Cowal Gold Operations Open Pit Continuation Project

Response to government agency advice on Submissions Report

Prepared for Evolution Mining (Cowal) Pty Limited

April 2024

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Version	Date	Prepared by	Reviewed by	Comments
V1	18 April 2024	James Wearne / Janet Krick	Rob Morris	Issue for client review
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22 April 2024

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1 Introduction

1.1 Background

Evolution Mining (Cowal) Pty Limited (Evolution) is seeking approval for further open pit mining operations at Cowal Gold Operations (CGO) through the Open Pit Continuation Project (the Project). The Project primarily seeks to continue the open pit operations by approximately 10 years to 2036 and extend the total mine life by approximately two years to 2042.

The Project will involve the further development of the existing E42 pit and the development of open pit mining in three new adjacent orebodies, known as 'E46', 'GR' and 'E41'. The three new and adjacent ore bodies are within the existing mining lease (ML) 1535. No change to the approved ore processing rate of 9.8 million tonnes per annum (Mtpa) is proposed.

The Project comprises the following key components:

- The continued operation of activities as approved under DA14/98 and SSD 10367.
- Development of three new satellite open pits (the 'E46', 'GR' and 'E41' pits) to the north and south of the existing open pit, within ML 1535.
- Extending the existing E42 open pit to the east and south via a 'cutback' within ML 1535 (Stage I Cutback).
- Expansion of the IWL to accommodate life of mine tailings.
- Extension of the lake protection bund (LPB) system to provide continued separation and mutual protection between Lake Cowal and the mine.
- Backfilling of one of the new open satellite pits (E46) with waste rock and establishment of a new waste rock emplacement (WRE) on the backfilled pit to minimise the additional area required for waste rock disposal.
- Expansion of the existing WRE to accommodate additional waste rock.
- Development of additional topsoil and subsoil stockpiles to accommodate materials from pre-stripping the Project Area for reuse during mine rehabilitation.
- Upgrades to existing surface water drainage system, to assist with on-site water management and maximise on-site water conservation.
- Modification of internal site access and haul roads.
- Development of new water storages and relocation of some components of the surface water drainage system.
- Modification, relocation and new ancillary mining infrastructure.
- Secondary site access of Lake Cowal Road.

The Project will not change existing ore processing rates or methods, tailings disposal methods, main site access, water supply sources, water licence limits, or hours of operation. The Project will also retain the existing open pit mining workforce.

Two major planning approvals are required for the Project. The first is State significant development (SSD) consent under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The second is an approval under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). An Environmental Impact Statement (EIS) (EMM 2023a) was submitted to the NSW Department of Planning and Environment (DPE), now the Department of Planning, Housing and Infrastructure (DPHI) in May 2022 and publicly exhibited from the 15 June 2023 to 12 July 2023. A total of 120 submissions were received during the public exhibition period, including submissions from government agencies, special interest groups and the community (consisting entirely of unique submissions).

A response to issues raised in the submissions received was prepared and presented in a Submissions Report (EMM 2024a) submitted to DPHI on 25 January 2024. DPHI referred the Submissions Report to various government agencies for review and comment. Advice from eight government agencies on the Submissions Report has been received to-date as summarised in Section 1.2 below.

1.2 Agency submissions received

DPHI received advice from eight government agencies in relation to the Submissions Report including advice from:

- DPHI Crown Lands
- Mining Exploration and Geoscience (MEG)
- Resources Regulator
- NSW Department of Climate Change, Energy, the Environment and Water, (DCCEEW) – Biodiversity Conservation and Science Group (BCS)
- Environment Protection Authority (EPA)
- DCCEEW – Heritage NSW (Heritage NSW)
- DCCEEW Water
- Department of Primary Industries (DPI) Fisheries.

