of the MCRSS monitoring program. This Addendum to the Extraction Plan was approved by the DPHI on the 31 July 2024.

Secondary extraction of LWW8 is not schedule until late 2025. Visual and subsidence effects monitoring of the MCRSS will be undertaken as required by the UUG Extraction Plan in 2025.

6.10 Waste Management

Disposal and tracking protocols for waste, identifying and minimising waste generation, waste mitigation and responsibilities for waste management are described in the Waste Management Plan[15]. A licensed waste contractor provides off-site waste disposal and recycling. A summary of the waste performance for 2024 is provided in **Table 6-1**[16].

Collectively across all three operations, approximately 61% of waste was recycled including oil filters, waste grease, scrap metal, timber, paper and cardboard, and empty drums. Waste contained onsite for disposal in accordance with EPL 394. UCMPL are permitted to dispose of 400 tonnes of concrete per year as required by Condition L4.1. Waste statistics including recycling trends since 2019 are provided in **Table 6-15**.

Table 6-13 - Summary of Monthly Waste Statistics for 2024

	Waste	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
USO	Total Offsite (T)	29.9	32.4	36.2	36.8	78.2	35.3	45.5	34.6	30.2	31.6	45.9	42.8	479.4
	Recycled (T)	23.0	26.0	29.3	15.6	37.4	25.9	32.6	22.5	15.9	18.1	32.7	36.2	315.3

[15] PA 08_0184 Schedule 3, Condition 54, and SoC 6.15.1 and EPL 394.
[16] PA 08_0184 Schedule 5, Condition 3.

	Waste	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
	Recycling %	**77**	**80**	**81**	**43**	**48**	**73**	**72**	**65**	**53**	**57**	**71**	**85**	**66**
UUG	Total Offsite (T)	212.5	221.7	227.39	55.53	127.5	49.89	63.59	72.96	109.7	120.8	115.01	37.31	1,414
	Recycled (T)	176.4	192.0	199.9	34.4	84.0	22.0	36.2	26.5	42.9	36.2	93.6	7.2	951.5
	Recycling %	**83**	**87**	**88**	**62**	**66**	**44**	**57**	**36**	**39**	**30**	**81**	**19**	**67**
UWO	Total Offsite (T)	95.1	110.8	108.6	125.0	104.0	152.5	143.4	124.3	165.0	95.8	206.0	112.6	1,543
	Recycled (T)	67.9	55.8	54.9	42.0	47.2	61.0	86.0	65.4	56.0	66.7	106.3	55.1	764.4
	Recycling %	**71**	**50**	**51**	**34**	**45**	**40**	**60**	**53**	**34**	**70**	**52**	**49**	**50**

Table 6-14 - Summary of Annual Waste Statistics for 2019 - 2024

	Waste	2019 Totals	2020 Totals	2021 Totals	2022 Totals	2023 Totals	2024 Totals
USO	Total Offsite (T)	319.5	448.9	95.3	246.5	107.8	479.4
	Recycled (T)	253.75	24.26	457.31	78.1	334.2	315.3
	Recycling %	**79.4**	**77.09**	**82.75**	**75.9**	**74**	**66**
UUG	Total Offsite (T)	972.3	970.02	391.75	424.0	317.7	1,414
	Recycled (T)	583.2	651.89	619.32	739.1	669.2	951.5
	Recycling %	**63**	**67.2**	**61.25**	**63.5**	**65**	**67**
UWO	Total Offsite (T)	98.6	1156.42	602.86	429.8	651.6	1,543
	Recycled (T)	590.3	511.83	540.64	552.1	1025	764.4
	Recycling %	**44.1**	**44.26**	**47.28**	**56.2**	**60**	**50**

7. Water Management

The Water Management Plan (WMP)[17] provides a framework for the management of water and outlines the interaction between the various policies, plans, programs and procedures. The WMP clarifies requirements for surface water and groundwater management during construction and operational phases. The WMP (Version 11) was resubmitted in December 2023. On the 17 June 2024 the WMP (Version 11) was approved by DPHI and consolidates into the one document the following requirements under PA08_0184:

- Site Water Balance;
- Surface Water Monitoring Program (SWMP);
- Groundwater Monitoring Program (GWMP); and
- Surface Water and Groundwater Response Plan (SWGWRP).

The WMP also includes two separate sub plans being the Goulburn River Diversion Remediation Plan (GRDRP) and the Erosion and Sediment Control Plan (ESCP).

7.1 Overview of Mine Water Management System

The mine water management system includes mine dewatering systems, water storages, the Bobadeen Irrigation Scheme (BIS), water treatment facilities, sedimentation and retention basins, settling and tailings ponds, clean water diversion drains and dirty water catch drains, levee banks and earth bunding around stockpiles, hardstand areas and refuelling areas. The key objectives of the water management system include:

- Preventing the contamination of clean water by mining and related activities;
- Reducing the discharge of pollutants from the mine to the environment;
- Minimising adverse effects on the Goulburn River and Ulan Creek;
- Managing approved water discharges to meet EPL394 licence conditions;
- Segregating mine impacted water from better quality water to minimise the volume of impacted water that requires recycling and treatment; and
- Managing the inventory of water on-site in order to meet the requirements of the mining operation.

Open cut mine surface runoff and pit water is directed to the mine water management system to control and treat runoff from site.

7.2 Water Balance

The water balance[18] consists of micro water balances for discrete operational areas of the water circuit (detailed in **Attachment C**). The micro balances are summed to provide the overall water inputs and outputs (**Table 7-1**). Water sources are rainfall on dams and disturbed areas, groundwater inflows to underground mines and the potable water supply. Water is lost through product coal, the Bobadeen

[17] PA08_0184 Schedule 3, condition 34, EA 2009, EPL394
[18] In accordance with Condition 34, Schedule 3 of the PA08_0184

irrigation scheme, dust suppression, evaporation, supply to external parties and potable water use. Water in excess of operational needs is discharged from licenced discharge points.

Abstracted water volumes at Ulan Coal Mine during 2024 were comprised of Ulan West (approximately 33%) and Ulan Underground (66%) extractions. Daily extracted water volume averaged 15.81ML from UUG and 6.43ML from UWO. The total volume extracted during 2024 was 8.1 GL. The mine inflows were higher than 2023 values and within approved groundwater licence allocations (AGE, 2025).

Potable water is supplied using the permeate from the NSWD WTF, to improve water efficiencies and reduce the need for external suppliers of potable water. During 2024, potable water supply to USO was mostly supplied by the NWSD.

Table 7-1 - Water Balance for 2024

Water Balance Period for 2023[1]		Volume (ML)
Inputs[2]	Precipitation & Runoff	2895
	Groundwater inputs	9271
	Third Party	9
	Total	**13211**
Outputs[3]	Licensed Discharge	6153
	Evaporation	1118
	Entrainment	1238
	Losses	366
	Total	**8875**
Water Balance[4]	Inputs minus Outputs	-4336
	Change in Storage	2285
	Imbalance Percentage	9%

Notes: [1]1 January to 31 December. [2] Includes rainfall, seepage from groundwater, coal & spoil, groundwater & water from dewatering bores & runoff/drainage from tailings.[3] Includes water used in the CHPP, dust suppression, irrigation, licensed discharge, evaporation, moisture bound to coal, rejects and tailings, onsite potable water use & seepage to spoil. [4] Total inputs less total outputs.

7.3 Salt Balance

The GoldSIM water model estimates a Net Salt gain of 1,911 tonnes for the 2024 reporting year.

Table 7-2 - Water Balance Calculation 2024 Water Year

Site	Salt tonnes (1 Jan 2024)	Salt tonnes (31 Dec 2024)	Net Salt balance 2024 Tonnes
Water Management System	11,699	13,610	1,911

7.4 Baseflow Offsets

Baseflow loss to the Goulburn River catchment was estimated by groundwater modelling at 0.276 ML/day, equivalent to 100.74 ML/ year[19] in the 2021 recalibration and 0.083 ML/day for the Talbragar, equivalent to 30.3 ML/year. The re-forecast peak baseflow losses for the Goulburn and Talbragar

[19] PA08_0184, Schedule 3, Condition 29

Rivers, using the updated and recalibrated 2024 groundwater model are 0.196 ML/day and 0.097 ML/day respectively.

The changes from the original estimates are due to having more surface drainage length interacting with groundwater through saturated shallow aquifers caused by nearby perching depicted in the model. A flow departure method was used to assess upstream and downstream flow data for the Goulburn River, from 15 August 2018 to 8 February 2020 and 1 April to 16 September 2019 (reported in the *2020 Annual Review*). The indicated average daily baseflow losses over 711 days is 0.156 ML/day, although it is noted that more data is needed to provide effective assessment. It is noted that the average departure method does not subtract the baseflow losses due to mining that occurred prior to the current project approval, which is assumed for the groundwater model.

An average 16.02 ML/day of treated water was discharged to the Goulburn River in 2024. Flow at the downstream gauging station (SW02) ranged between 2.18 ML/day and 185.8 ML/day[20]. Rainfall in 2024 was more than 2023 but remained lower than 2022, 2021 and 2020. Approximately 806.5mm of rainfall was recorded by UCMPL in 2024, as opposed to 416mm in 2022. The 2024 total rainfall was approximately 135mm above the long term average of 672mm for the region (2009 EA).

A review of baseflow losses was undertaken by Hydro Engineering & Consulting (HEC) during 2020 which concluded there was no clear evidence consistent loss of flow which could be attributed to the effects of mining. It was recommended to undertake periodic gauging at SW02 and adjust the ratings curve if required, continue to collect data and re-assess when sufficient data is available.

Further to the recommendation provided by HEC, one gauging at SW02 was undertaken in late 2021, which did not provide adequate data to adjust the ratings curve. UCMPL completed further creek flow gauging in 2023 and 2024 as flow volumes decreased and will undertake another review in 2025 if sufficient data exists.

UCMPL has secured WALs in perpetuity to offset the Baseflow losses as follows:

- WAL 19047 provide 600 units in the Upper Goulburn River Water Source[21]
- WAL 41817 provides 50 units in the Upper Talbragar River Water Source[22]; and
- WAL 34921 provides 30 units in the Talbragar Alluvium Water Source[29].

Water levels in Triassic and Permian units are monitored at key locations (PZ24, PZ29, TAL-1 and TAL-2) to inform ongoing assessment of baseflows to the Talbragar and Goulburn Rivers. Minor strata depressurisation was observed in the Triassic units in PZ24 and PZ29, which the Goulburn River flows over, as well as TAL-1 which is near the Talbragar River (TAL-2 only has one working sensor so the data may be unreliable). Drawdown has been predicted at these locations and the observations are generally in line with predictions with respect to impacts on baseflow, indicating that the AOM2024 predictions of impacts to baseflow can also be considered accurate. (AGE 2025).

[20] Flow at SW02 augmented by licenced water discharge from both UCMPL and MCO.
[21] *Hunter Unregulated and Alluvial Water Sources 2009*
[22] Water Sharing Plan for the Macquarie Bogan Unregulated and Alluvial Water Sources 2012

7.5 Water Extraction Licence Compliance

Water Balance indicates total groundwater extraction of 6777.6ML as detailed in **Table 7-3** for the 2024 Water Year (1 July 2023 to 30 June 2024).

Table 7-3 – Water Extraction & Assessment of Compliance

Water Licence	Water sharing plan, source and management zone (as applicable)	Entitlement (Unit Shares)	Passive take / outflows	Active pumping	TOTAL	Complies (Yes/No)
WAL41492	Oxley Basin Coast Groundwater Source, Water Sharing Plan for the North Coast Fractured and Porous Rock Groundwater Sources 2016	7060	0	1927	1927	Yes
WAL37192	Sydney Basin Groundwater Source Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011	704	0	0	0	Yes
WAL41906	Sydney Basin Murray Darling Basin Groundwater Source	2215	0	688	688	Yes
WAL42900	Sydney Basin Groundwater Source Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011	4031	0	4031	4031	Yes
WAL45083	Sydney Basin Groundwater Source Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011	180	0	0	0	Yes
WAL45084	NSW Murray Darling Basin Porous Rock Groundwater Sources 2020 - Sydney Basin MDB - Macquarie-Oxley Management Zone Source	10	0	2	2	Yes
WAL44842	Sydney Basin Groundwater Source Water Sharing Plan for the	30	0	0	0	Yes

Water Licence	Water sharing plan, source and management zone (as applicable)	Entitlement (Unit Shares)	Passive take / outflows	Active pumping	TOTAL	Complies (Yes/No)
	NSW Murray Darling Basin Porous Rock Groundwater Sources 2011					
WAL19047** (20WA209953,Moolarben Creek Dam / Pump / Water Supply)[23]	Upper Goulburn River Water Source Water Sharing Plan for the Hunter Unregulated & Alluvial Water Sources 2009.	600	143.8	0	143.8	Yes
WAL 34921	Castlereagh Groundwater Source Water Sharing Plan for Talbragar Alluvial Groundwater Source 2000	30	2.3	0	2.3	Yes
WAL 41817	Macquarie Bogan Unregulated Rivers Water Sources Water Sharing Plan for Upper Talbragar River Water Source 2012	50	19.8	0	19.8	Yes

Notes: *As per changes to legislation, 1.25 ML is available per unit share of the access licence share. ** 96.1 ML offset baseflows to Goulburn River, 34.84 ML annual evaporation from Moolarben Dam.

7.6 Licenced Water Discharge

Water treatment and discharge facilities were operated in accordance with EPL 394 during the Reporting Period. Discharges were made from:

- The Bobadeen Irrigation Scheme (BIS)[24];
- The Bobadeen Water Treatment Facility (LDP6)[25]; and
- The North West Sediment Dam Water Treatment Facility (LDP19)[26].

Approximately 999ML of water with an average EC of 1048µS/cm was applied to the BIS in 2024, with 55% of the modelled offset capacity used during 2024 and 73% of total offset capacity to date.

Ecological performance of the offset is described in **Section 6.6.1** and groundwater monitoring results are provided in **Section 7.11.3**.

Discharge of blended product water from the Bobadeen Water Treatment Facility to Ulan Creek via LDP6 occurred on 337 days with an average daily discharge volume of 5.27 ML/day. Measured pH, EC

[23] Works approval 20WA209953 requires riparian flow of 7 L/second.
[24] The BIS (operating since 2004) utilises five central irrigating pivots to irrigate approximately 242ha of pasture.
[25] The BWTF (commissioned 2006) uses microfiltration and reverse osmosis water treatment and discharges to EPL 394 LDP 6.
[26] The North West Sediment Dam WTF (initially commissioned April 2011) uses a reverse osmosis water treatment process and discharges to EPL394 LDP19. Commissioning of the expanded NWSDWTF occurred on the 28 October 2014.

and TSS concentrations were within EPL394 limits. The maximum discharge volume on any day was 13.03ML on the 8/07/2024, below the EPL394 volume limit 15ML/day (**Table 7-4** and **Attachment C**).

Discharge of blended product water from the Northwest Sediment Dam Water Treatment Facility to Ulan Creek near the Goulburn River (LDP19) occurred on 362 days with an average daily discharge volume of 10.82 ML/day and a maximum discharge on any day of 18.86 ML on 24/07/2024, below the EPL394 volume limit 30 ML/day. Measured pH, EC and TSS concentrations were within EPL 394 limits.

The maximum combined discharge of 25.10 ML, on 24/07/2024, was below the 30ML/day limit. Monitoring summaries are provided in **Table 7-4** and **Attachment C**.

Table 7-4 - 2024 Calendar Year Discharge Volumes

Location	Licence Limit (ML/year)	Discharged Volume (ML/year)	2024 Discharge Compliance with Annual Discharge Limits
Effluent Storage Dam (LDP1)	31	0	No discharge
Millers Dam (LDP2)	219	0	No discharge
Rowans Dam (LDP3)	3,650	0	No discharge
Truckfill Dam (LDP4)	730	0	No discharge
Discharge to Ulan Creek (LDP 6)	5,475	1,928.2	Yes
Discharge to Ulan Creek (LDP 19)	10,950	3,960.1	Yes
Discharge to Ulan Creek (LDP3, LDP6, and LDP19)	10,950	5,888.3	Yes
Discharge through irrigation scheme (BIS)	No applicable volume limit[27]	999	Yes

No discharges from LDP1 (Millers Dam), LDP2 (Effluent Dams) LDP3 (V-notch weir plate at the end of the discharge channel at Rowans Dam) or LDP4 (Truckfill Dam) occurred during the Reporting Period.

Monitoring was conducted at the Goulburn River Gauging Station Downstream (LMP18), the Goulburn River Gauging Station Upstream (LMP33) and Ulan West Box Cut clean water drain (LDP23) (**Section 7.8** and **Attachment C**).

7.7 Compensatory Water Supply

As required by Schedule 3 Condition 30 of Project Approval PA08_0184, UCMPL must provide a compensatory water supply to any owner of privately-owned land whose supply is adversely impacted as a result of UCMPL activities.

In previous Reporting Periods, Alternative Water Supply Agreements (Water Agreements) with several landholders has resulted in UCMPL completing a new groundwater bore constructed in 2019 located immediately to the east of the Project Boundary at a greater depth in response to dry conditions and poor performance of their existing bore, which was potentially impacted by predicted groundwater drawdown.

A PPSMP and Water Agreement is in place for the landholder regarding a spring fed dam undermined by Ulan West LWW5 and LWW6, a bore and other several dams including another spring fed dam

[27] Salinity offset requirement EPL394 E 1.1 b) The Salinity Offset Program must offset the residual salinity loads generated by the Bobadeen Irrigation Area over the life of the Bobadeen Irrigation Program, and its associated salinity load impacts, and when fully implemented, must achieve an offset ratio of 1:1.5.

undermined by LW7 in 2022. As predicted the bore undermined by LW7 went dry in 2022 with compensatory water supplied as requested and in accordance with the Water Agreement. Under this Water Agreement UCMPL have completed repairs in 2020 to a spring fed dam impacted by LWW5 and LWW6 and repairs to a dam undermined by LW7 in 2022. In 2023/24 UCMPL have increased the surface area of a number of outbuildings to catch rain water and also substantially increased the volume of storage with additional surface water tanks and dam earthworks as requested by the landholder.

In accordance with the PPSMP and applicable Water Agreement for another private landholder impacted by LW7, a dam impacted in January 2023 was repaired and an alternate water supply was provided by UCMPL until repairs were completed and to compensate for the dam's water loss. Additional water is supplied if required.

7.8 Surface Water Monitoring Results

The Surface Water Monitoring Program (SWMP)[28] now within the WMP, details surface water monitoring to measure and assess changes in stream health (including base flows) and channel stability that could be attributable to mining activities. The locations of surface water (SW) monitoring and Licenced Discharge Point (LDP) sites are shown in **Attachment C**. For details on parameters sampled, sampling method and sampling frequency of each monitoring site see **Attachment C**.

SW01 and SW02 are monitored for pH and EC (µS/cm) via a continuous monitor, monthly grab samples and specific rainfall events >30 mm in a 24hr period. The creeks in the vicinity of the operation are ephemeral. Surface water monitoring sites SW03 to SW11 are sampled monthly if flow is present and following specific rainfall events >30 mm in a 24hr period. Automatic water sampling stations are installed at SW06, SW07, SW10 and SW11. Monthly grab sampling and specific rainfall events >30 mm in a 24hr period results are summarised in **Table 7-6.**

There were no flows, therefore no water samples were available for analysis within Spring Gully (SW06), Bobadeen Creek (SW07), Curra Creek (SW08) and Cockabutta Creek (SW11) during 2024. Two monthly water samples were able to be collected in January and February 2024 for analysis within Mona Creek (SW10).

Figure 7-1 and **Figure 7-2** displays the monthly and rainfall event sample results for pH, EC and TSS during the Reporting Period for SW01. **Figure 7-5** and **Figure 6** displays the long-term real time monitoring results for pH, EC and TSS from 2019 to 2024 for SW01. **Figure 7-7** and **Figure 7-8** displays the monthly and rainfall event sampling results for pH, EC and TSS during the Reporting Period for SW02. **Figure 7-11** and **Figure 12** displays the long-term real time monitoring results for pH, EC and TSS from 2019 to 2024 for SW02.

Monthly and rainfall event water samples are collected and sent to a NATA accredited laboratory for analysis of pH, EC (µS/cm), TSS (mg/L), TDS (mg/L) and Turbidity (NTU). **Figure 7-13** to **Figure 15** provide the average water quality results for SW03 to SW11 within the Reporting Period, compared with the historical averages from 2011-2024. The 2024 surface water results for SW01 to SW11 are compared against their applicable adopted trigger values (detailed in the WMP) in **Table 7-5**.

[28] Condition 34, Schedule 3 of the PA08_0184 provided in Section 5 of the WMP (Version 11).

Table 7-5 - Adopted Trigger Values for Key Water Quality Parameters

Water Quality Variable	pH	EC (µS/cm)	TSS (mg/L)
Goulburn River Downstream (SW02)[2]	6.5 – 8.5[3]	900[3]	13[1]
Ulan Creek Upstream of LDP6 (SW03)	6.5 – 8.1[7]	1440[7]	18[7]
Ulan Creek at Old Ulan (SW04)	6.5 – 8.5[6]	900[6]	47[7]
Ulan Creek at Pleuger Road (SW05)	6.5 – 8.5[6]	900[6]	18[7]
Spring Gully (SW06)	6.5 – 7.6[7]	417[7]	102[7]
Bobadeen Creek (SW07)	6.8 – 7.4[7]	205[7]	150[7]
Curra Creek (SW08)	6.5 – 8.0[4]	30 – 350[4]	50[5]
Mona Creek (SW10)	6.5 – 7.4[7]	214[7]	92[7]
Cockabutta Creek (SW11)	6.5 – 8.0[4]	30 – 350[4]	50[5]
Clean Water Diversion/System (SW12, SW13 (EPL 23), SW14, SW15)	6.5 – 8.5[6]	900[6]	50[5]

Notes: [1] 80th percentile based on historical data for the Goulburn River. [2] SW02 is downstream of the Ulan Mine Complex and as such water quality at this location can be influenced by other developments in the catchment outside of UCMPL influence, such as neighbouring mines discharge downstream of SW01. [3] Trigger based on EPL394 limits for discharge points LDP6 and LDP19 which are upstream of this monitoring site. [4] Interim trigger values based on ANZECC (2000) default trigger values for lowland rivers in NSW. Site-specific trigger values will be developed as monitoring data becomes available. [5] Interim trigger values based on Volume 1 of Managing Urban Stormwater: Soils and Construction (Landcom, 2004). [6] Trigger level reflects upstream discharge limit approved under EPL394. [7] 80th percentile of baseline data- upper limit trigger value. Lower value trigger for pH based on ANZECC (2000) default trigger values for lowland rivers in NSW.

Table 7-6 - 2024 Surface Water Sampling Result Summary

SW Sites	pH			EC (µS/cm)			TSS (mg/L)		
	Min	Max	Ave	Min	Max	Ave	Min	Max	Ave
SW01	6.2	7.3	7.0	167.0	590.0	384.8	8.0	314.0	48.8
SW02	7.3	8.1	7.9	309.0	777.0	547.8	1.0	91.0	24.6
SW03	7.8	9.1	8.2	621.0	1280.0	1054.7	1.0	36.0	13.1
SW04	8.0	8.6	8.4	576.0	824.0	737.2	1.0	14.0	5.2
SW05	7.1	8.3	7.6	548.0	905.0	756.7	1.0	16.0	5.1
SW06	*	*	*	*	*	*	*	*	*
SW07	*	*	*	*	*	*	*	*	*
SW08	*	*	*	*	*	*	*	*	*
SW09	8.2	8.7	8.4	472.0	1270.0	974.5	18.0	156.0	63.1
SW10#	6.8	6.8	6.8	75.0	91.0	83.0	22.0	41.0	31.5
SW11	*	*	*	*	*	*	*	*	*
SW12^	7.8	7.8	7.8	165.0	165.0	165.0	16.0	16.0	16.0
SW13^	7.4	7.4	7.4	162.0	162.0	162.0	14.0	14.0	14.0
SW14^	7.1	7.1	7.1	97.0	97.0	97.0	10.0	10.0	10.0
SW15^	6.4	6.4	6.4	213.0	213.0	213.0	12.0	12.0	12.0

Notes: Shaded results were periodically outside the adopted trigger values. Shaded results indicate a trigger has occurred i.e. three or more consecutive monthly results are outside of respective water quality criteria (refer to **Table 7-5**). * No flows in creeks or drainage systems at the time of monthly surface water sampling in 2023. # Only two monthly samples available for analysis. ^ Only one monthly sample available for analysis.

Section 6 of **Attachment C** provides a summary of UCMPL's investigation at SW03 regarding pH exceeding the adopted criteria of pH 6.5 – pH 8.1 for three or more consecutive monthly sampling events in 2024, as required by the Surface Water TARP. Engeny Australia Pty Ltd (Engeny) was engaged by UCMPL to assist with a review of elevated pH values in water quality results at the monitoring site SW03 in Ulan Creek. The assessment included a review of historical and recent sampling data and concluded that photosynthetic activity of aquatic plants and evapo-concentration of solutes in the waterway due to lack of flow resulted in elevated values of pH and electrical conductivity (EC), respectively. Energy concluded the rise in pH was unlikely to be related to mine water or mine water systems but rather in response to aquatic plants removing carbon dioxide from water bodies and in doing so alkalise the water (Engeny, 2024).

Results of monitoring for EPL 394 licence discharge points are reported in the EPL Annual Return. Further surface water results for SW01 to SW11 and assessments are provided in **Attachment C**.

SW12 and SW15 are located within the Clean Water System (CWS), a drainage and dam system that captures runoff from rehabilitated mine land. The water is not subject to the influence of mining activities and captured flows remain in Peanut Dam. Due to the lower rainfall totals in 2024 only one water sample for analysis was available for these sites. There were no applicable trigger values exceeded for three of more consecutive months for SW12 and SW15 in 2024 (**Attachment C**).

SW13 (EPL23) and SW14 are located in the Clean Water Diversion Drain, a drain system that captures the runoff from natural bushland, directing the flow around the mine operations. The water is not subject to the influence of mining activities and flows into a lower order tributary of Ulan Creek and into the Goulburn River. Due to the lower rainfall totals in 2024 only one water sample for analysis was available for these sites. There were no applicable trigger values exceeded for three of more consecutive months for SW13 and SW14 in 2024 (**Attachment C**).

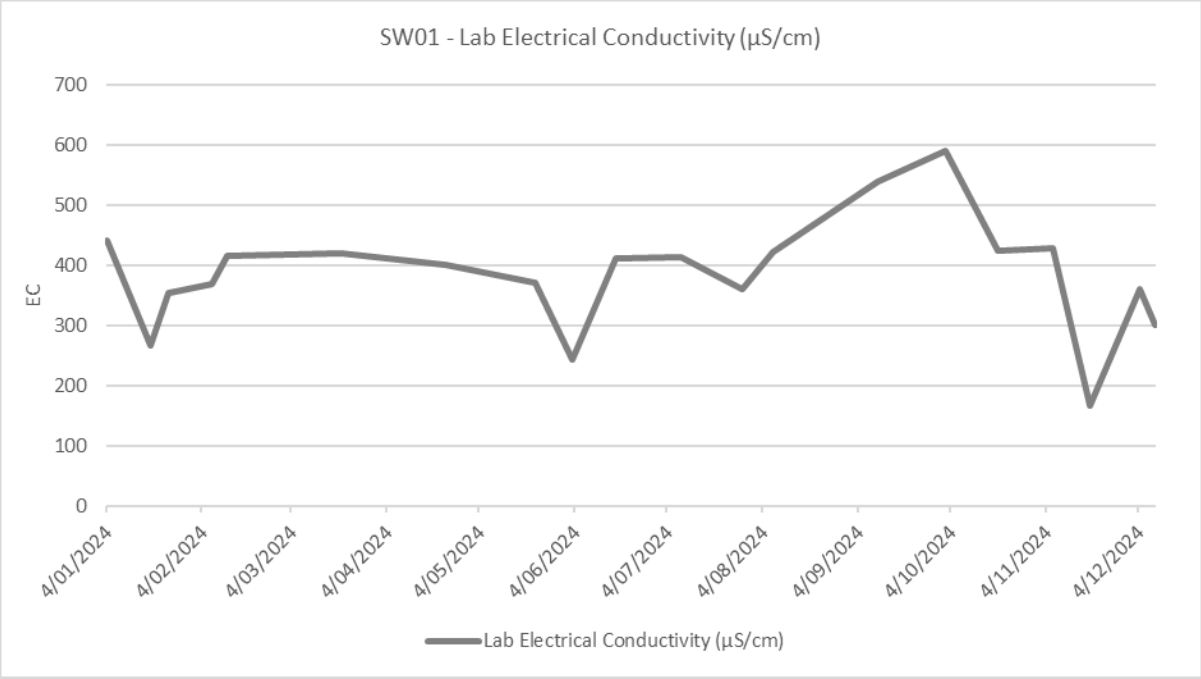


Figure 7-1 SW01 Upstream Goulburn River Monthly Grab Sample EC Results 2024

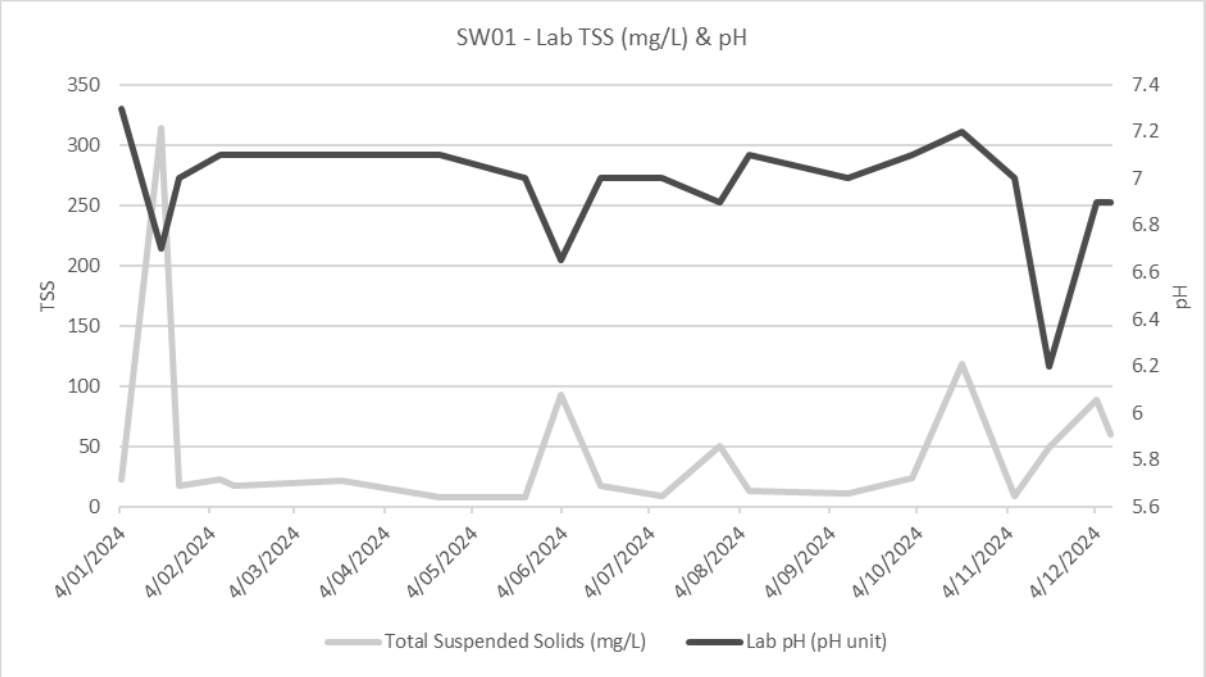


Figure 7-2 SW01 Upstream Goulburn River Monthly Grab Sample pH & TSS Results 2024

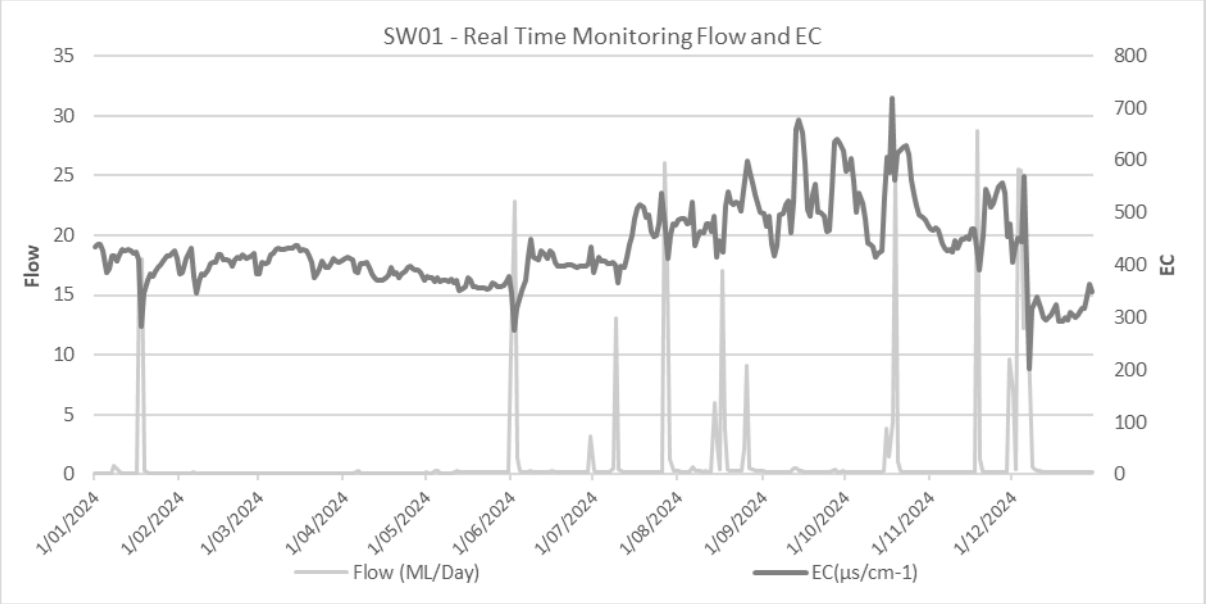


Figure 7-3 SW01 Upstream Goulburn River Real Time Flow & EC Results 2024

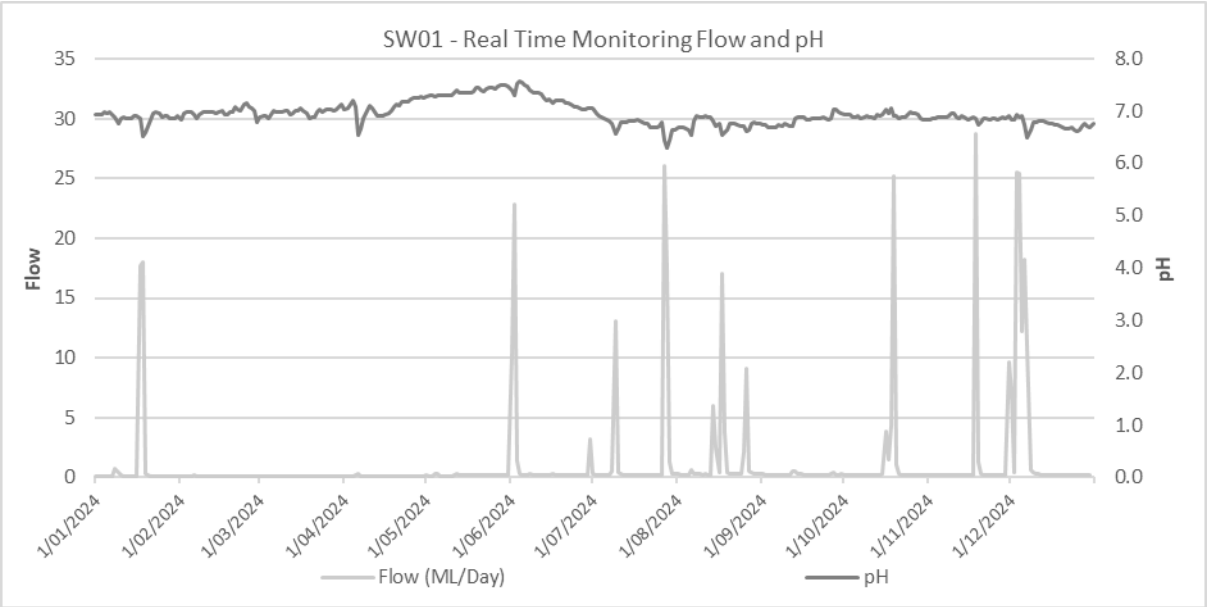


Figure 7-4 SW01 Upstream Goulburn River Real Time Flow & pH Results 2024

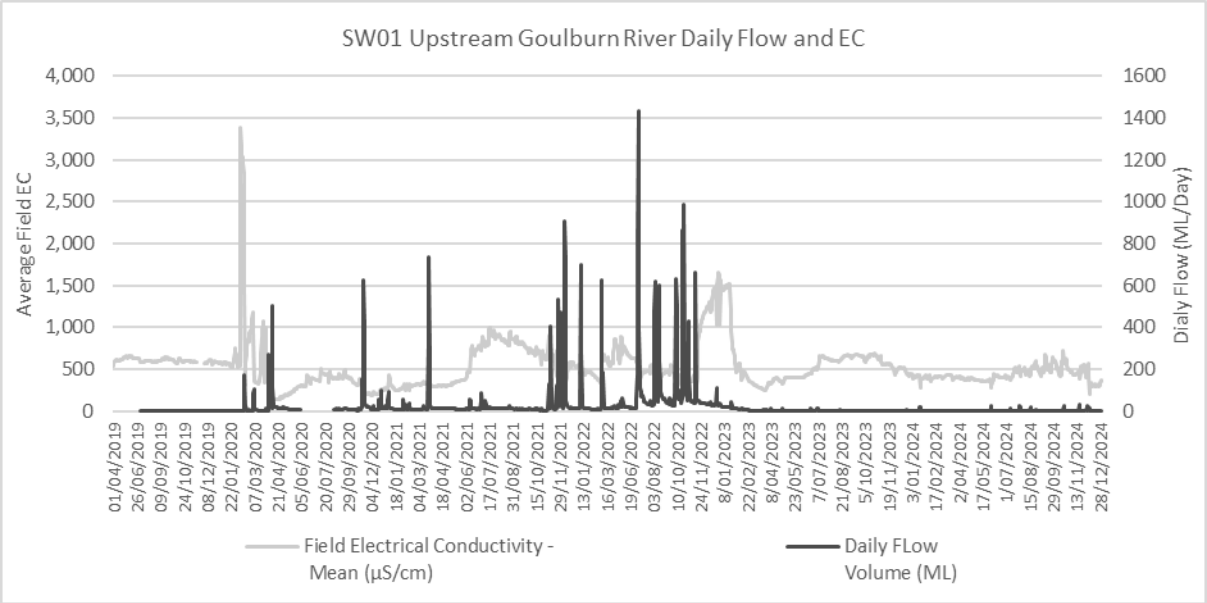


Figure 7-5 SW01 Upstream Goulburn River Historical Real Time Flow & EC (2019 - 2024)

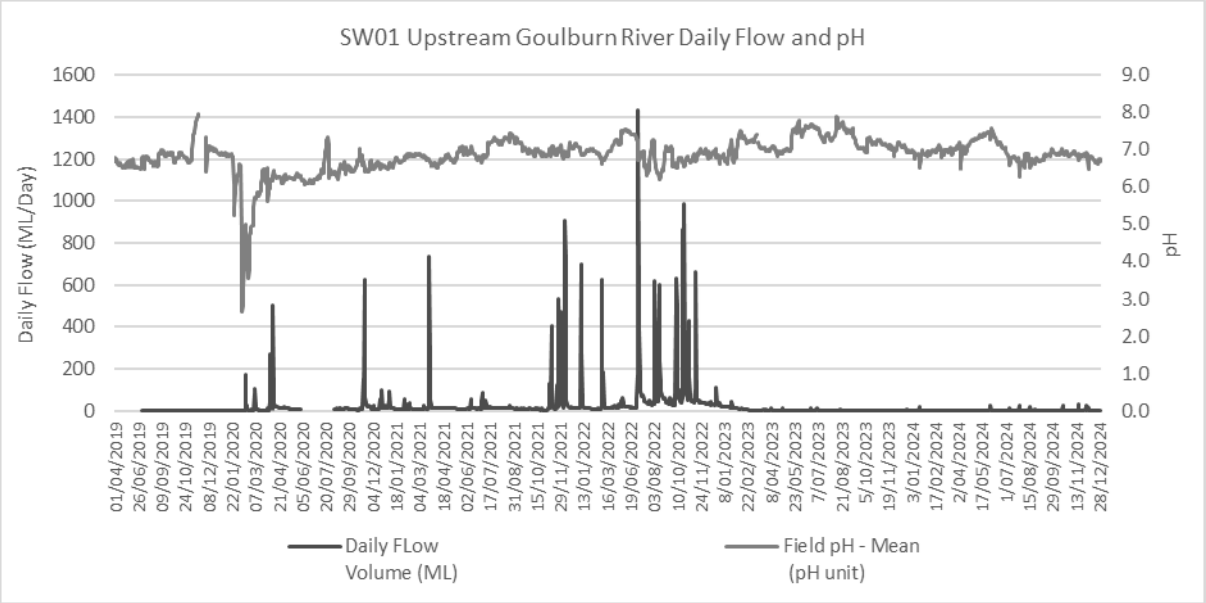


Figure 7-6 SW01 Upstream Goulburn River Real Time Historical Flow & pH (2019 - 2024)