DPHI issued a request for information to Evolution on the 15 February 2024 (RFI-67635710) requesting a response to the matters raised in the agency advice which had been received (DPHI Crown Lands and the Resources Regulator). The RFI noted further advice was expected from a number of other agencies. This RFI also requested Evolution provides an update on any agreements which Evolution planned to enter with Bland Shire, Forbes Shire and Lachlan Shire Councils. An additional RFI (RFI-69397708) was received from DPHI on 5 April 2024 which formally requested Evolution responds to the additional agency advice received since the original RFI request. This second RFI also requested additional matters relating to the Project's Biodiversity Offset Strategy, erosion and Aboriginal cultural heritage be addressed in the RFI response.

1.3 Purpose of this report

This report provides an update on key activities carried out since the lodgement of the Submissions Report as well as documenting Evolution's responses to DPHI's requests for additional information (refer Section 3) and responses to government agency advice (refer Section 4) on the Submissions Report. This report has been prepared by EMM Consulting Pty Ltd (EMM) on behalf of Evolution.

2 Project updates since Submissions Report

2.1 Consultation

2.1.1 Community consultation

Since lodgement of the Submissions Report, Evolution has issued a Project update (February 2024) to directly affected landowners and other priority stakeholders. This update was also made available at the Evolution Mining Shop Front at West Wyalong, CGO Staff Crib rooms and Project website. A further update on the Project was included in the April edition of the 'Cowal Update' Newsletter covering the broader CGO operations and Evolution's community involvement which is delivered three times per year to the broader regional community (including West Wyalong, Forbes and Condobolin).

Consultation has also been carried out with the Project's Registered Aboriginal Parties (RAPs) including an Aboriginal Focus Group Meeting held at the West Wyalong Local Aboriginal Land Council to discuss the outcomes of the Aboriginal Cultural Heritage Assessment (AHCA) Addendum and next steps moving towards the preparation of the Aboriginal Cultural Heritage Management Plan (ACHMP). Further, Evolution continues to use the CGO Community and Environment Management Consultative Committee (CEMCC) to provide updates on the Project as well as the existing CGO operations.

Evolution is also currently consulting with three nearby land holders regarding establishing biodiversity stewardship sites to meet a portion of the Project's biodiversity offset credit liability, one option agreements has been signed and a further two are currently in negotiation (refer Section 3.2.2).

The Project webpage has been maintained and updated as required during the response to submissions phase and all newsletters and community information released to date is available to the general public at: https://emm.mysocialpinpoint.com/cgo_opc

2.1.2 Agency consultation

Consultation with government agencies has also been ongoing since lodgement of the Submissions Report. Key agency consultation is summarised in Table 2.1.

Table 2.1 Summary of government agency consultation

Stakeholder	Consultation method	Key matters discussed
DPHI	Ongoing consultation through teams meetings, email and phone correspondence	• Resources Regulator's comments on the Submissions Report and DPHI appointed Geotechnical Independent Peer Review • DCCEEW Water Group's advice on the Submissions Report • Meeting Evolution and CST to discuss progress of the Project's Biodiversity Offset Strategy and options to address existing long term protection of Northern and Southern offset sites established under DA 14/98 • Meeting to discuss existing AHIPs and Aboriginal Heritage Management Plans and commitments that will need to be brought forward into the new SSD
NSW Resources Regulator	Teams meeting held with Principal Inspector Mining Engineering Jason Thomas and Inspector of Mines Xavier Hill Email correspondence	• Presentation of geotechnical assessment carried out since completion of the EIS and Preliminary Feasibility Study with focus on rockfall analysis (refer Section 4.2 and Appendix I) • Provision of the geotechnical assessments and peer reviews referenced in Appendix I of the Submissions Report (refer Section 4.2)