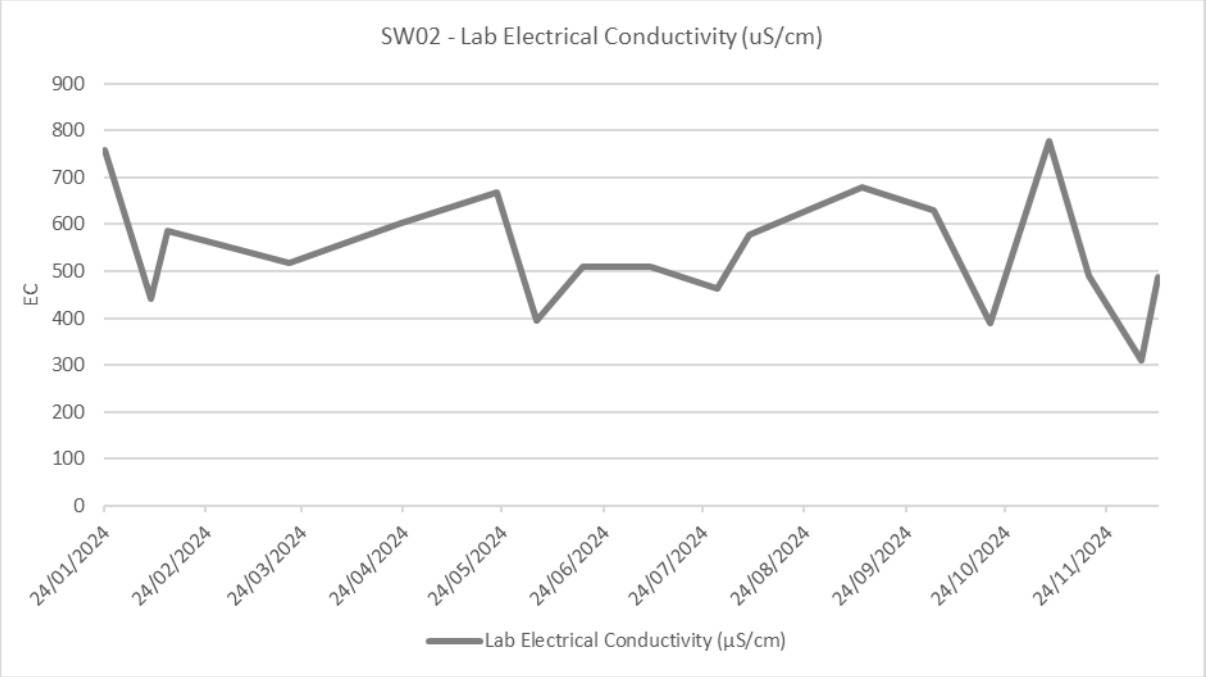


Figure 7-7 SW02 Downstream Goulburn River Monthly Grab Sample EC Results 2024

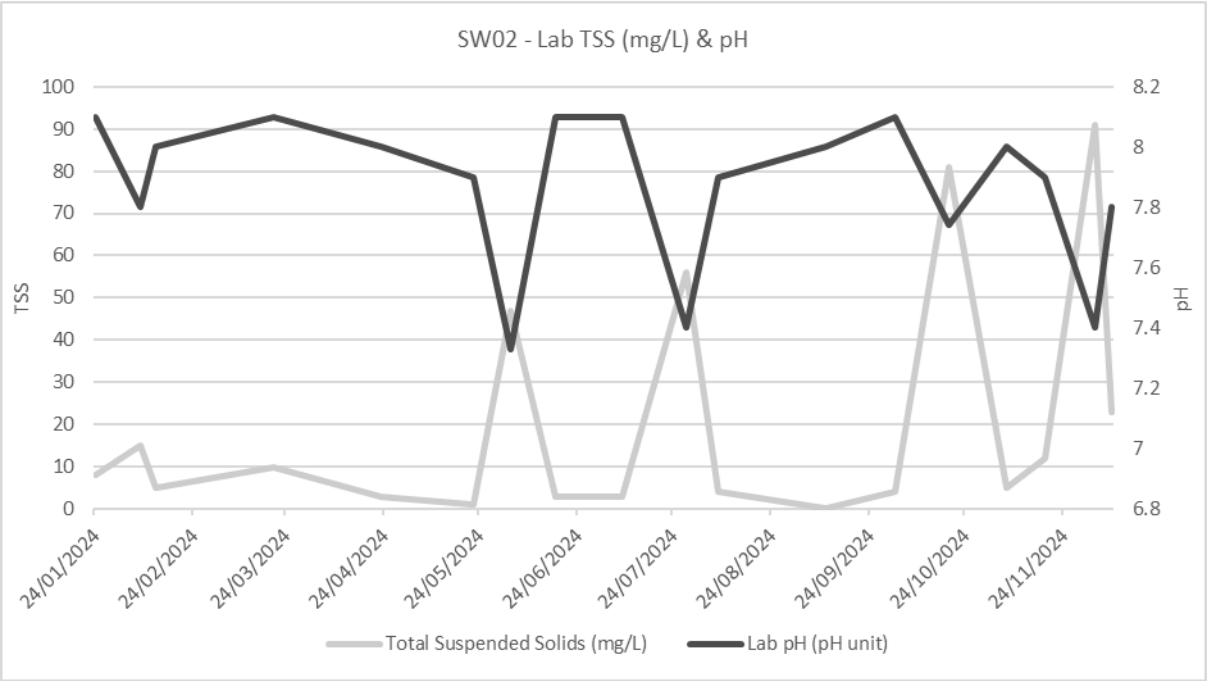


Figure 7-8 SW02 Downstream Goulburn River Monthly Grab Sample pH & TSS Results 2024

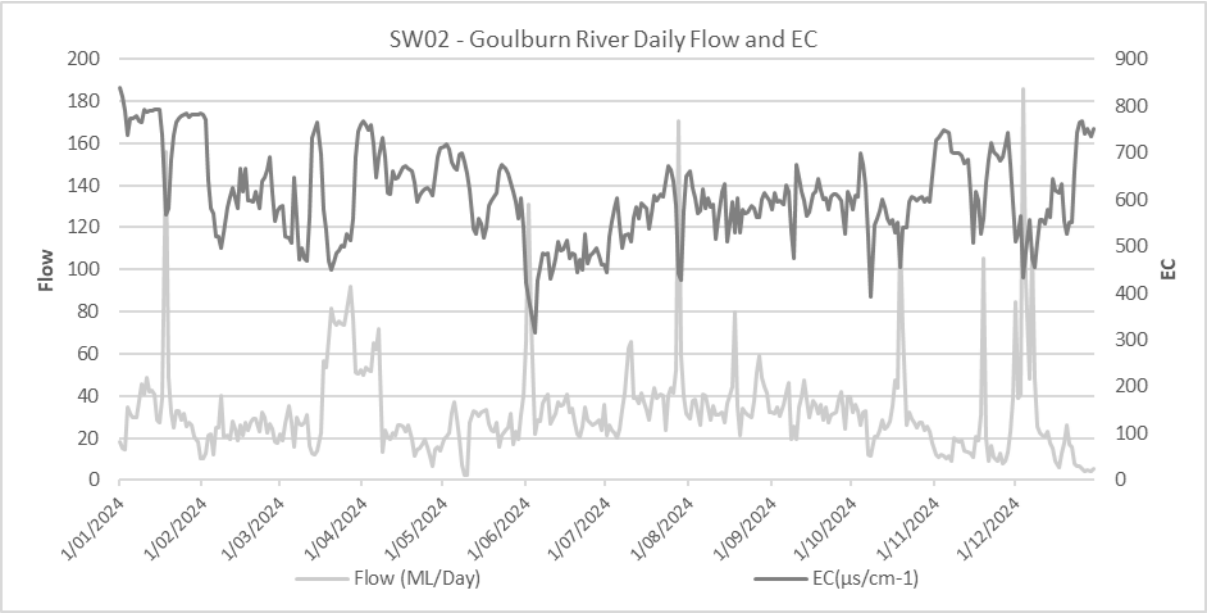


Figure 7-9 SW02 Downstream Goulburn River Real Time Flow & EC Results 2024

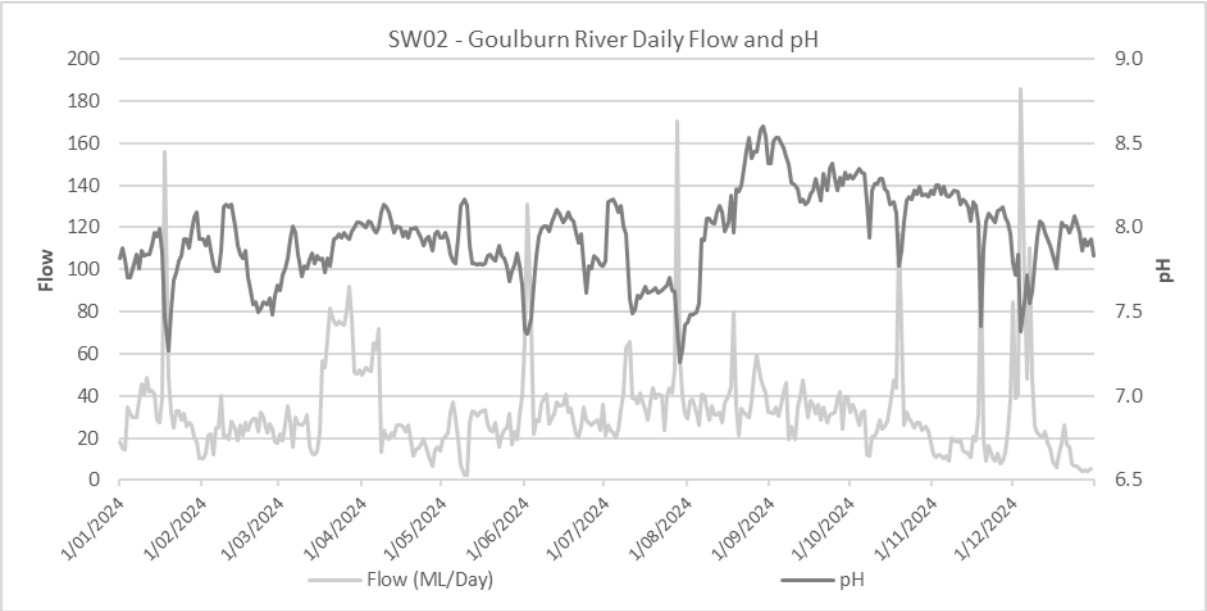


Figure 7-10 SW02 Downstream Goulburn River Real Time Flow & pH Results 2024

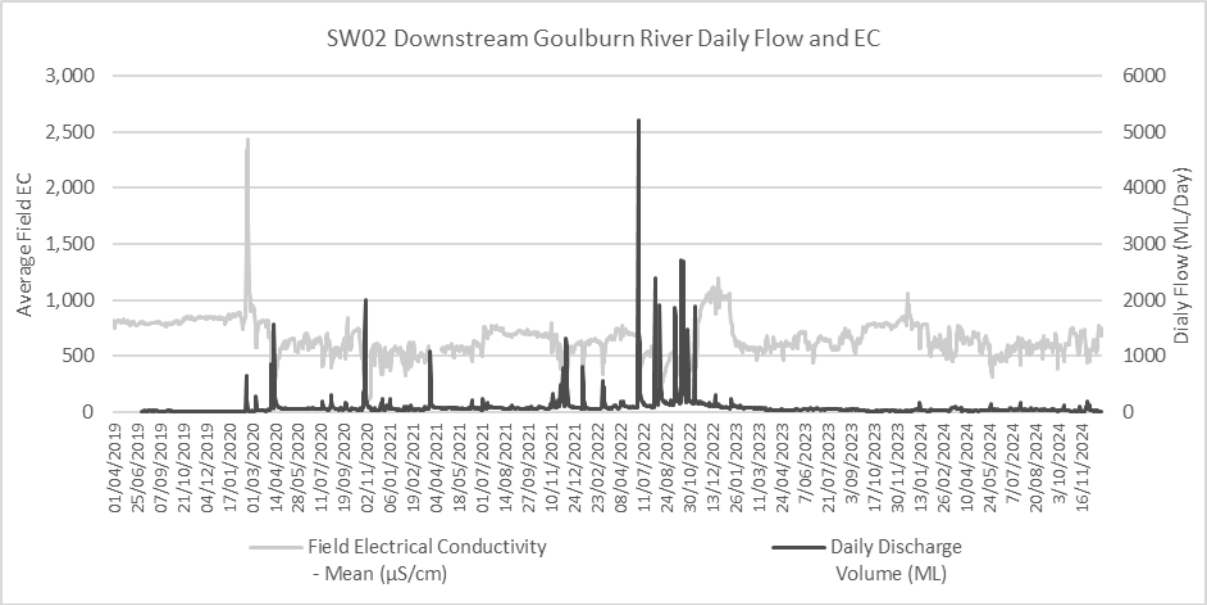


Figure 7-11 SW02 Downstream Goulburn River Historical Real Time Flow & EC (2019 - 2024)

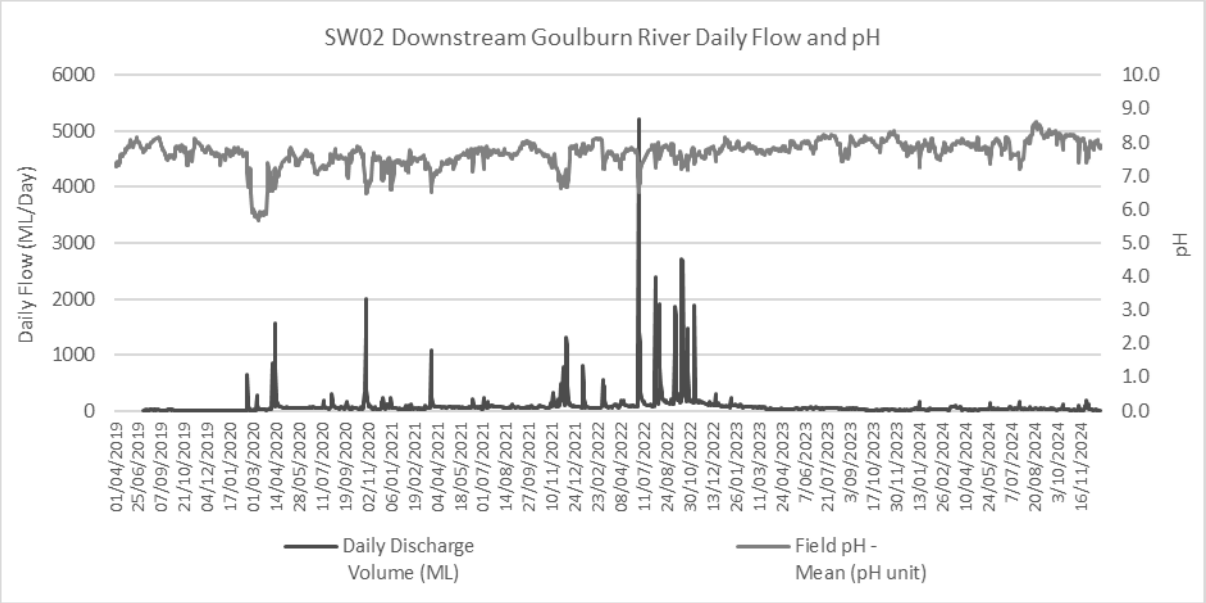
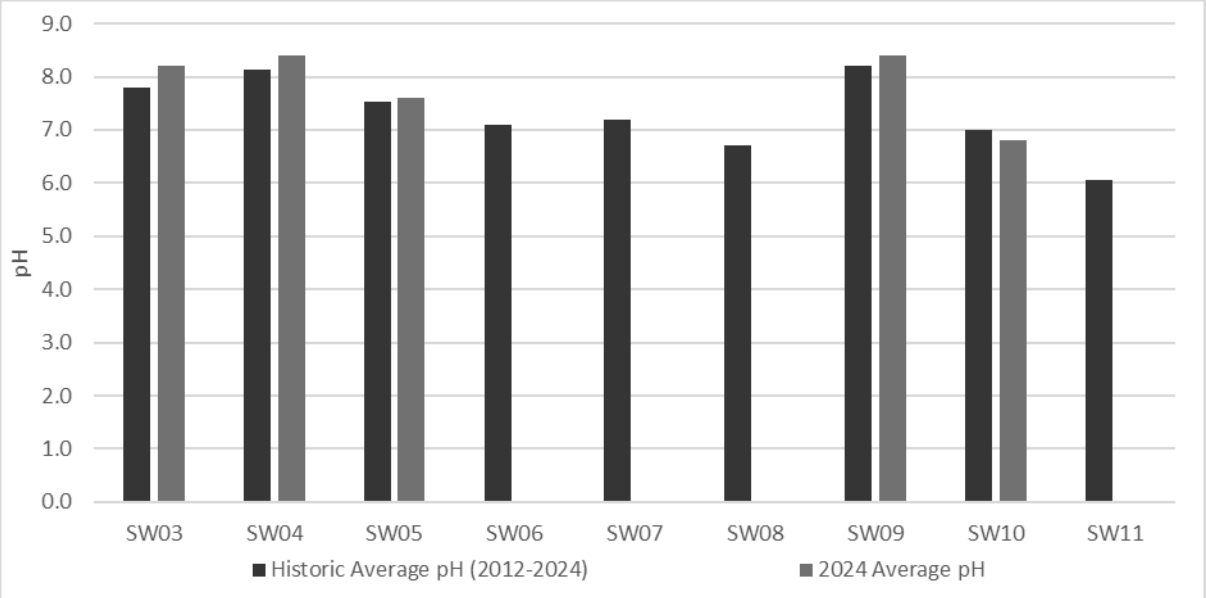
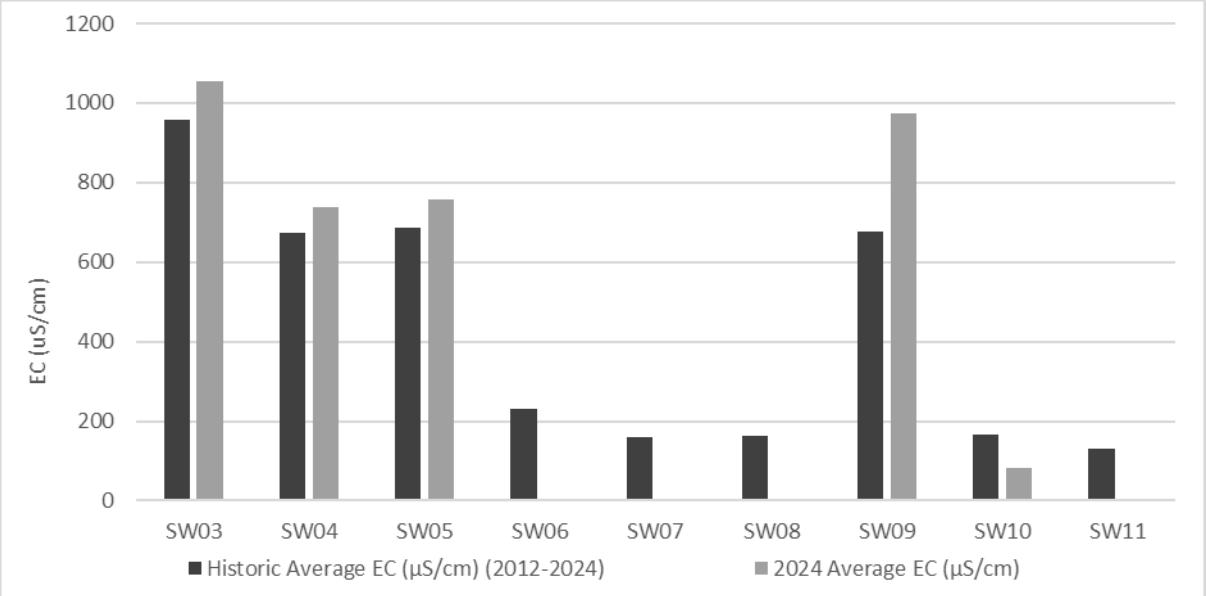


Figure 7-12 SW02 Downstream Goulburn River Real Time Historical Flow & pH (2019 - 2024)



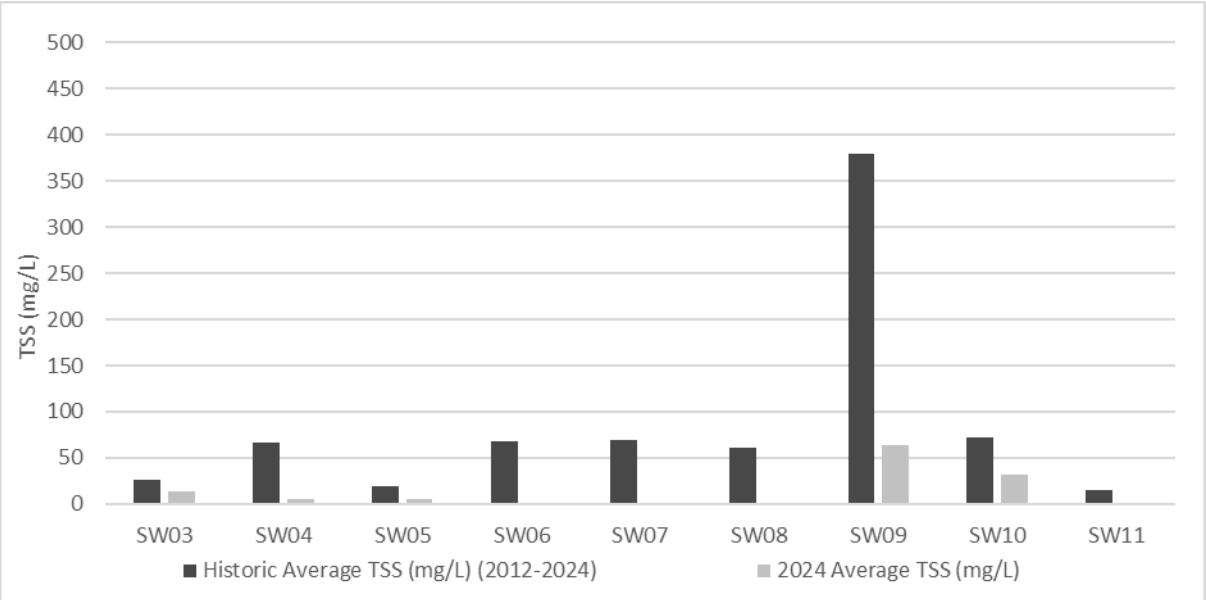
Notes: No flows in creeks at the time of monthly surface water or event sampling in 2023 for SW06, SW07, SW08 & SW11

Figure 7-13 – 2024 pH Results Compared to Historical Average



Notes: No flows in creeks at the time of monthly surface water or event sampling in 2023 for SW06, SW07, SW08 & SW11

Figure 7-14 – 2024 EC Results Compared to Historical Average



Notes: No flows in creeks at the time of monthly surface water or event sampling in 2023 for SW06, SW07, SW08 & SW11

Figure 7-15 – 2023 TSS Results Compared to Historical Average

Table 7-7 - Concentration and Volume Limits for Licensed Discharge Points

Location	LDP	Discharge Limits								2024 Discharge Compliance with Discharge Limits
		Iron (mg/L)	Conductivity (µS/cm)		Oil & Grease (mg/L)	pH	Zinc mg/L	TSS mg/L	Volume kL/ day	
			50th Percentile	100th Percentile						
Effluent Storage Dam	1	-	-	810	-	6.5-8.5	-	-	85	No discharge
Millers Dam	2	5	-	900	10	6.5-8.5	5	50	600	No discharge
Rowans Dam to Ulan Creek	3	5	800	900	10	6.5-8.5	5	50	10,000	No discharge
Truckfill Dam	4	5	-	900	10	6.5-8.5	5	50	2000	No discharge
Bobadeen WTF	6	-	800	900	-	6.5-8.5	-	50	15,000	Compliant
Goulburn River Gauging Station Downstream	18	-	-	-	-	-	-	-	-	Compliant
North West Sediment Dam WTF	19	-	800	900	-	6.5-8.5	-	50	30,000	Compliant
Ulan West Box Cut clean water	23	-	-	-	-	-	-	-	-	Compliant
Goulburn River Gauging Station Upstream	33	-	-	-	-	-	-	-	-	Compliant
Ulan Creek Cumulative Discharge Limit^	3, 6 & 9	-	-	-	-	-	-	-	30,000	Compliant

Note: ^ The combined daily discharge from LDP 3, 6 and 19 must not exceed 30,000 kL/day

7.9 Channel Stability Monitoring

Channel stability monitoring of creeks scheduled to be undermined and predicted to be impacted by subsidence is required by the WMP and Extraction Plans. Channel stability monitoring is to be completed before mining and annually for a period of 24 months post mining. Channel stability monitoring is also completed at regular intervals along the Goulburn River diversion to monitor the stability of the diversion profile as required by the WMP.

There was no longwall mining under the main channel of Ulan Creek, Mona Creek or Cockabutta Creek in 2024. UCMPL have established channel stability monitoring sites within a section of Mona Creek above LWW8 as required by the UUG Extraction Plan. Baseline monitoring was completed in January 2020 and again in February 2022. Channel stability monitoring of the section of Mona Creek above LWW8 is scheduled for 2025 in accordance with the monitoring requirements of the UUG Extraction Plan.

Ulan Creek is outside the immediate zone of subsidence from the first longwall panel (i.e. LW1) of the Ulan West underground mine, approximately 80m from the goaf edge of LW1[29]. Longwall mining of LW1 was completed by Ulan West on the 01 May 2015. As with previous monitoring of Ulan Creek

[29] Ulan West Extraction Plan LW1-8

since 2015, there were no perceptible signs of subsidence related impacts from the Ulan West underground mine in 2024.

The 2024 channel stability monitoring observed similar morphological processes, as identified from previous monitoring, with numerous sites displaying a range of varying forms of erosion and instabilities, although the rate of erosion appears to have slowed at a number of sites when compared to 2020.

In 2024 the recorded rainfall between monitoring periods (i.e. 28 November 2023 to 25 September 2024) was approximately 582.4mm, below the annual average of 672mm (EA, 2009). Overall, the groundcover has been maintained along sections of the creek and the groundcover was comparable to that observed in 2023.

A preliminary review of the rainfall data and flow monitoring data for SW03 was undertaken for the monitoring period, indicating small flow events correlating well with rainfall events. As with previous reports, analysis of flow data within Ulan Creek to determine potential damaging velocities at gauging station SW03 (above LDP6) was completed by EI Solutions. A peak discharge of 73.83 L/s was recorded with a peak velocity of approximately 0.5 m/s, which indicates it is below model creek velocities which may induce scouring. This was evident during the inspection in 2024 as there generally was minor perceptible change noted at nearly all the sites along the creek when compared to 2023. For the complete *2024 Ulan Creek Stability Monitoring Report* refer to **Attachment F**.

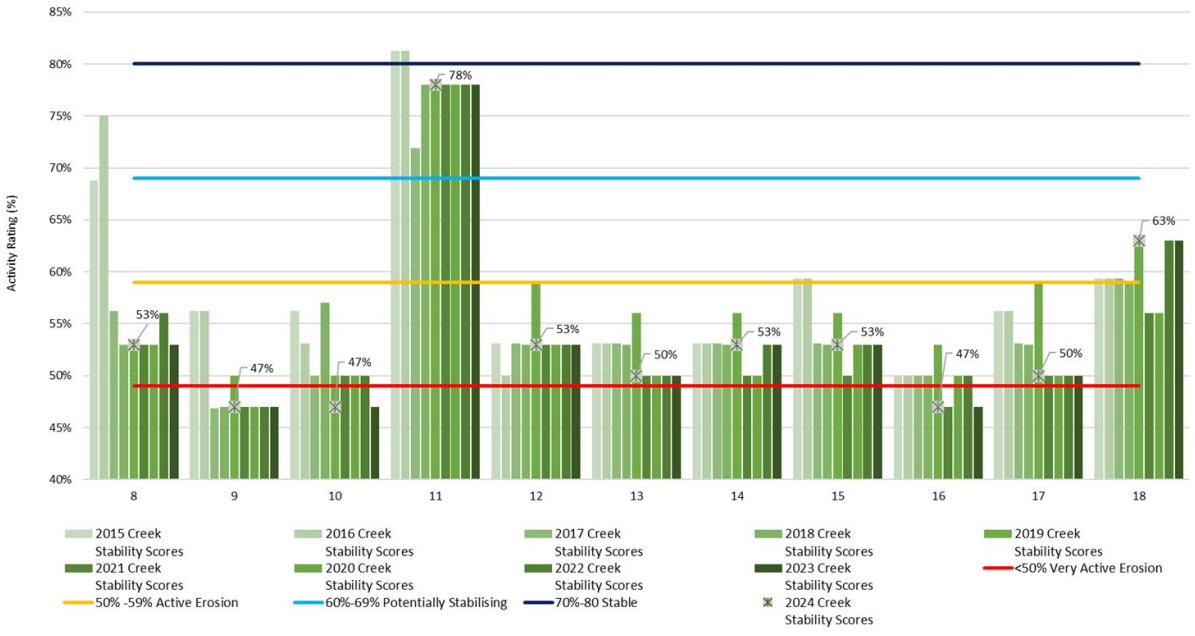


Figure 7-16 2015-2024 Ulan Creek Stability Monitoring Assessment Scores (Sites 8 to 18)

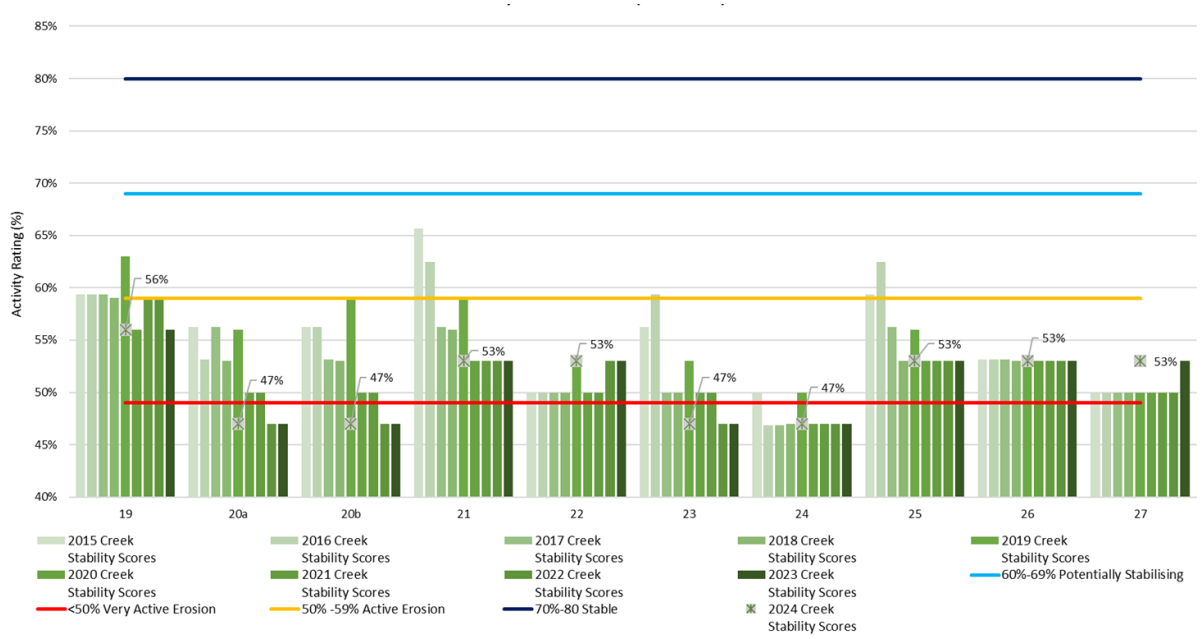


Figure 7-17 2015-2024 Ulan Creek Stability Monitoring Assessment Scores (Sites 19 to 27)

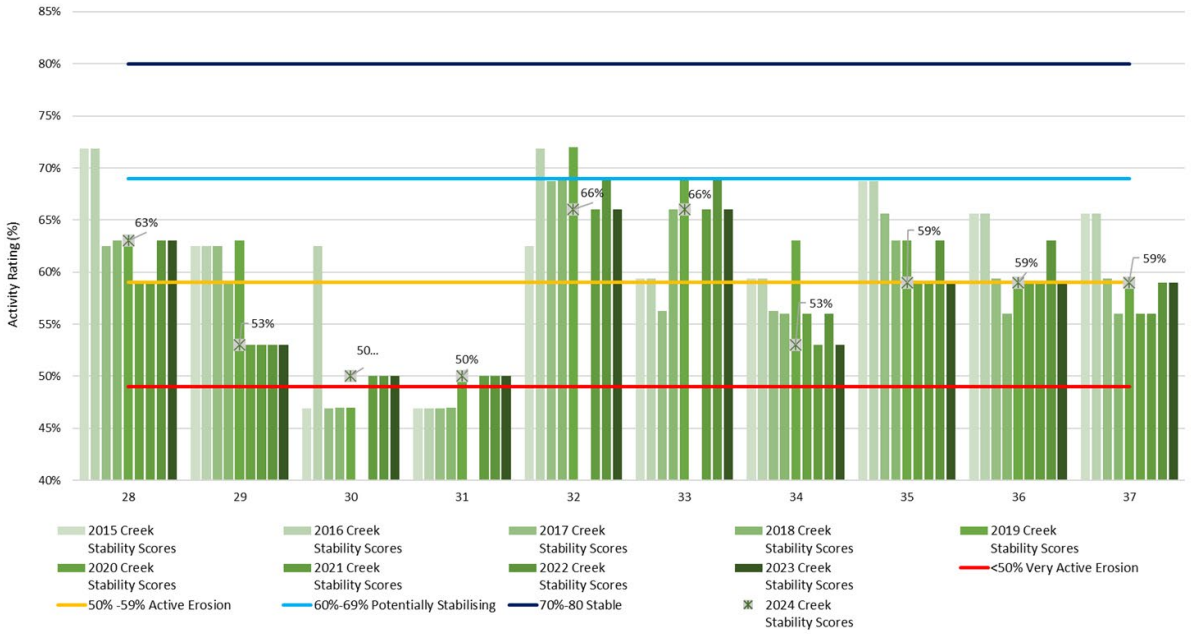


Figure 7-18 2015-2024 Ulan Creek Stability Monitoring Assessment Scores (Sites 28 to 37)

7.10 Tributary Monitoring

As required by the Ulan West Extraction Plan for LW1 – LW8 (The UW Extraction Plan) and the Ulan Underground Extraction for LWW6 to LWW8 and LW30 to LW32 (The UUG Extraction Plan), channel stability monitoring of tributaries scheduled to be undermined in 2024 was completed. UCMPL completed the pre and post mining monitoring (for a period of 2 years) of selected creeks and ephemeral tributaries in 2024, including:

- A section of Ulan Creek Flowline 4 (UCFL4) above Ulan West;
- A section of Brokenback Creek (BBC) above Ulan West; and
- Sections of lower order flowlines of BBC above Ulan West.

UCMPL engaged Pacific Environmental Pty Ltd (PE) in 2024 to complete the annual monitoring of selected ephemeral creeks and tributaries (also referred to as flow lines). The monitoring results are from site inspections completed by PE on 27 November 2024. The following summary is from *2024 Monitoring of Creek and Tributaries* (PE, March 2025).

The purpose of the post mining monitoring of ephemeral tributaries and creeks above Ulan West and Ulan Underground mine is to identify the presence of surface cracking and erosion, surface ponding or out of channel flows and distinguish between natural erosion and erosion induced from mine subsidence, as required by both Extraction Plans, for a monitoring period of two years. The results of this flow line monitoring will be interpreted by UCMPL's subsidence engineer to validate subsidence predictions made in the respective Extraction Plan and Project EA.

Identified impacts at number of sites to date have included cracking of bedrock material within the channel bed, surface cracking across the channel, ponding and erosion. Generally, in the absence of significant flow events, these observed impacts do not perceptibly change during re-inspections over their respective two-year monitoring period.

As observed in 2021, 2022 and 2023 there was less visual evidence (e.g. flood debris/sediment accumulation) of significant flow events in 2024 from high intensity rainfall events, when compared to observations made in 2020. The coincidence of such significant flow events with post mining impacts in some places has initiated erosion as identified in BBC-Site 1 and BBC-Site 2 and exacerbated existing erosion and changes of channel stability within the flowline as identified along some sections of UCFL4.

Water was observed flowing in 2022 along UCFL4 at post mining sites Site 3A, Site 5A Site 9, Site 11, Site 12, Site 13, Site 14, Site 15A, Site 15, Site 16 and Site 17. Water was observed flowing in 2022 along BBC at post mining sites Site 3, Site 4 and Site 5. No water was observed flowing within UCFL2 at post mining sites inspected in 2022. No water was observed flowing in the flow lines and creeks inspected in 2023. No water was observed flowing in the flow lines and creeks inspected in 2024.

It is recommended that UCMPL continue to record and monitor areas where subsidence impacts have likely occurred in flow lines and creeks above Ulan West and Ulan Underground as required by the relevant Extraction Plan and develop appropriate remediation measures, as required, for example sites BBC-Site 7 and BBC-Site 9. Both sites display only minor cracking but would benefit from further compaction and infilling intervention to reduce the risk of potential erosion during a high flow event as occurred at BBC-Site 1 and BBC-Site 2.

It is also recommended to inspect recently post mined flow lines after high intensity rainfall events.

For the complete 2024 Monitoring of Creek and Tributaries report refer to **Attachment G.**

SCT's review of impacts to watercourses and drainage lines from the *2024 Annual Review of Subsidence Monitoring at Ulan West and Ulan Underground Mines (SCT, March 2025)* concluded:

- Subsidence impacts and environmental consequences to surface water courses were consistent with expectation and less than the maxima forecast.
- No significant impacts or consequences were reported or observed at drainage lines over areas mined by Longwall 7 and Longwall 8A at UW and Longwall 31 at UUG during 2024.
- No significant impacts or consequences were observed in the drainage line of Mona Creek above the central section of Longwall 31 at UUG.
- No significant impacts or consequences were reported to the drainage line of Ulan Creek on land owned by UCM above the southern section of Longwall 7 at UW.
- No significant impacts were reported to the drainage lines of Mona Creek and Brokenback Creek on land owned by UCM and the Farrs Hill private property above Longwall 8A at UW.
- Minor impacts to the drainage lines of Mona Creek, Brokenback Creek, and Ulan Creek at UW in the form of cracks, primarily where the flow lines cross bedrock, and valley closure fracturing of rocky outcrops have been observed. A small ripple was also observed crossing the drainage line of Mona Creek on the Farrs Hill property.
- No impacts were reported to the first order drainage line of Mona Creek above the central section of Longwall 31 at UUG.

7.11 Groundwater Monitoring Results

The Groundwater Monitoring Program (GWMP)[30] describes methods to monitor trends in groundwater levels, compare groundwater depressurisation inflows against modelled predictions and identify potential impacts to private licensed bores. Collected data is used to calibrate and update the groundwater model. Monitoring focusses on the alluvial and hard rock/coal measures aquifers in the region:

- Alluvial, Triassic, coal seam and interburden aquifers;
- Base flows to the Goulburn and Talbragar Rivers and associated creeks;
- Groundwater bores, springs and seeps on privately owned land; and
- 'The Drip', a groundwater dependant natural site, east of the operations.

7.11.1 Groundwater Sampling Procedure

Groundwater monitoring was undertaken in accordance with the following:

- the Groundwater Monitoring Program;
- *Approved Methods for the Sampling and Analysis of Water pollutants in NSW (Department of Environment and Conservation, 2004*);
- *Groundwater Monitoring Guidelines for Mine Sites within the Hunter Region (Department of Infrastructure, Planning and Natural Resources, 2003*);
- *AS/NZS 5667.1:1998 Water Quality – Sampling – Guidance on the Design of Sampling Programs, Sampling Techniques and the Preservation and Handling of Samples*; and
- *AS/NZS 5667.10:1998 Water Quality – Sampling – Guidance on Sampling of Waste Waters*.

[30] Condition 34, Schedule 3 of PA08_0184, a component of the WMP (ULN SD PLN 0017)

7.11.2 Maintenance of Groundwater Monitoring Network

The groundwater monitoring network is reviewed annually with additional monitoring wells and Vibrating Wire Piezometers (VWP) installed (when required) as the mine advances to the North and West. In 2024 UCMPL have installed three new monitoring bores (PZ40, PZ42, and PZ6) and five VWP arrays (PZ44, PZ41, PZ43, PZ47, and PZ45) to the north of the Project Area. The VWPs and bores are equipped with PTs and telemetric dataloggers and are reporting data to the online data portal. These are currently not in the WMP but will be included in the next revision.

As required by the approval for the Ulan Underground Extraction Plan, (**Section 3.2.2**) UCMPL within three months of the approval carried out an investigation of monitoring bore PZ10B to determine if it is functioning appropriately. On the 22/11/2023 UCMPL completed the investigation of PZ10A and PZ10B. The downhole camera inspection of PZ10A and PZ10B proved the integrity of the bore casings are intact. There was nothing to indicate the casing at either bore is leaking or had failed.

As a result of the downhole camera investigations completed on the 22/11/2023, UCMPL can confirm PZ10A is dry and confirmed the bottom of the bore hole was at approximately 165.1m with a standing water level (SWL) at approximately 165.0m. UCMPL have equipped monitoring bore PZ10B with a data logger. A logger was installed at PZ10B on the 30 January 2024 as agreed to by DPHI.

7.11.3 Groundwater Model Recalibration

In accordance with the WMP and Condition 4 of the Ulan Underground Extraction Plan LW 31 and LW 32 Approval (refer to **Table 3-6**), on behalf of UCMPL, Australasian Groundwater and Environmental Consultants Pty Ltd (AGE) completed a recalibration of the groundwater model, including an external independent peer review in consultation with DPHI and the Water Group during the 2024 Reporting Period.

The UCMPL numerical groundwater model underwent significant structural updates based on a new geological model and more accurate mapping. Geologic data was updated based on a combination of the NSW Seamless Geology database and local information from the UCMPL geologic mapping program, which is informed by exploration drilling by UCMPL. Model layer depths, thicknesses, and extents were updated throughout the model, but the most significant change was to the mapped extent of the Jurassic strata, which is contiguous in the northeast of the UCC but has been eroded to fingers or isolated outcrops across much of the western half of the UCC. Further to this, the extent that Jurassic units are saturated was also an important component of the model and this was further informed by recently installed sites targeting Jurassic lithology (AGE, January 2025).