Table 2.1 Summary of government agency consultation

Stakeholder	Consultation method	Key matters discussed
NSW Credit Supply Taskforce (CST)	Teams meetings and correspondence	• Potential to secure Remnant Vegetation Enhancement Program Areas in perpetuity via Project biodiversity offset sites and extent of credit discounting • Proposed Biodiversity Stewardship sites for Compensatory Wetland and Stages 1 and 2 of the Project • Meeting Evolution and DPHI to discuss progress of the Project's Biodiversity Offset Strategy and options to address existing long term protection of Northern and Southern offset sites established under DA 14/98 (refer Section 3.2.1i)
Bland Shire Council	Ongoing consultation through face-to-face and teams meetings, correspondence	• Project updates • Consultation regarding the proposed northern secondary access • Discussions regarding the terms of the Voluntary Planning Agreement and in principle agreement (refer Section 3.1) • Project site visit (March 2024) • VPA letter of offer signed by Council
Lachlan Shire Council	Teams meeting and correspondence	• Project update • Discussions regarding the terms of the revised MoU (refer Section 3.1) • Letter of offer for updated MoU signed by Council
Forbes Shire Council	Teams meeting with CGO General Manager	• Project update • Discussions regarding the terms of the revised MoU (refer Section 3.1). • Letter of offer for updated MoU signed by Council
DPHI Crown lands	Email correspondence	• Crown landowner consent application • Consultation regarding acquisition of Lot 100 DP 1059150
Local Land Services (Travelling Stock Reserve and northern access)	Email correspondence, Site Visit & Meeting	• Local Land Services inspected site on 1 December 2023 • Local Land Services confirmed No Objection to the Northern Access Road and confirmed this by Memorandum on 1 February 2024
Crown Lands, Local Land Services, Crown Solicitor's Office	Fortnightly Meetings in place	• Working group established for travelling stock reserve (TSR) swaps (a process which is under way outside of the Project approval process).Northern Land Swap from Mod 14 is being finalised first. Evolution will then proceed with southern land swap • Cost Deed signed and agreed by all parties • NSW Minister of Agriculture has approved the Transaction • Crown Lands are securing Deputy Secretary Approval for the Transaction then Survey plans can be lodged and registered
Commonwealth DCCEEW	Teams meeting and correspondence	• Variation to the action and changes to the Project since the submission of the referral which occurred during the Project's Scoping phase • Change in proposed stewardship site boundaries to offset impacts on migratory birds • Commonwealth DCCEEW's potential post approval requirements
Biodiversity Conservation Trust (BCT)	Email and phone correspondence	• Potential to secure Northern and Southern offset sites as Conservation agreements (refer Section 3.2.1i)

2.2 EPBC Act Variation to the Action

The proposed action (EPBC2022/09223) was referred to the Commonwealth Minister for the Environment in May 2022, concurrent with the submission of the Project's Scoping Report to DPHI. As such the referred action reflected the Scoping Phase design of the Project.

The EPBC Act referral decision concluded that the referred Project (the action) was a controlled action on 28 June 2022, with controlling provisions relating to potential impacts on threatened species and communities and listed migratory species.

Since submission of the referral and the subsequent referral decision, the Project's design and footprint has evolved iteratively in response to technical studies and consultation with stakeholders including local and state government departments and the community. Overall, the design iteration process has resulted in a reduction of the Project's disturbance footprint by approximately 263.2 ha compared to the proposed disturbance footprint identified in the referred action.

Due to the changes to the action, a request that the Commonwealth Minister for the Environment accepts a variation under section 156A(1) of the EPBC Act was submitted through the EPBC Act Business Portal on 3 April 2024.

2.3 Assessment of biodiversity stewardship sites

Since lodgement of the Submissions Report, assessment of the stewardship sites required to meet the Compensatory Wetland and Stages 1 and 2 offsets, as well as required offsets for EPBC Act migratory birds have continued to progress with all necessary fieldwork now complete. The ecology consultant engaged to prepare the Biodiversity Stewardship Site applications (EcoPlanning) has recently submitted the draft application to Evolution for review, with the final application is expected to be submitted to the Credit Supply Taskforce (CST) in June 2024.