The new model was calibrated using the Ensemble Smoothing Space Inversion (ENSI) approach as part of PEST-HP suite. Groundwater level data from 221 sites (comprising 5,106 individual data points) were used as calibration targets and specific data was weighted by the full dataset so as not to bias the model by the number of data points for a single site. Prior to calibration, monitoring site elevations were checked against model land surface and obvious erroneous data was removed. The calibrated model also represents an improvement in the reliability of the model predictions due to a better overall history match (AGE, January 20025). Summary of predictions from the 2024 groundwater model recalibration:

- Predicted drawdown for the MOD6A mine plan only is very similar to that predicted by the previous model, confirming that additional impacts from MOD6A are localised to the mine plan area;
- For private bores overall, the new model predicts similar magnitudes of impacts to private bores during and immediately after mining, but the new model predicts less drawdown in the long-term residual phase and, in most cases, negative drawdown (mounding). This is attributed to the better representation of recharge in the new model compared to the previous model;
- There are no mapped GDEs in the vicinity of the MOD4 mine plan and the same goes for the MOD6A mine plan. The setback of the MOD6A mine plan from Mona Creek eliminates any observable predicted impacts to Layer 1 and the mapped springs remain unaffected by the MOD6A mine plan. Furthermore, there are no predicted impacts near The Drip.

7.11.4 Groundwater Monitoring Results

Australasian Groundwater and Environmental Consultants Pty Ltd (AGE) were commissioned by UCMPL to prepare the annual groundwater review for the 2024 (**Attachment D**). A summary of the *Ulan Coal Mine Annual Groundwater Review 2024* (AGE, March 2025) is provided below.

7.11.4.1 Observed and Predicted Groundwater Inflows

The recently updated AOM2024 used granular inflow measurements as part of the calibration and the extracted drain budget provides predicted mine inflows. This budget has been zoned to provide predictions of groundwater inflow to Ulan West and Ulan Underground separately. Overall, the AOM2024 was able to effectively fit the observed inflows (as estimated from a comprehensive water balance model for UCC) throughout the period where data was available as shown in **Figure 7-9** (AGE, 2025).

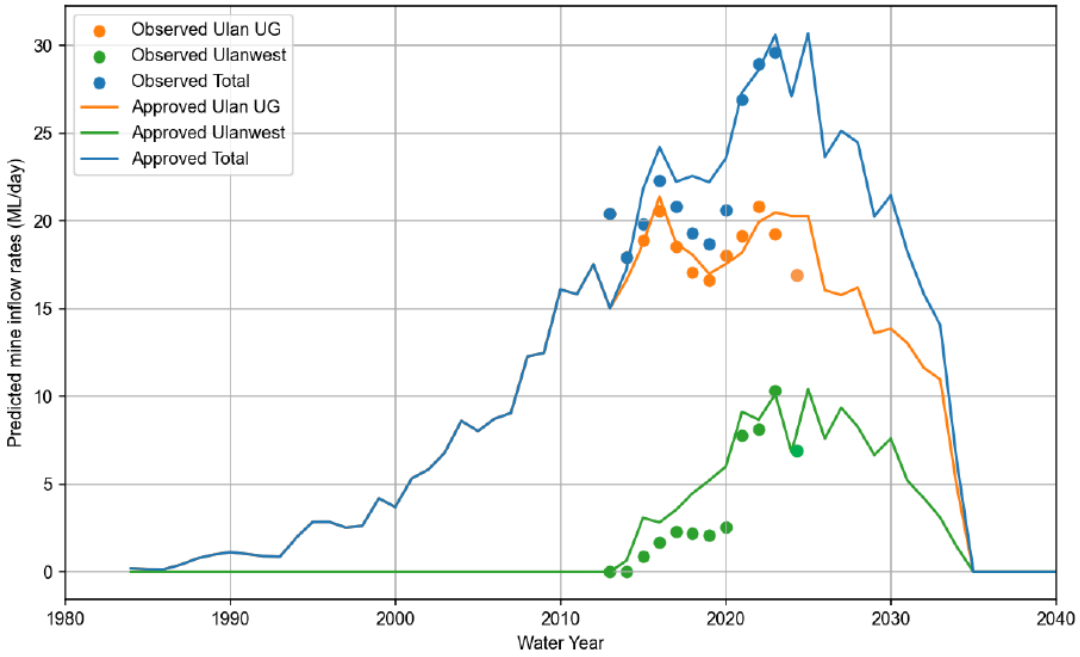


Figure 7-19 Observed and predicted dewatering for the approved MOD4 mine plan from the AOM2024

7.11.4.2 North Monitoring Network (NMN)

North Monitoring Network (NMN) (**Figure 7-17**) is UCMPL's largest network of environmental monitoring bores and in 2024 consisted of:

- Forty (40) standpipe monitoring bores (MBs) at 22 locations from which groundwater level is collected quarterly, groundwater quality (e.g. pH, EC) is collected bi-annually, and groundwater chemistry (e.g. major ions, metals) is collected annually.
- Eight (8) new monitoring sites were constructed in 2024 consisting of five (5) VWP sites and three (3) MBs. These were installed to specifically target Jurassic strata (or the shallowest saturated zones). These sites are not in the current WMP but will be added.
- Dataloggers have been installed in eight of the existing MBs in 2024 and all three of the new MBs (see Figure 6.1).
- Sixteen (16) vibrating wire piezometer (VWP) array locations are listed in the WMP with multiple sensors installed at each site to collect groundwater pressure data from the target strata. Two sites have since been undermined (EX06 and DDH336) and five (5) new sites have been installed in 2024.

NMN Results

NMN bores intersecting Jurassic sediments recorded varied trends and most of the VWPs intersecting Jurassic sediment showed very little overall change in 2024. No drawdown exceedances were identified in Jurassic bores or VWP sensors intersecting Jurassic strata.

Some of the monitoring bores intersecting Triassic units recorded slight groundwater level declines over 2024 (similarly observed in 2023), which added to cumulative declines, but none of the NMN bores recorded drawdowns that exceeded the predicted groundwater level drawdowns.

About half of the Permian bores reported groundwater level data in 2024 (several were dry) and drawdown was observed in all bores ranging from 0.2 m (PZ11A) to 26 m (PZ09B). Other bores were reported dry but many of these were predicted to experience large drawdowns (over 100 m). These drawdowns reflect long-term trends associated with mine-related dewatering and are predicted by the AOM2024. No Permian bores exceeded their groundwater trigger levels.

Porewater pressure data was reviewed from VWP sensor sites with a focus on trends and cumulative drawdown. Review found that several Triassic sensors are recording small but consistent declines over the period of record (often less than a few meters). Previous review of these declines attributed it to climate variability (which is not modelled) but improvements and recalibration in the AOM2024 lead to updated predictions of drawdown in Triassic sensors across the UCC and surrounds. The observed drawdown is therefore attributed (partly) to predicted impacts from depressurisation due to mining with discrepancies between observed and predicted drawdown attributed to a combination of uncertainty in hydraulic parameters and climate variability (which is not included in the AOM2024).

Many of the deeper sensors within or near the mine footprint recorded large depressurisation, which is predicted by the numerical model and expected due to mining. However, some shallow sensors in EX09, TAL-1, and TAL-2 exceeded their predicted drawdowns. The exceedances in TAL-1 are minor and within the margin of uncertainty by the AMO2024 but a short period of steeper drawdown in late 2023 should be investigated. Only one sensor is active in TAL-2 and so may have been compromised as the deeper sensors have, and so data from this sensor may not be reliable. Porewater pressure behaviour in EX09 appears to be related to pumping regime of the nearby dewatering bores but this should be investigated further.

Groundwater quality triggers for NMN bores were re-derived recently (AGE 2023) and 2024 EC and pH data were compared against these triggers. Two of the NMN bores exceeded Stage 2-Low pH triggers and two exceeded Stage 2 EC triggers. All these bores are predicted to experience drawdown due to mining and the exceedances are likely largely attributed to water quality changes due to dewatering of the intersected strata (all these bores are complete in Permian strata). Average EC and pH from all bores across all strata were in line with historic values indicating no major change to groundwater quality overall.

The 2024 groundwater report investigated trends in dissolved metals by comparing 2024 readings with statistical summary of historic data (through 2023). A comparison to the 95th percentile showed that only three bores (PZ01A, PZ06C, and PZ24B) exceeded the 95th percentile for Chromium, Barium, and Iron, respectively. The exceedances in PZ01A and PZ24B were minor and not indicative of any trends and PZ06C is predicted to experience substantial drawdown and so would also be expected to record considerable changes in water chemistry. Overall the exceedances were minor or in line with expected behaviour and no further investigations are recommended.

Water levels in Triassic and Permian units are monitored at key locations (PZ24, PZ29, TAL-1 and TAL-2) to inform ongoing assessment of baseflows to the Talbragar and Goulburn Rivers. Minor strata depressurisation was observed in the Triassic units in PZ24 and PZ29, which the Goulburn River flows

over, as well as TAL-1 which is near the Talbragar River (TAL-2 only has one working sensor so the data may be unreliable). Drawdown has been predicted at these locations and the observations are generally in line with predictions with respect to impacts on baseflow, implying that the AOM2024 predictions of impacts to baseflow can also be considered accurate.

7.11.4.3 Bobadeen Monitoring Network (BMN)

Land above Ulan Underground is irrigated with treated mine water as part of the BIS. The BIS has been operational since 2003 and includes five central pivots (P1 to P5). The rate of water pumped to the pivots is monitored and recorded at station Farm 1 and Farm 2.

The BMN comprises nine (9) open MBs (labelled IMW01 to IMW09) completed within alluvial sediment in the vicinity of the irrigation pivots of the BIS. These shallow bores are installed to monitor water level and water quality impacts from the BIS. The MBs intersect the unconsolidated sediments within the upper catchments of Mona Creek, Ulan Creek, and Spring Gully Creek.

BMN Results

In 2024, seven of the nine bores were reported as dry through the entire year and the remaining two bores were reported as dry (or failed to return a measurement) at some stage during 2024. This is somewhat expected and indicates there is not excessive recharge and groundwater mounding due to the BIS. Only two bores had sufficient water for water quality sampling.

Quarterly groundwater quality readings (pH and EC) were made at BMN bores that had sufficient water during 2024 for sampling and these results are presented in Table 7.11. Due to insufficient water, only IMW05 and IMW06 recorded groundwater quality values. These values ranged from 7.5 to 7.7 for pH and 834 to 1470 µS/cm for EC. The 2024 values compared to historic ranges is provided in Table 7.14 and shows that recent values are in line with historic values.

7.11.4.4 Mona Creek Monitoring Bores (MCMB)

The Mona Creek Monitoring Bores (MCMB) comprise six (6) monitoring bores which were constructed during 2020 to provide groundwater monitoring near Mona Creek. These bores are all are equipped with downhole pressure transducers (PTs) and dataloggers. The bores are distributed across three locations that consist of two nested monitoring bores, with one bore installed into unconsolidated sediments and the other into Triassic-aged sandstone at each installation site.

MCMB Results

Six bores comprising the Mona Creek Monitoring Bore (MCMB) network were measured for groundwater levels in 2024 although two were recorded as dry throughout 2024. Three of the remaining bores recorded groundwater levels that showed generally small declines over 2024. Trigger levels were derived for these sites based on the predicted drawdown (plus 15% buffer) from the AOM2024. Drawdown is predicted at all of these bores and no bores exceeded the prescribed drawdowns.

7.11.4.5 Private Bore Monitoring (PBM)

Where requested, private landholder bores in the Private Bore Monitoring Network (PBMN) are also monitored annually where access is granted, or at times request by the landholder. There are 49 private bores that are currently mapped around the UCC. There is variable levels information available

on construction and use of the PBMN bores. In 2024, 32 PBMN bores were visited for the purpose of data collection.

PBM Results

Groundwater levels were measured in 32 private bores during 2024, 22 of which are included in the WMP. Five of the private bores exceeded their predicted drawdowns which were not predicted to be influenced by mining (one of these bores, PB18, is likely not in the correct model layer in the AOM2024). Given the variability in the groundwater level record and absence of comprehensive data on use and bore construction, the declines are attributed to bore use, climate, or surface water connection, rather than mining-related impacts. Declines for all bores within the 2 m drawdown zone were less than the predicted impacts. No community concerns have been raised in regards to private bores in 2024.

Groundwater quality exceedances were also evaluated in private bores (PBMN) with trigger values derived as part of this Report from the full historic record (up through 2023). Stage 2 EC exceedances were identified in three private bores and Stage 2 pH exceedances (high or low) were identified in 10 private bores. Neither pH nor EC values were substantially different from historic values and many of these bores also showed considerable variability in values. The exceedances were attributed to natural variability, influence from bore use (which is not recorded), or both.

7.11.4.6 The Drip Monitoring Program

Water quality at The Drip continues to exhibit a major ion composition comparable to some Triassic bore samples, but more noticeably independent of the full range of Triassic bores and other NMN bores. This suggests a localised recharge source with perhaps some mixing with Triassic sediments or significantly different groundwater residence times for groundwater flow paths feeding The Drip. Impacts to Triassic strata is predicted by the AOM2024 and the model does not predict any impacts to the Drip. There is no evidence of impact to the Drip and the Drip is remote from current active mining at Ulan.

7.11.4.7 Pleuger Monitoring Network (PMN)

The PMN comprises eleven (11) active mine dewatering bores (East 20, MG23, MG26, MG28, MG29, MG31, TG1, TG6, Ritz, MG22, MG27) and six (6) decommissioned dewatering bores that are used for monitoring (East 7, East 9, East 10, East 15, East 18, and MG21). These bores are all completed into the Ulan Seam.).

PMN Results

Monthly groundwater level elevations at six decommissioned dewatering bores within the PMN (East 7, East 9, East 10, East 15, East 18, and MG21) are presented in Table 7.12 and groundwater hydrograph are presented in Figure 7.5. The data from these bores shows that groundwater levels rose slightly in all bores over 2024 (maximum groundwater level rise of 2.72 m in MG21) and are consistent with long-term trends. Bores East 7 and East 9 (which are farthest from active mining) continue to show small variability, which is likely attributable to nearby pumping or possibly rainfall patterns.

Figure 7-20 UCMPL Groundwater Monitoring Network (AGE 2025)

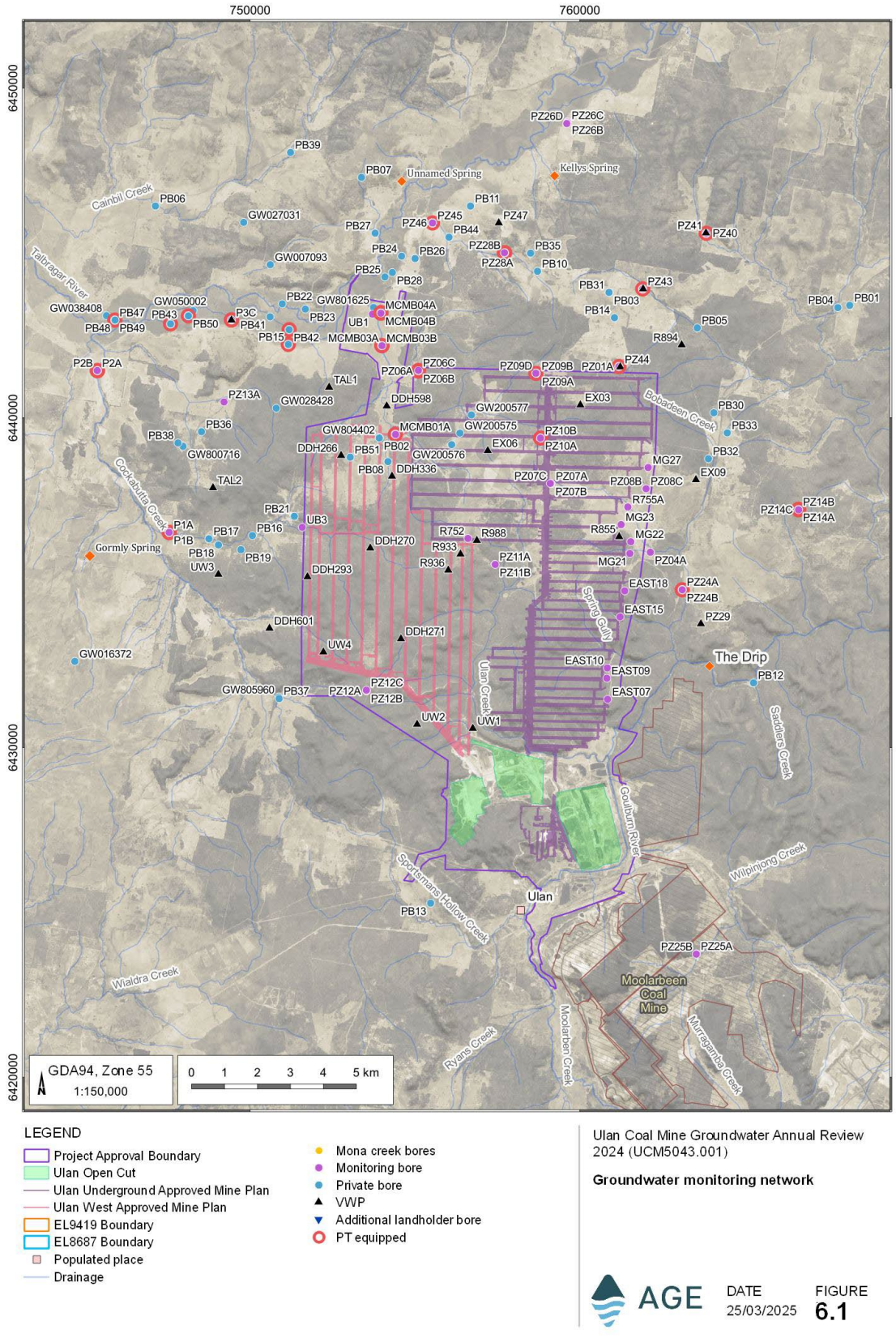
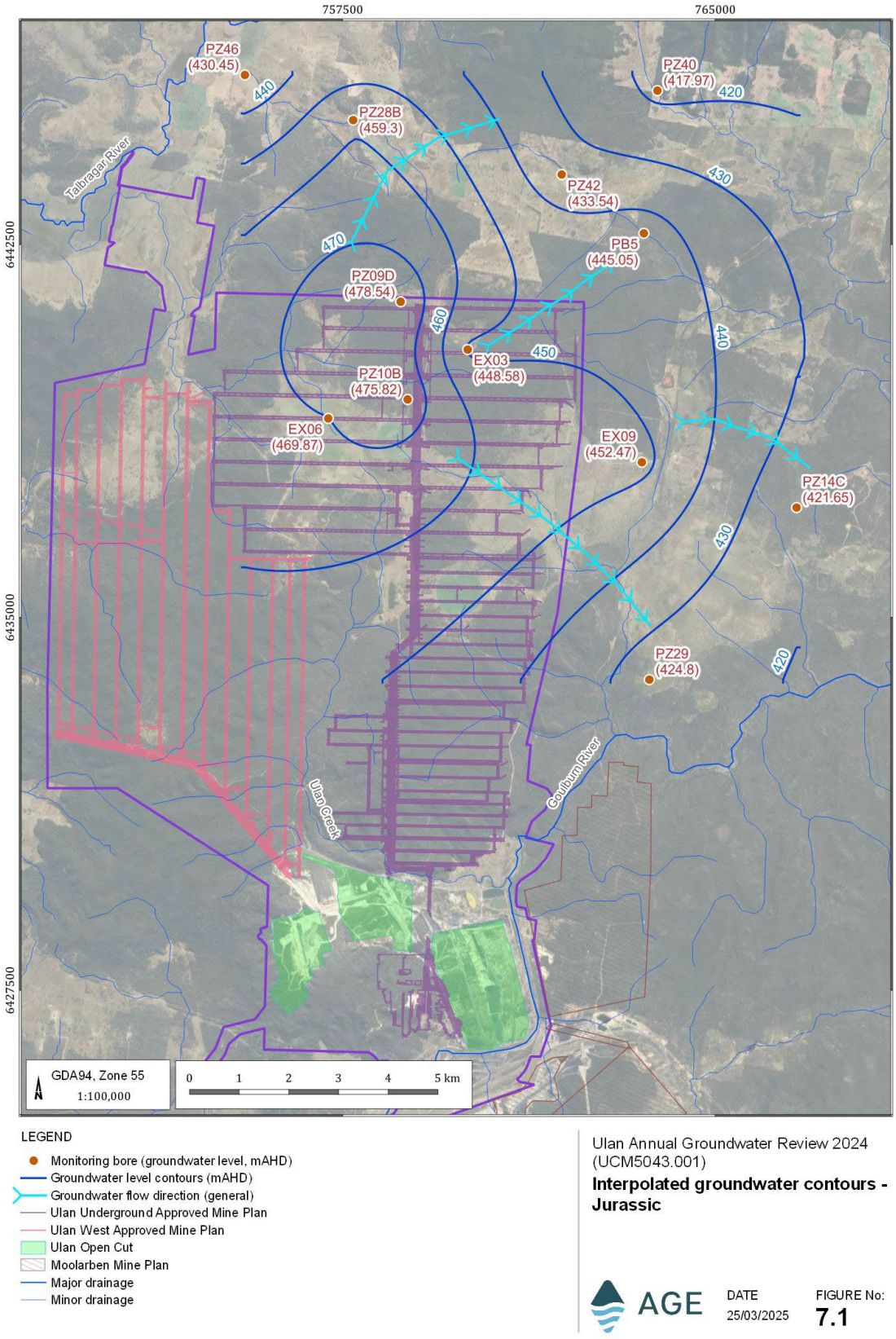


Figure 7-21 - Interpolated Groundwater Contours - Jurassic Sediments (AGE 2025)



Source: 1 second SRTM Derived DEM-S - © Commonwealth of Australia (Geoscience Australia) 2011.; GEODATA TOPO 250K Series 3 - © Commonwealth of Australia (Geoscience Australia) 2006.;
G:\Projects\UCM5043.001 Ulan Annual Review 2024\3_GIS\Workspaces\Figure 7.X - Interpolated groundwater contours\Figure 7.X - Interpolated groundwater contours.qgz

Figure 7-22 - Interpolated Groundwater Contours - Triassic Sediments (AGE 2025)

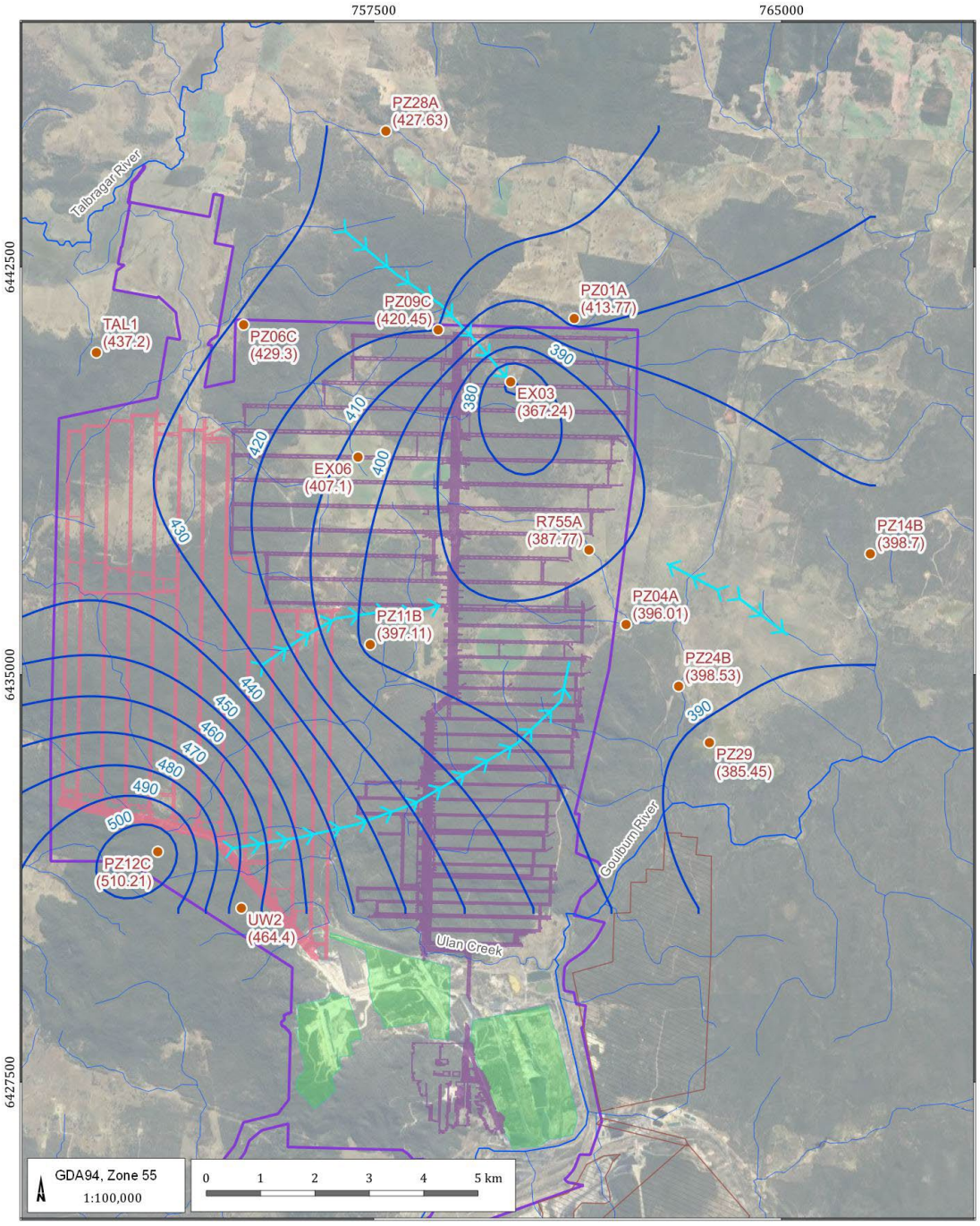
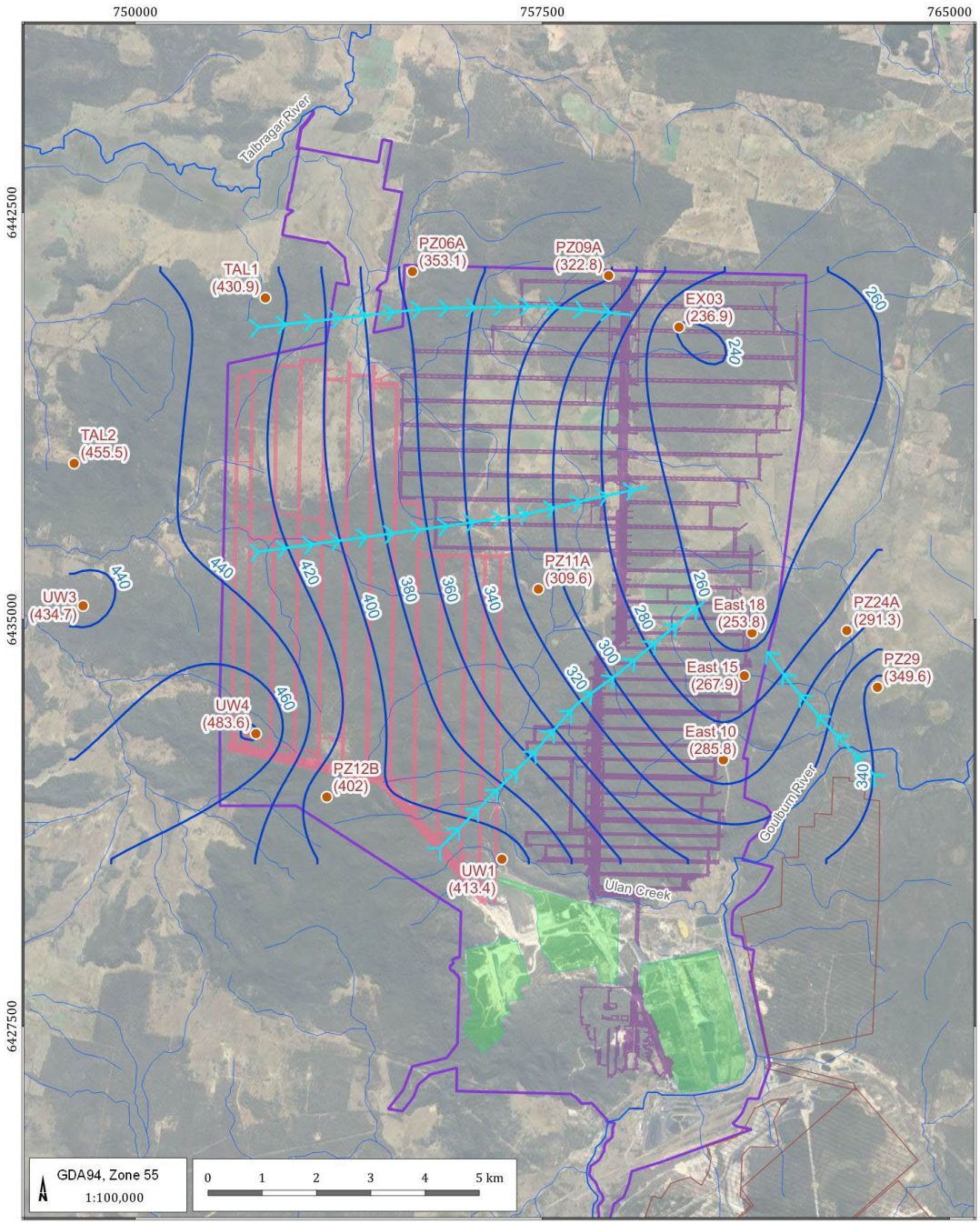


Figure 7-23 - Interpolated Groundwater Contours – Permian Sediments (AGE 2025)



8. Rehabilitation

8.1 Status of Mining & Rehabilitation

8.1.1 Open Cut Operations

Open cut operations had previously been undertaken until exhaustion of approved reserves and completion of the mining contract in 2008. Open Cut operations recommenced in January 2012 in the Open Cut Extension Area. Mining in the Open Cut Extension Area continued as required to supplement the Underground ROM production for rail until 10 October 2016 when the Open Cut was placed into Care and Maintenance for the foreseeable future.

Table 8-1 presents a summary of the current rehabilitation and disturbance areas associated with the Open Cut. The Open Cut remained in care and maintenance in 2024 and no further areas are currently available for rehabilitation. During the Reporting Period, rehabilitation activities primarily included weed maintenance and monitoring within existing rehabilitated areas (**Section 8.2**).

UCMPL gained certification in 2023 of a further 76Ha of rehabilitated areas associated with the Open Cut (bringing the total land area certified to 126Ha) reducing the land under active rehabilitation to 473Ha. Areas that have been certified are now maintained in accordance with land management practices as described in the BMP. **Figure 8-1** displays the extent of mining and rehabilitation activities for the Open Cut in 2024.

Table 8-1 – Rehabilitation and Disturbance Summary

	2024 (ha)	2025 Forecast (ha)
A. Total disturbance footprint	1434.14	1434.14
B. Total active disturbance	843.69	843.69
C. Land being prepared for rehabilitation	0	0
D. Land under active rehabilitation	464.45	417.05
E. Completed rehabilitation[31]	126	173.4

Notes: A = total disturbance of the Ulan Complex. B = Disturbance minus rehabilitation (including certified areas). D = Rehabilitation minus certified areas. E = Assuming 47.4Ha will achieve certification by NSW RR in 2025.

8.1.1.1 Objectives and Final Land Use

The primary objective of rehabilitation and revegetation of the post-mining disturbance areas, in particular the open cut disturbance area, will be to create a stable final landform, being self-sustaining native vegetation communities, characteristic of the pre-mining composition, with a post mining land and soil capability Class 6 landscape. The RMP defines the following Final Land Use Domains for the open cut including:

- **Domain A: Native Ecosystem**
  - Applicable to Mining Domain 1 (Infrastructure), Mining Domain 2 (Tailings Storage Area), Mining Domain 3 (Water Management Area), Domain 4 (Overburden Emplacement Area)

[31] Detail provided in **Section 8.5**

and Domain 5 (Active Mining Areas). This domain will include areas of woodland rehabilitation at site. This also includes areas previously included as tree screening.

- **Domain F: Water Management Areas**
  - This domain will include water management infrastructure that is required during post closure or forms part of the final landform e.g. significant final landform drainage features.
- **Domain G: Water Storage (excluding final void)**
  - Water storage area (includes dams retained for the final land use).

Within Domain A: Native Ecosystem, UCMPL will rehabilitate and revegetate the open cut to self-sustaining native vegetation communities, as proposed in the 2009 EA including (**Figure 8-2**):

- Grey Box Woodland and Ironbark Open Forest Complex on Sandstone communities which are characteristic of the pre-mining composition within the Open Cut Extension Area; and
- A mix of Woodland and Open Woodland within previous areas rehabilitated or disturbed areas of the open cut prior to the approval of PA08_0184.

The proposed vegetation communities within the post-mining landscape will be specific endemic (e.g. Ironbark Open Forest Complex and Grey Box Woodland) or Native Woodland areas (non-specific). In accordance with the Rehabilitation Objectives Native Woodland vegetation communities will be rehabilitated to ensure that composition, structure and function will be commensurate with Ironbark Open Forest Complex on Sandstone, Grey Box Woodland or White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland Communities. They will have ‘characteristics’ of these communities, but at this point in time will not be used for any offsetting requirements. Hence, they are not classified under Endangered Ecological Community (EEC) and Critically Endangered Ecological Community (CEEC) completion criteria.

8.1.2 Underground Operations

Longwall mining activities during the Reporting Period for UW and UUG are provided in **Section 4.1.1** and **Section 4.1.2** respectively. For the Underground Operations, disturbance of the surface above longwall mining activities can result from either the construction of various approved infrastructure including roads, vent fans, dewatering sites, powerlines, pipeline substations to support the Underground Operations and/or subsidence related impacts.

However not all subsidence related impacts require rehabilitation. The decision to remediate subsidence impacts takes into consideration accessibility, potential risks to the public, employee and contractor safety and the environment. If assessments determine subsidence cracking does not present a safety risk or risk to the environment, the crack will be left to self-remediate to prevent further clearing/disturbance works associated with the remediation.

If assessments determine subsidence cracking requires remediation, an appropriate method will be selected to minimise the potential disturbance to the surrounding environment as required by the relevant Extraction Plan.

During the Reporting Period UCMPL completed several rehabilitation projects to repair subsidence cracking on UCMPL owned land and on privately owned land (**Figure 8-3**). **Figure 8-3** displays the extent of mining and rehabilitation activities for both UW and UUG in 2024.