A detailed overview of the Project's Biodiversity Offset Strategy is provided in Section 3.2.2.

2.4 LPB design and construction scheduling

Since the lodgement of the Submissions Report with DPHI, Evolution has continued to refine the post approval construction schedule to establish the necessary infrastructure to support the Project.

As outlined in the Submissions Report, indicatively, Stages 1, 2a and 2b construction activities, which are associated with the construction of the Northern LPB and the realigned portions of the up-catchment drainage system (UCDS), would be carried out in the first year of the Project. Flexibility on timing to establish the specific infrastructure aspects associated with this stage of the construction program are required to account for detailed mine design and scheduling requirements, mine economics, geological or climatic conditions or relevant approval conditions. Refinements of the Project's construction program is ongoing and, as previously noted in the Submissions Report, detailed construction schedules for these Project elements would be documented within the proposed Construction Environment Management Plan (CEMP) to be developed and approved prior to the commencement of these associated construction activities. Notwithstanding, the following overarching principles are proposed to guide the management framework for the Project's construction activities opposed to ongoing open pit operations that will be occur concurrently:

- The existing UCDS will represent a boundary between operational areas and construction areas.
- During construction, the existing UCDS will be maintained to ensure clean water continues to be diverted around the operational areas of CGO noting that as construction progresses the existing UCDS may be amended from time to time and will eventually be incorporated into the realigned portions of the UCDS once the LPB has been established.

- Until the new UCDS and LPB are established, water within the construction site area will be managed in accordance with the CEMP and erosion and sediment control plan.

In addition to refining the construction schedule, Evolution has continued to investigate the construction methods to be adopted for the LPB. The review of the LPB construction methods have focussed on minimising impacts from the Project's construction activities while taking into consideration the potential for wet conditions and Lake Cowal being partially or fully inundated. Detailed construction methods for the LBP will be documented within the CEMP with all impacts to remain within current assessed and approved limits and performance criteria.

3 Response to DPHI RFIs

Responses to the additional matters identified by DPHI in correspondence dated 15 February and 5 April 2024 is provided in the following sections with each matter raised presented verbatim followed directly with a response.

3.1 Update on agreements with Councils (RFI-67635710)

> …noting that discussions between Evolution and Bland Shire Council, Lachlan Shire Council and Forbes Shire Council are ongoing, the Department requests that you provide an update on progress made towards a Voluntary Planning Agreement (VPA) with these Councils.

Evolution has a strong working relationship with Bland Shire Council, Forbes Shire Council and Lachlan Shire Council and values the respective Councils' support for the CGO and its resident staff. As detailed in the Project's economic assessment (Appendix N of the EIS), the need for a VPA has been assessed with the findings being that the Project is not expected to result in any tangible changes in demand and requirements for local infrastructure and service provisions beyond what is currently available. This is particularly the case outside of Bland Shire Council where most of the Project is situated. As such, the economic assessment suggested that any agreements with the local Councils would be based around continuing Evolution's existing levels of contributions and community support. Notwithstanding the findings of the Economic Impact Assessment report in the spirt of collaboration and the request made by BSC, EVN have committed to increasing contributions for all councils as outlined below.

Since lodgement of the Submissions Report, Evolution has continued its engagement with the local councils and has reached in principle support for the following:

- Bland Shire Council – Evolution proposes to enter into a planning agreement with Council under section 7.4 of the EP&A Act in relation to the Project. Council has provided in principle support for the agreement. The proposed terms of the agreement were outlined in an Evolution letter to Council dated 5 April 2024 with a request that Council return a signed copy of the letter to confirm its acceptance of the offer. The General Manager of Bland Shire Council signed and returned the letter on 8 April 2024.

- Forbes Shire Council – Evolution proposed to extend the existing Memorandum of Understanding (MoU) with Council. Evolution proposes to increase the existing contributions and community support by a 50% uplift of the contributions under the existing road maintenance MOU. Evolution proposes that this outcome be reached by a variation to the MoU. The General Manager of Forbes Shire Council provided in principle support for the variation of the existing MoU on 27 February 2024.

- Lachlan Shire Council – Evolution proposes to increase the existing contributions and community support by a 50% uplift of the contributions under the existing road maintenance MOU. Evolution proposes that this outcome be reached by a variation to the MoU. The General Manager provided in principle support for the variation of the existing MoU on 25 March 2024.

Correspondence outlining the terms of the respective agreements/MoUs signed by the General Managers of the respective councils is contained in Appendix A.

3.2 Existing biodiversity obligations and the Project's Biodiversity Offset Strategy (RFI-69397708)

Provide a summary update on the proposed biodiversity offset strategy and the status of the existing offset obligations.

3.2.1 Biodiversity conservation obligations under DA14/98

The CGO's existing development DA14/98 has various biodiversity conservation obligations. A summary of these obligations is provided in the following subsections along with the proposed mechanism to address these following approval of the Project (should it be granted).

i Northern and Southern offset areas

a Overview

The Northern and Southern offset areas are located approximately 1 km north and 3 km south of CGO respectively on Evolution owned land (shown in Figure 3.1) and were established to offset the biodiversity impacts of the E42 modification (Mod 6) in accordance with Condition 3.4 of DA14/98 (as modified) with the Southern offset area subsequently further enlarged to offset the biodiversity impacts of Mod 11. The Biodiversity Offsets Management Plan prepared in accordance with Condition 3.4(c) of DA14/98 outline that the Northern and Southern offset areas total 440 ha consisting of:

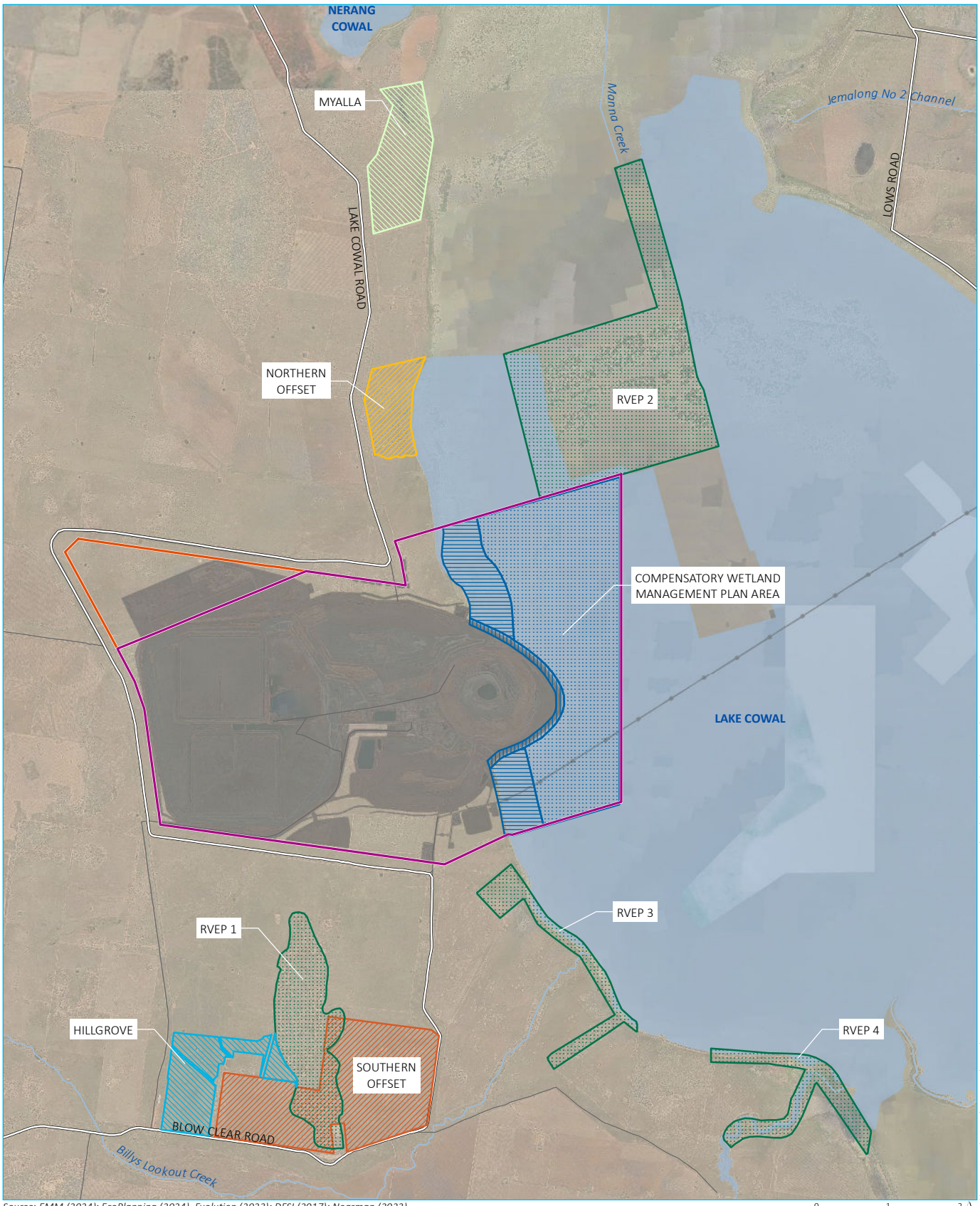
- Northern offset area (enhancement area) – 80 ha
- Southern offset Area (enhancement area) – 260 ha
- Southern offset Area (revegetation area) – 100 ha.