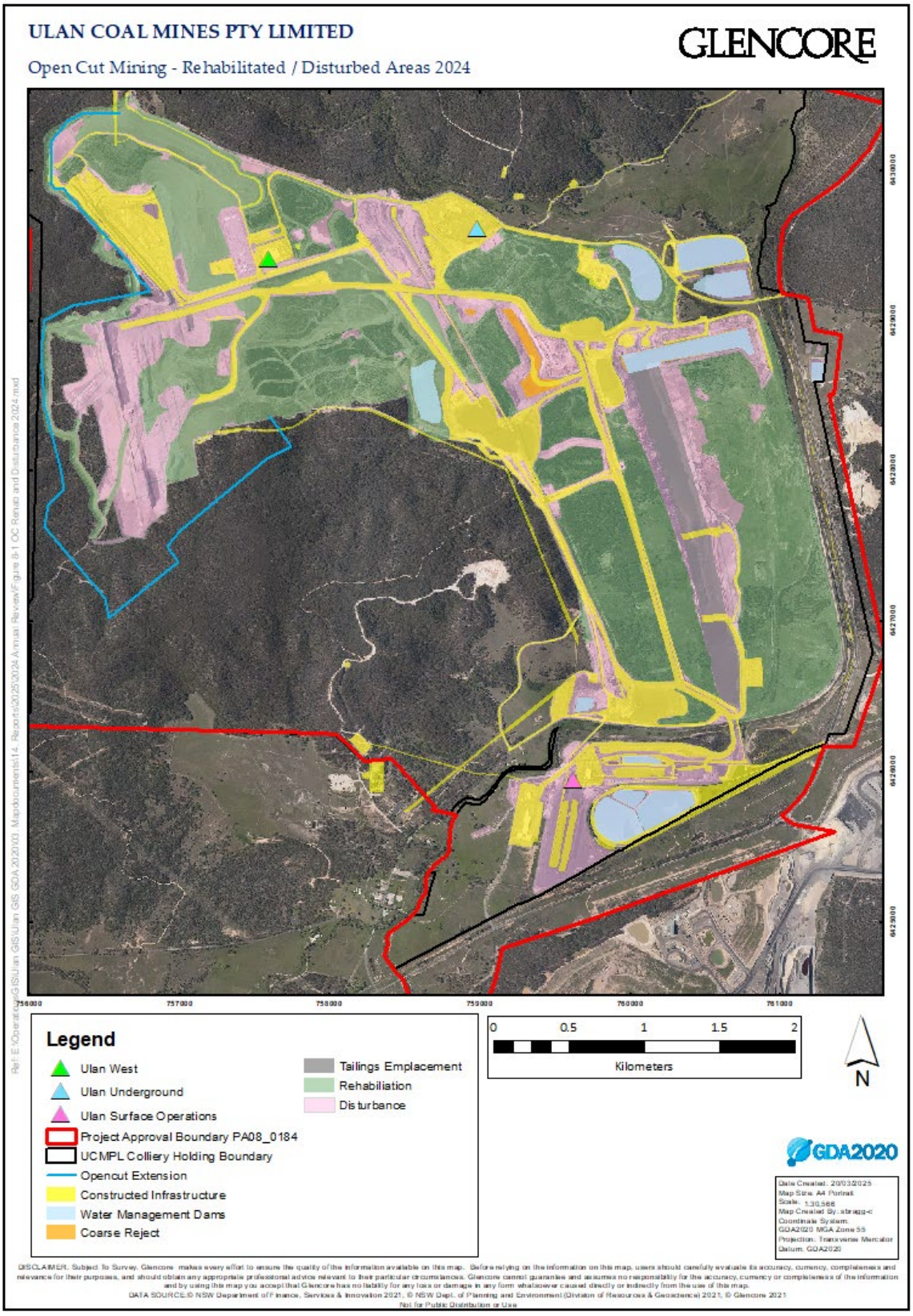


Figure 8-1 Open Cut Rehabilitation and Disturbance Status in 2024

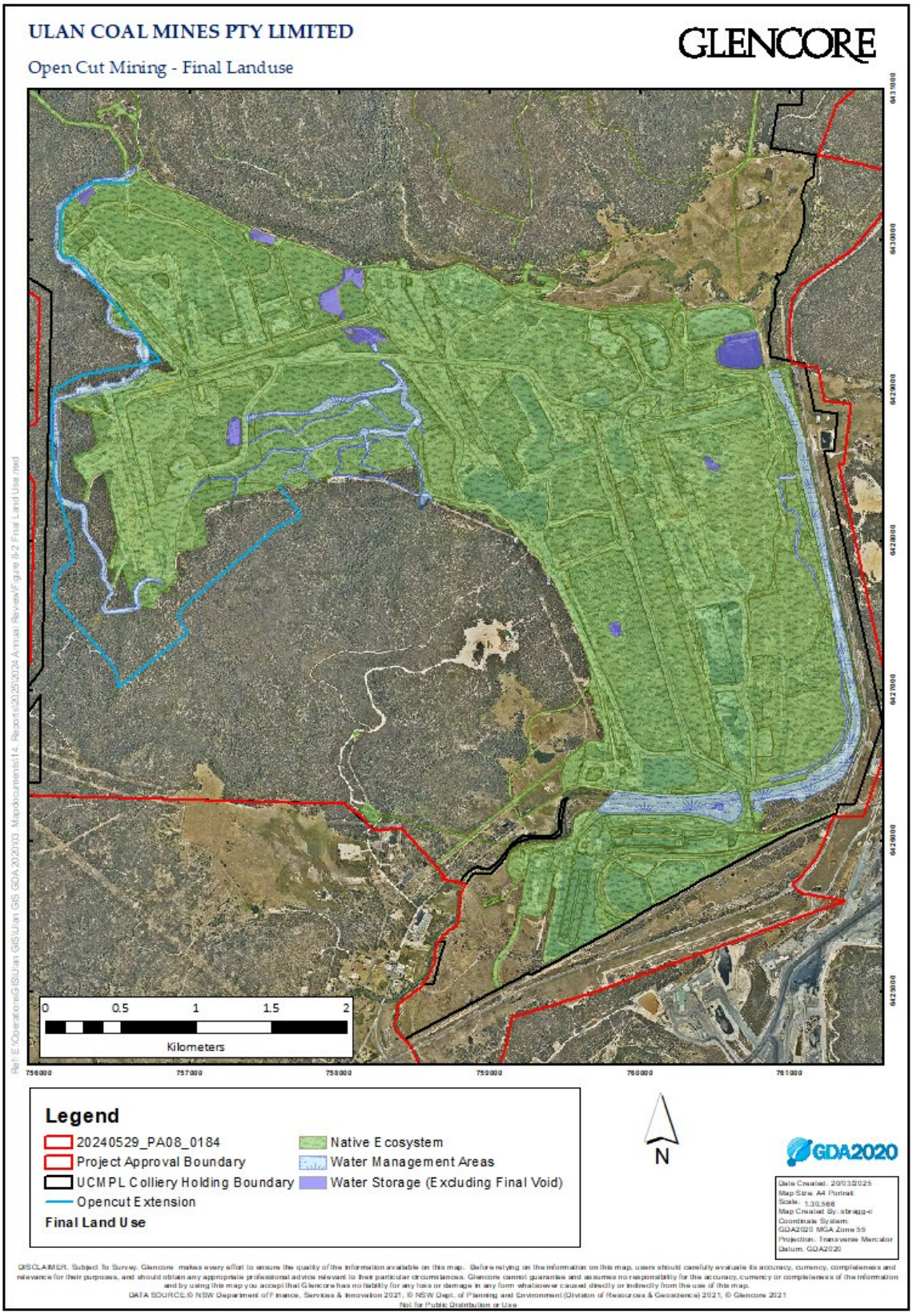


Figure 8-2 Final Land Use

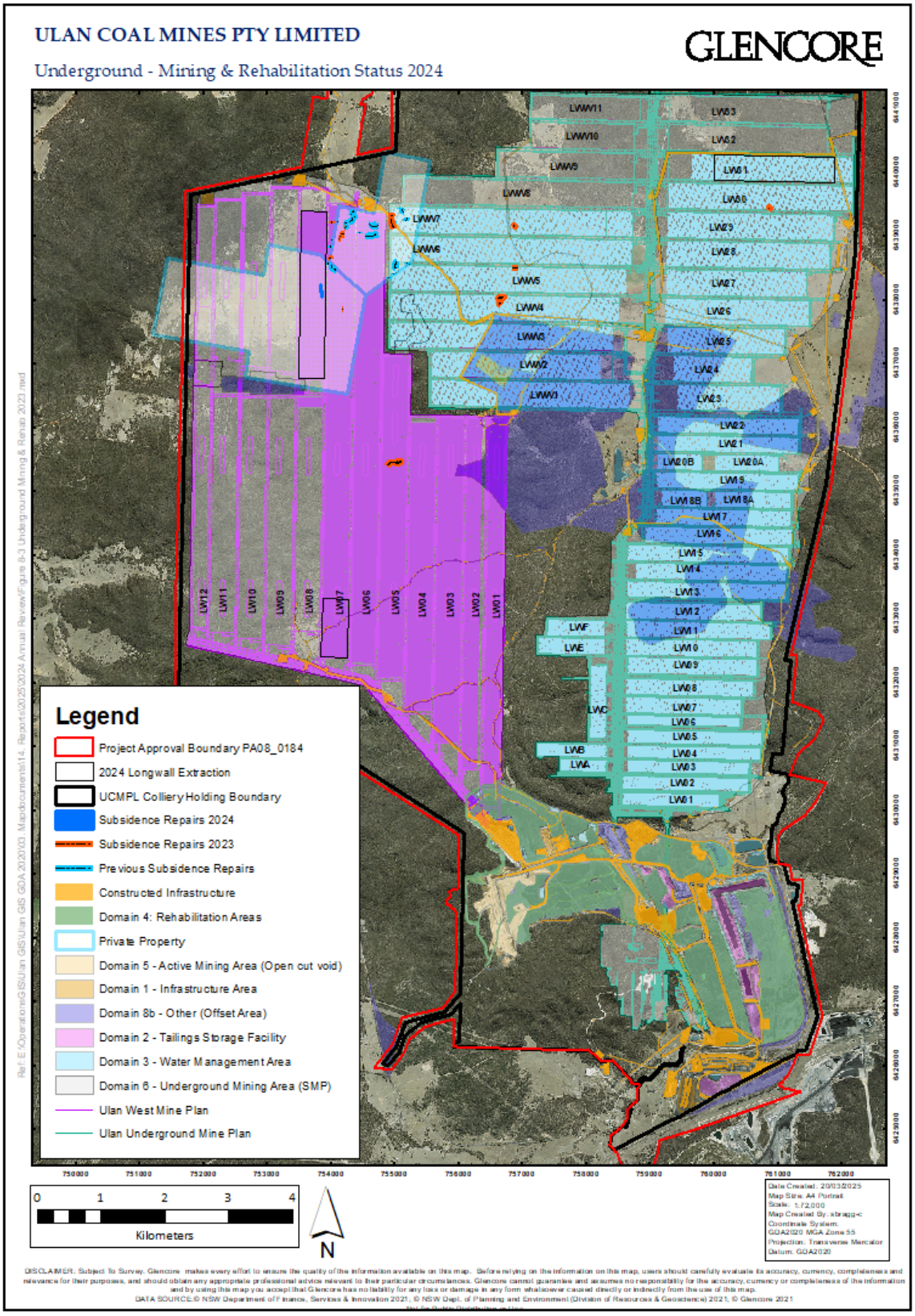


Figure 8-3 Status of Underground Rehabilitation and Disturbance in 2024

8.2 Rehabilitation Monitoring

UCMPL undertakes a rehabilitation monitoring program in accordance with *Glencore Standard 11.16 Completion Criteria and Rehabilitation Monitoring*. The program aims to:

- Facilitate continuous improvement in rehabilitation practices through appropriate monitoring and remedial action;
- Inform remedial action, including on-going rehabilitation repair and maintenance works; and
- Assess the long-term stability and functioning of rehabilitation areas that will facilitate progressive rehabilitation certification and eventual lease relinquishment following mine closure.

The rehabilitation monitoring program at UCMPL has been developed with specific considerations of statutory obligations, targeted post mining land uses, rehabilitation objectives and nominated completion criteria, as well as the scale of the rehabilitation areas to be monitored. The approach for the rehabilitation monitoring program at UCMPL includes:

- An annual ecological monitoring program; and
- An annual rehabilitation inspection.

Annual Ecological Monitoring

Eco Logical Australia (ELA) were engaged by UCMPL to undertake floristic monitoring during spring 2024 at the Ulan Mine Complex (UMC). Monitoring was undertaken in accordance with the requirements of the BMP and the RMP. During 2024, 15 sites were monitored across four open cut rehabilitation areas (polygons), including Polygon 7, Polygon 8, Polygon 15 and Polygon 19. Monitoring was undertaken by ELA ecologists between 21-31 October 2024. There are two phases of monitoring methodologies implemented:

- Initial Establishment Monitoring (IEM) involving rapid assessment of young (0–3-year-old) rehabilitated areas completed at 2 years and 3 years to determine germination success and landform stability, undertaken during the same season. No IEM was completed during 2024.
- Long-term Monitoring (LTM) involving detailed floristic and remote sensing assessment comparison of established rehabilitation areas (>4-year-old).

Rehabilitation objectives and rehabilitation completion criteria are defined under Clause 12 of the Regulation as Rehabilitation Outcome Documents required to be submitted to the Secretary for approval. The rehabilitation objectives (ROBJs) for UCMPL were approved in November 2024 (ROBJ0001514). A summary assessment of the 2024 monitoring results against the RMP completion criteria for Polygon 7, Polygon 8, Polygon 15 and Polygon 19 with ROBJs is provided in **Table 8-2**.

Annual Rehabilitation Inspection

Results from the 2024 annual rehabilitation inspection are assessed against the Glencore Coal Assets Australia Rehabilitation Report Card (RRC) **Figure 8-8**. All polygons fall within the 'maintenance' performance category, except Polygon 8 which falls within the 'monitor' performance category. Erosion, tree stem and function were the lowest performing attributes across all rehabilitation polygons .

Table 8-2 RMP Completion Criteria Assessment Summary

ROBJ	Completion Criteria		Polygon 7		Polygon 8		Polygon 15		Polygon 19	
Species composition of the rehabilitation contains flora species characteristic of the target community	Native plant species are characteristic of the target vegetation community(s) when compared to analogue sites.		**Not yet achieved for 3/4 sites**		**Achieved ✓ all sites**		**Achieved ✓ all sites**		**Achieved ✓ all sites**	
The vegetation structure of the rehabilitation is recognisable as, or is trending towards the target community	Cover, abundance and height range of native plant growth forms are characteristic of, or trending towards, the target vegetation community type(s).	*Growth form*	*Cover*	*Abundance*	*Cover*	*Abundance*	*Cover*	*Abundance*	*Cover*	*Abundance*
		Tree	✓ all sites	0/4 sites	✓ all sites	1/4 sites	3/4 sites	3/4 sites	✓ all sites	0/3 sites
		Shrub	✓ all sites	2/4 sites	3/4 sites	3/4 sites	2/4 sites	1/3 sites	0/3 sites	0/3 sites
		Grass & Grasslike	✓ all sites	✓ all sites	✓ all sites	3/4 sites	✓ all sites	✓ all sites	✓ all sites	✓ all sites
		Forb	✓ all sites	✓ all sites	2/4 sites	2/4 sites	2/4 sites	✓ all sites	✓ all sites	✓ all sites
		Fern	3/4 sites	3/4 sites	✓ all sites	✓ all sites	✓ all sites	✓ all sites	✓ all sites	✓ all sites
		Other	3/4 sites	✓ all sites	4/4 sites	✓ all sites	1/4 sites	3/4 sites	0/3 sites	2/3 sites
		Overall	**Not yet achieved**	**Not yet achieved**	**Not yet achieved**	**Not yet achieved**	**Not yet achieved**	**Not yet achieved**	**Not yet achieved**	**Not yet achieved**
Restore ecosystem function of the rehabilitation within the target community, including maintaining or establishing self-sustaining eco-systems.	Litter cover is within 10th-90th percentile variation range of reference sites/data		**Not yet achieved for 2/4 sites**		**Achieved ✓ all sites**		**Achieved ✓ all sites**		**Achieved ✓ all sites**	
	Second generation individuals of trees are within the 10th-90th percentile variation range of reference sites/data approved by the consent authority		**Not yet achieved 0/4 sites**		**Achieved ✓ all sites**		**Achieved ✓ all sites**		**Not yet achieved 0/3 sites**	
	Foliage cover of HTE weeds is within 10th-90th percentile variation range of reference sites/data or at a level that does not cause significant risk to rehabilitation.		**Not yet achieved** 10th-90th percentile range for analogue sites cannot be determined as no HTE species have		**Not yet achieved** 10th-90th percentile range for analogue sites cannot be determined as no HTE species have		**Not yet achieved** 10th-90th percentile range for analogue sites cannot be determined as no HTE species have		**Not yet achieved** 10th-90th percentile range for analogue sites cannot be determined as no HTE species have	

ROBJ	Completion Criteria	Polygon 7	Polygon 8	Polygon 15	Polygon 19
		been recorded within analogue sites. However, less than or equal to 1% projected foliage cover of HTE species was recorded within monitoring sites during 2024.	been recorded within analogue sites. However, less than or equal to 1% projected foliage cover of HTE species was recorded within monitoring sites during 2024.	been recorded within analogue sites. However, less than or equal to 1% projected foliage cover of HTE species was recorded within monitoring sites during 2024.	been recorded within analogue sites. However, less than or equal to 1% projected foliage cover of HTE species was recorded within monitoring sites during 2024.
	Resilience to drought and fire	**Ongoing** Polygon 7 experienced drought conditions during September 2017 to September 2020 and September 2023 to July 2024 (DPI 2025)	**Ongoing** Polygon 8 experienced drought conditions during September 2017 to September 2020 and September 2023 to July 2024 (DPI 2025)	**Ongoing** Polygon 15 experienced drought conditions during September 2017 to September 2020 and September 2023 to July 2024 (DPI 2025)	**Ongoing** Polygon 19 experienced drought conditions during September 2017 to September 2020 and September 2023 to July 2024 (DPI 2025)
Visual - indicators of erosion and land instability.	Visual- minimal erosion that would not require moderate to significant ongoing management and maintenance works. Visual – no signs of land instability such as mass movement. Visual - no areas of active gully erosion. Visual - no evidence of tunnel erosion. Visual – no evidence of active scour likely to compromise surface water management structure.	**Not yet achieved** Polygon 7 contains active gully erosion, sheet erosion, rill erosion and tunnel erosion. Mass movement (slumping) was also recorded.	**Not yet achieved** Polygon 8 contains active gully erosion.	**Not yet achieved** Polygon 15 contains active gully erosion, sheet erosion, tunnel erosion and rill erosion.	**Not yet achieved** Polygon 19 contains active gully erosion, rill erosion and tunnel erosion. Mass movement (slumping) was also recorded.

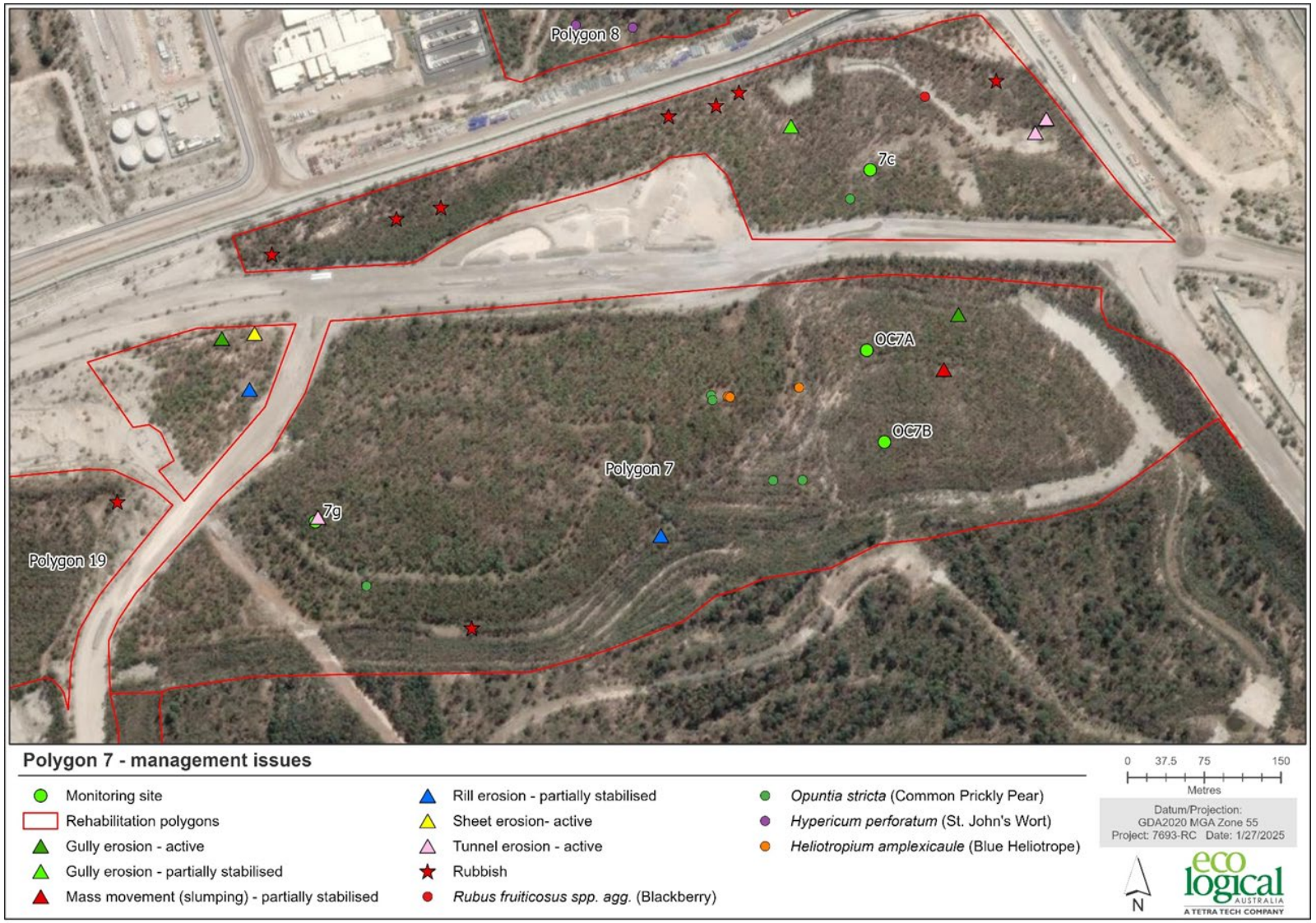


Figure 8-4 Polygon 7 Rehabilitation Monitoring & Management Issues

Figure 8-5 Polygon 8 Rehabilitation Monitoring & Management

Figure 8-6 Polygon 15 Rehabilitation Monitoring & Management

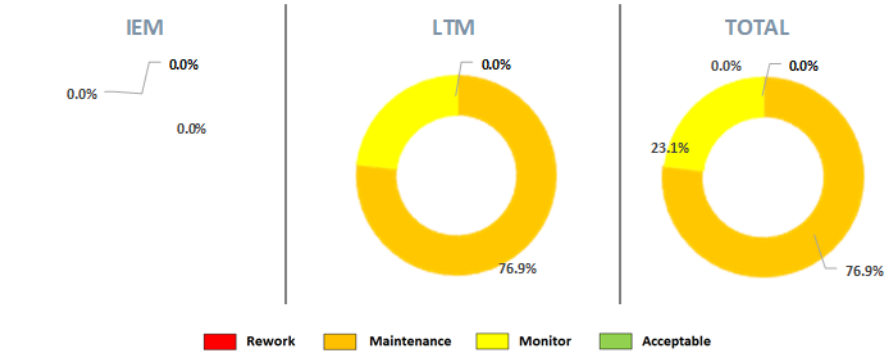
Figure 8-7 Polygon 19 Rehabilitation Monitoring & Management

2024 Rehabilitation Report Card

UCMPL

COAL ASSETS AUSTRALIA
GLENCORE

Overall Performance Summary:



	IEM		LTM		Total	
	ha	%	ha	%	ha	%
Area monitored	0	0.0%	108	100.0%	108	100.0%
Rework	0	0.0%	0	0.0%	0	0.0%
Maintenance	0	0.0%	83	76.9%	83	76.9%
Monitor	0	0.0%	25	23.1%	25	23.1%
Acceptable	0	0.0%	0	0.0%	0	0.0%

Detailed Performance Summary:

Block Name	Area (ha)	Monitor Type	Slope	Erosion	Bare	Weed	Tree Stem	Nat Comp	Structure	Function	Canopy	Repro	Past Comp	Biomass	Perf. Categ
Polygon 15	21	Targeted_LTM	Acceptable	Maintenance	N/A	Monitor	Monitor	Maintenance	Maintenance	Maintenance	N/A	Acceptable	N/A	N/A	Maintenance
Polygon 19	24	Targeted_LTM	Acceptable	Maintenance	N/A	Monitor	Maintenance	Monitor	Monitor	Maintenance	N/A	Acceptable	N/A	N/A	Maintenance
Polygon 7	38	Targeted_LTM	Acceptable	Maintenance	N/A	Monitor	Maintenance	Maintenance	Monitor	Monitor	N/A	Acceptable	N/A	N/A	Maintenance
Polygon 8	25	Targeted_LTM	Acceptable	Acceptable	N/A	Acceptable	Maintenance	Monitor	Acceptable	Maintenance	N/A	Acceptable	N/A	N/A	Monitor

Figure 8-8 – Open Cut Rehabilitation Report Card Results

8.3 Infrastructure Decommissioned

There was no major infrastructure or buildings decommissioned or removed in 2024. Decommissioning of redundant infrastructure at USO in 2023 included a LV wash platform, a rotary breaker, coal conveyors CV1005, CV1022, CV1021, CV1020, CV1019, Nut Coal House and O&K Crusher and associated Dump Hopper.

8.4 Other Rehabilitation and Land Management Activities

8.4.1 Rehabilitation Maintenance Activities

Addressing open cut rehabilitation maintenance and repair of areas identified **Figure 8-4** to **Figure 8-7** is ongoing. Inspection and maintenance of subsidence repairs were completed as required (**Figure 8-3**).

8.4.2 Exploration Program

There was 2.97ha of disturbance within the MLs during the reporting period associated with exploration sites and access tracks. All sites as soon as practicable are rehabilitated in accordance with the RMP and Ground Disturbance Permit (GDP) procedure.

8.5 Relinquished Rehabilitation Areas

During 2023 UCMPL received certification of two rehabilitated areas associated with Ulan Surface Operations, totalling 76.8Ha. Inclusive of the 2020 certification, this endorsement by the Resources Regulator now results in a total of 126 ha of rehabilitated areas associated with Ulan Surface Operations.

UCMPL is currently investigating the potential certification of two rehabilitation polygons for submission in the 2025 reporting period (**Figure 8-7**). Floristic assessment has been completed at the time of annual review preparation, with further investigations including soil assessments, fauna monitoring and thermal imagery to be conducted. The areas under assessment are:

- Polygon 8 (26.4 Ha) has been rehabilitated with more contemporary methods and locally relevant species. The vegetation is characteristic of Ironbark Open Forest Complex with tree stem density greater than the completion criteria target with a high native species richness across all growth forms.
- Polygon 15 (21 Ha) has been rehabilitated with contemporary methods and locally relevant species with 80% of native species recorded characteristic of Ironbark Open Forest Complex. The area has tree stem density greater than the completion criteria and good percentage foliage cover of native species across growth form groups.

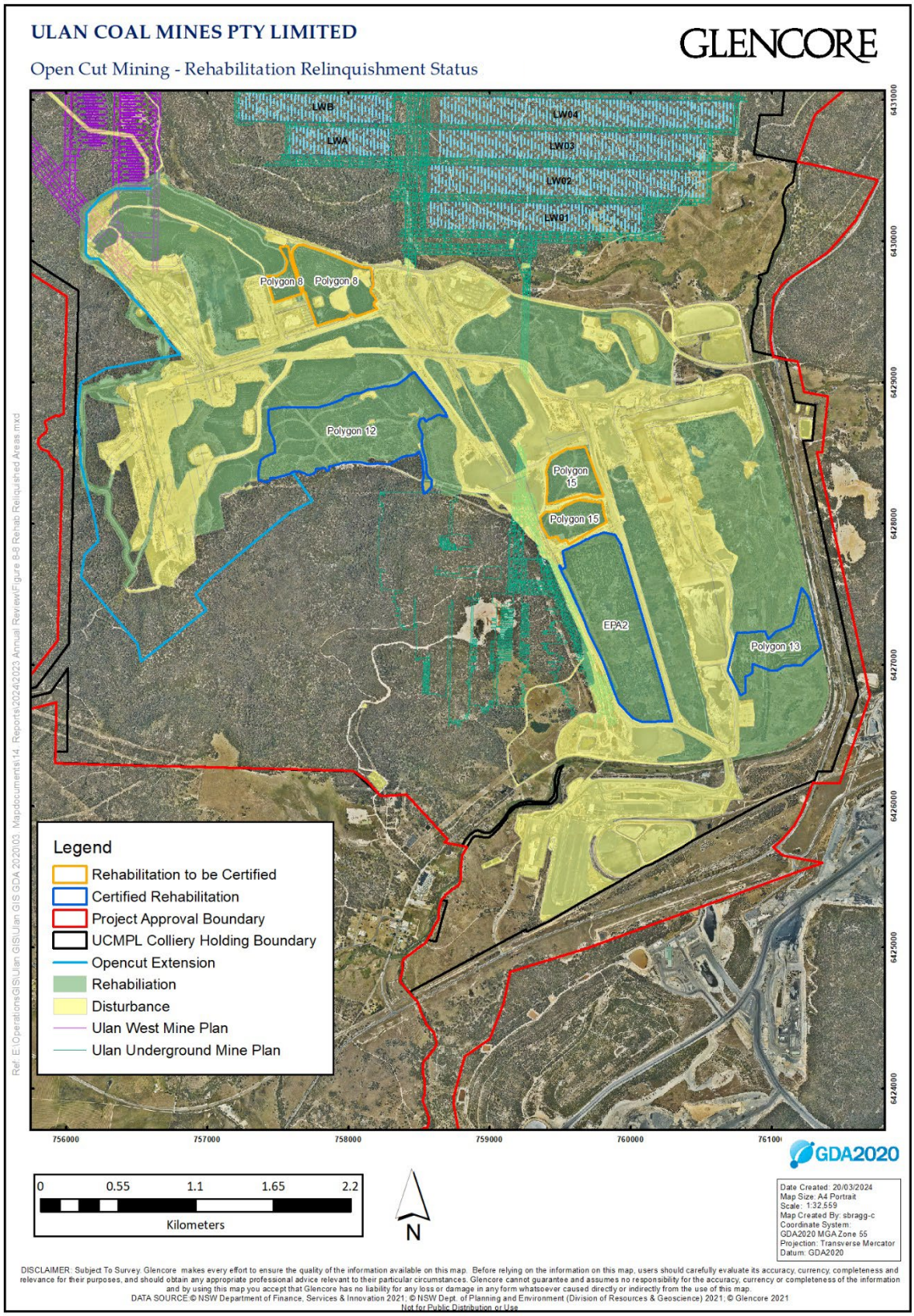


Figure 8-9 Open Cut Rehabilitation Relinquishment Areas

8.6 Rehabilitation Objectives and Final Landform and Rehabilitation Plan

As required by *Schedule 8A of the Mining Regulation 2016* UCMPL submitted and received approval for the *Rehabilitation Objectives and Final Landform and Rehabilitation Plans* on 13 December 2023. The approved objectives address the following categories:

- Bushfire
- Ecological rehabilitation
- Groundwater
- Land and water contamination
- Land contamination
- Landform stability
- Management of waste and process materials
- Native revegetation
- Removal of infrastructure
- Retention of infrastructure
- Surface water
- Water approvals
- Water quality

Further information regarding the *Rehabilitation Objectives and Final Landform and Rehabilitation* Plans can be found within the ARR and Forward Plan (**Section 3.4**) submitted to NSW RR annually.

8.7 Rehabilitation Trials and Research

UCMPL's Forward Program provides a three-year mining and rehabilitation forecast as required by Schedule 8A of the *Mining Regulation 2016*. As outlined in the Forward Program, there are no proposed rehabilitation trials in the Open Cut during the next Reporting Period.

8.8 Rehabilitation Actions Proposed

UCMPL's Forward Program provides a three-year mining and rehabilitation forecast as required by Schedule 8A of the *Mining Regulation 2016.* As outlined in the Forward Program, there are no proposed areas for rehabilitation in the Open Cut during the next Reporting Period. Rehabilitation maintenance activities in the Open Cut will be associated with landforms under ecosystem and land use development phase in the next Reporting Period, and will be guided by the outcomes of UCMPL's annual rehabilitation monitoring program. Rehabilitation maintenance activities in the Open Cut during the next Reporting Period may include, but not be limited to:

- Weeds and pest animal control;
- Managing bushfire risks;
- Minor earthworks to remediate any significant erosion features, including contour banks and diversion channels;
- Infill planting and/or seeding to meet vegetation community requirements;
- Tree thinning in the Open Cut and
- Maintaining erosion and sediment controls.

Continued monitoring and remediation of subsidence impacts for the Underground Operations will be undertaken in accordance with the relevant Extraction Plan during the next Reporting Period.

9. Community

9.1 Ulan Coal CCC Meetings

Four meetings of the Ulan Coal Community Consultative Committee (CCC) were held on the 14 March, 13 June, 12 September and 5 December 2024. Operational progress and activities, community complaints, monitoring results and environmental performance were presented at each meeting. The 2024 meetings also presented and discussed activities and interactions with other mines both proposed and existing in the region, management plan updates, the exploration program, proposed modifications to the Project Approval (i.e. MOD 6), Ulan West Continued Operations, rehabilitation relinquishment, site visit to the MCRSS in September, results of the Annual Review, additional community consultation and the community investment program.

For the complete 2024 CCC presentations refer to the Ulan Coal website *https://www.glencore.com.au/operations-and-projects/coal/current-operations/ulan-coal/community-documents*

9.2 Exploration Consultation

Throughout the 2024 reporting period prior to drilling operations occurring within EL7542, EL8687 or EL9419 (no drilling occurred in EL9363 during the reporting period) adjacent landholders/residents were notified via phone, letter or email of the schedule for drilling. Notification letters and exploration newsletter updates were delivered to landholders within 5km of the operations, indigenous stakeholder groups, Mudgee Local Aboriginal Land Council, Ulan Coal CCC Members, Bungaba Progress Association, Turill Community Centre, Mid-Western Regional Council and the NSW government local Member of Parliament.

9.2.1 EL7542, EL8687 and EL9419

The 2024 exploration program for EL7542, EL8687, EL9363 and EL9419 was announced in advertisement placed in:

- Mudgee Guardian Mining Notice Classifieds 15 and 22 December 2023 and 12 January 2024;
- The Coolah District Diary 6/12/2023; and
- The Dunedoo District Diary 13/12/2023.

These advertisements provided information about where newsletters could be found, anticipated impacts and contact details for further information (**Attachment H**). Letters were sent in January 2024 to all residents within 2km of EL7542, EL8687, EL9363 and EL9419 (those within potential audible range of drilling activities) regarding re-commencement of drilling operations for the 2024 exploration program. Information sessions were held on the 21st February, 7th November and 9th November 2024 for residents, landholders and other interested stakeholders (**Section 9.5**).

9.2.2 Aerial Electromagnetic Survey

Airborne electromagnetic survey (AEM) work on portions of Ulan Coal Mines Pty Limited's Exploration Licences (EL7542, EL8687, EL9363 and EL9419) and Mine Leases (ML1468 and ML1798) in the localities

of Bungaba, Turill and Uarbry was conducted in June and July 2024. 185 stakeholders were identified and provided with information relating to the aerial survey. These stakeholders included:

- Landholders and residents/tenants of the site of the activity;
- Native titleholders or claimants;
- Local government (Mid-Western Regional Council);
- Relevant local community and environment groups;
- Landholders, residents and businesses within 5km of the operational area;
- Local Aboriginal Land Council; and
- NSW Government local Member of Parliament.

The AEM program was also announced in advertisements (**Attachment H**) placed in

- Mudgee Guardian Mining Notice Classifieds 29 March and 5 April 2024;
- The April edition of the Gulgong Gossip;
- The Coolah District Diary 27 March 2024; and
- The Dunedoo District Diary 20 March 2024.

9.3 Community Newsletters

During the Reporting Period, UCMPL published four community newsletters one in February and three in December 2024. Information provided in the newsletters included operational and exploration updates including project approval modification updates (MOD6) and the proposed MOD8 Ulan West Continued Operations proposal, community investment program, the 24hr community hotline details and contact details for the Ulan Mine Complex community representatives. For the complete 2024 newsletters refer to the Ulan Coal website *https://www.glencore.com.au/operations-and-projects/coal/current-operations/ulan-coal/community-documents*

9.4 Community Sponsorship

GCAA invests in Health, Arts and Culture, Education and Enterprise, Environment and the Community, including, as an example, education grants to NSW Government Schools. Examples of UCMPL's Community Investment Program in 2024 included:

- Rylstone Healthone: Indigenous medicinal and bush tucker garden
- Educar Foundation: 2024 Max Potential program
- Watershed Landcare: 2024 Green Day Environmental Expo
- Gulgong Show Society: 2024 Gulgong Show
- Mudgee Show Society: 2024 Mudgee Show
- Mudgee Headquarters Bushfire Brigade: Tool upgrades
- NSW RFS Cudgegong District: District training room audio visual upgrades
- St Matthews Catholic School (Primary campus): Robot Club upgrades
- Henry Lawson Society of NSW: 2024 Henry Lawson Festival
- Wings 4 Kidz: The Late Mail Postie Ride and Mudgee Running Festival (Coal Miners Cup)

- PCYC Mudgee: Off-field uniforms for teams competing in the PCYC Nations of Origin
- Gulgong Public School: Bus transport for students attending Riding for the Disabled programs and technology for the Special Education Unit
- Lake Windamere Under Canvas: Weatherproofing of the amenities
- Rotary Club of Mudgee and Rotary Club of Mudgee Sunrise: 2024 Mudgee Showground Carols
- Gulgong Showground Land Managers: Gulgong Showground faucet upgrades
- Site fundraisers (USO and UUG): Pink Up Mudgee, R U Ok?, Mates in Mining, Barnardos Christmas Appeal, Mudgee Public School Christmas food drive.

Figure 9-1 – Mudgee Show 2024

Figure 9-2 – 2024 Max Potential Program

Figure 9-3 – Mudgee PCYC (Off-field uniforms for the Nations of Origin Games)

9.5 Community Complaints

Of the five (5) complaints received during the 2024 Reporting Period, two complaints were in relation to mine vehicles driving unsafely, two were exploration related regarding the aerial electromagnetic survey and one was provided by the EPA via their Environmental Line in relation to excessive noise (**Attachment K**). Community complaints recorded since 2013 are presented in **Figure 9-4**.

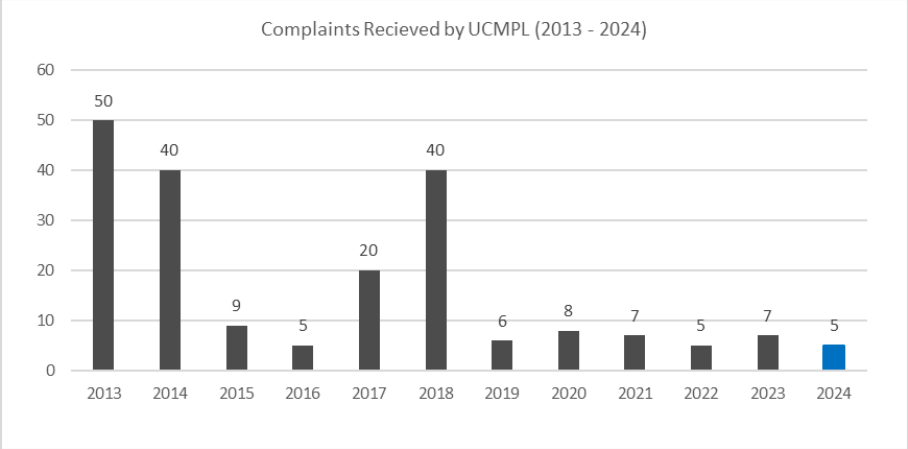


Figure 9-4 – Community Complaints (2013-2024)

Historical and the 2024 community complaint summary register with actions undertaken, is available from the Ulan Coal Website *https://www.glencore.com.au/operations-and-projects/coal/current-operations/ulan-coal/community-documents*

9.6 Ulan West Continued Operations Community Consultation Program

UCMPL held two community information sessions in February and November 2024 to provide the community with both operational and exploration activities, with a focus regarding the Ulan West Continued Operations area and current and proposed exploration activities associated with EL8687 and EL9363. For the 2024 Bungaba Community Newsletters and the Ulan Coal Community Newsletter refer to the Ulan Coal website *https://www.glencore.com.au/operations-and-projects/coal/current-operations/ulan-coal/community-documents*

9.7 Ulan North Community Consultation Program

UCMPL held one community information session in November 2024 to provide the community with both operational and exploration activities, with a focus regarding the EL9419 Exploration Licence Area and current and proposed exploration activities associated with EL9419.

9.8 Ulan Road Noise Mitigation Strategy

The Ulan Road Strategy (the Strategy) defines the program for upgrading and maintenance of Ulan Road between Mudgee and the entrance to the underground surface facilities of Ulan Coal Complex over the 21 years from Project Approval and was approved by DPHI on 25 May 2013. The operation of the Strategy relies upon the Funding and Delivery of Ulan Road Upgrade and Maintenance Deed (the Deed) made between UCMPL, Moolarben Coal Mine, Wilpinjong Coal Mine and Mid-Western Regional Council (MWRC). Contributions to the Strategy by the Mines in accordance with the Deed are mandatory under project approval consent conditions, as modified over the past 5 years. The Strategy also provides for the completion of noise attenuation works of eighteen identified properties along Ulan Road. All associated works regarding the road capital upgrades for Ulan Road and Cope Road in line with the Strategy and managed by MWRC have been 100% completed, with the maintenance period now triggered in accordance with the Strategy.

9.9 Ulan Road Traffic Management

Employees, including contractors, are trained and reminded (through site inductions, environmental management systems training, training day presentations and toolbox talks) of each person's responsibility to maintain legal and considerate behaviour during passage to and from the mine site. Key messages communicated include considerate and legal behaviour, minimising road use where possible, litter avoidance and reporting unsafe behaviour.

9.10 Community Complaints Hotline/Email

UCMPL operates both a 24-Hour Community Hotline Ph: **1800 647 630** or email: *ulancommunity@glencore.com.au*

9.11 Family Day

UCMPL held a Family Day event on Saturday, 12 October 2024, where families of Ulan Coal staff, employees, and contractors enjoyed a day out at the Ulan Coal Complex. The operations were

showcased with interactive activities, equipment displays, demonstrations, and site tours. The event received over 700 visitors and was well received by the families that attended.


OUT
FAMILY DAY

10. Independent Compliance Audit

An Independent Environmental Audit (IEA), as required by Schedule 5 Condition 8 of PA08-0184, is conducted every three years by a suitably quality, experience and independent team, who has been endorsed by the Secretary. The previous IEA was conducted in 2022.

The next scheduled IEA as required by Schedule 5 Condition 8 of PA08-0184 is scheduled to occur in mid-2025. The outcomes and any actions from the 2025 IEA will be provided on the Ulan Coal website and a summary of any actions and recommendations provided in the next Annual Review.

A copy of previous IEA reports and responses to recommendations can be found on the Ulan Coal website at *https://www.glencore.com.au/operations-and-projects/coal/current-operations/ulan-coal/reporting-documents*

11. Incidents & Non-Compliances

UCMPL must notify the EPA, DPHI and other relevant agencies immediately on becoming aware of a notifiable incident[32].

11.1 Reportable Incidents

There were no reportable incidents during the 2024 Reporting Period.

11.2 Non-Compliances

There was a one non-compliance for the 2024 Reporting Period. A summary of non-compliances, the nature and cause of the non-compliances and actions to address the non-compliances is provided in **Table 11-1** below.

Table 11-1 – Details of Non-Compliances

Relevant Approval	Date	Details of Non-Compliance Issue	Cause of Non-Compliance	Actions to Address Non-Compliance
M2.2 EPL394	19/2/2023 to 23/2/2023	The TEOM described in EPL 394, EPA ID number 30 failed to continuously record data due to communication issues from the 19/02/2024 to the 23/02/2024.	UCMPL technical support for the TEOM confirmed the unit was working but not saving the data. The TEOM required a physical change to the wiring harness to enable a remote reset by Novecom (and then reconfigured to the original position) with data recording recommencing at approximately 16:15 (stabilising to approximately 17:15) on the 23 February 2024. The root cause of this was a failure of the memory card within the TEOM unit preventing the storage of the real time results and therefore the subsequent delivery of information to the Sentinex Repository.	The TEOM is serviced monthly by qualified external consultants (Novecom) which had not identified any potential failings of the machine, however, given the age of the TEOM at EPL Monitoring Point 30, UCMPL will investigate upgrading the TEOM in 2025. Data from the nearby Moolarben Coal TEOM demonstrated that although there was a loss of continuous monitoring greater than 48hrs, there were no elevated PM10 ug/m^3 levels recorded during this period.

[32] PA 08_0184 Schedule 5, Condition 6 and Protection of the Environment Operations Act 1997, Section 153 - Pollution Incident Response Management Plan

12. Activities Planned for 2025

Operational activities planned for 2025

- Ulan Underground will continue to develop roadways for LWW9, LWW10 and LW32 in 2025 as well as advancing the Main Headings. Complete LW31 in May 2025 and commence LWW8 in October 2025.
- Ulan West Operations will continue to develop roadways for LW9 in 2025. Longwall mining of LW8B will be completed with mining commencing in LW9A scheduled for early 2026. The Ulan West Operations will continue with the installation of new dewatering infrastructure adjacent to End of Block LW9 and construction of a ventilation fan.
- The Ulan Open Cut is not expected to operate in 2025.
- Handling and processing of coal from the ROM stockpiles to the train load out.
- Blasting and extraction of rock material from the Bobadeen Basalt Quarry, only if required for operational projects.
- Exploration at both Ulan West and Ulan Underground will continue with approximately 20 and 13 holes respectively to be drilled in 2025.

Groundwater Monitoring Program

- Response to recommendations from the 2024 Groundwater monitoring report.

Rehabilitation/Remediation/Offset Areas

- Management actions as for identified issued within the rehabilitation/remediation and offset areas.
- Progress the rehabilitation relinquishment (**Section 8.2.9**) and identify other areas that meet completion criteria.
- Commence implementation of GCAA report card recommendations including East Pit rehabilitation remediation/maintenance works.

The following heritage works are planned for 2025:

- Exploration sites (as required).
- Rock shelter test /salvage as per the HMP.
- Heritage site inspections (as required).

Management Plan/Extraction Plan revisions planned:

- Revision of the relevant Ulan Coal Management Plans following the submission of this 2024 Annual Review and in consideration of the 2025 IEA and MOD6.

Approval Modifications

- Proposed Modification 6 to extend Ulan Underground LWW9 to LWW11 and widen LWW11 and extend Ulan West LW10 to LW12. The Modification will include minor changes to surface infrastructure. There are no proposed changes to extraction limits, the mining method, coal processing or transportation.
- Proposed Modification 8 will be lodged which will propose to widen existing longwall panel 12 to 400m and extend Ulan West Operation by an additional 4 panels.

Community

- Consultation for the 2025 Exploration Program within EL8687, EL7542, EL9363 and EL9419 via newspaper adverts, community newsletters, exploration newsletters, emails, letter drops, telephone calls and face to face meetings.
- Negotiate private property access agreements with landholders for exploration within ML1468, EL8687, EL7542, EL9363 and EL9419.
- Provide support to the local community through Community Investment Program via sponsorship support, community projects and in-kind donations.

13. References

Environmental Noise Monitoring – December 2024 (EMM, February 2025)

Environmental Noise Monitoring – June 2024 (EMM, August 2024)

UCMPL Flora Monitoring Report 2024 (ELA, March 2025)

UCMPL Fauna Monitoring Report 2024 (ELA, March 2025)

UCMPL Microbat Monitoring Report 2024 (ELA, March 2025)

UCMPL Aquatic Monitoring Report 2024 (ELA, January 2025)

2024 Annual Review of Subsidence Monitoring at Ulan West and Ulan Underground Mine (SCT, March 2025)

2024 Monitoring of Creeks and Tributaries, Pacific Environmental Pty Ltd (PE, March 2025)

2024 Ulan Creek Stability Monitoring Report, Pacific Environmental Pty Ltd (PE, March 2025)

2024 Cliff Line Monitoring Report, Pacific Environmental Pty Ltd (PE, March 2025)

Ulan 2023 Groundwater Exceedance Investigation (AGE, October 2024)

Ulan Coal Mine Annual Groundwater Review 2024 (AGE, March 2025)

GLENCORE