The enhancement management areas were delineated by the extent of two threatened ecological communities (TECs); Weeping Myall Woodland Endangered Ecological Community (EEC) (Northern and Southern offset areas) and Grey Box Woodlands EEC (Southern offset area). The revegetation management area applies to derived native grassland (DNG), identified as Spear Grass – Windmill Grass Grassland (Evolution 2015a).

b Biodiversity Offsets Management Plan

The Northern and Southern offset areas are currently managed through the Biodiversity Offsets Management Plan (Evolution 2015a) in accordance with Condition 3.4(c) of DA14/98. The Biodiversity Offsets Management Plan outlines that the objectives of the offset areas are to:

- secure tenure of the offset areas for long term conservation purposes
- enhance flora and fauna habitats within offset areas including increasing the area of Myall woodland via regeneration and revegetation
- establish native vegetation characteristics of a Eucalypt woodland in DNG areas via revegetation
- improve flora value of the land in medium to long term.



Source: EMM (2024); EcoPlanning (2024), Evolution (2023); DFSI (2017); Nearmap (2023)

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KEY

- Mining lease (ML1535)
- Mining lease (ML1791)
- DA14/98 approved surface disturbance
- Major road
- Minor road
- Named watercourse
- Named waterbody

Biodiversity conservation obligations under DA14/98

- Northern offset
- Southern offset
- Hillgrove offset
- Myalla offset
- RVEP area

Compensatory Wetland Management Plan

- Compensatory wetland area (140 ha)
- New lake foreshore (30 ha)
- Enhancement of remaining wetland areas within ML1535 (620 ha)

Biodiversity conservation obligations under DA14/98

Evolution Mining
Cowal Gold Operations
Open Pit Continuation Project
Response To Government Agency Advice
On Submissions Report
Figure 3.1

EMM
creating opportunities

The Biodiversity Offsets Management Plan's management measures (actions), performance criteria and monitoring are structured via:

- short-term (initial three years; 2015–2018)
- medium-term (2018 – end of approved mining operation which in 2015 was 2024)
- long-term (period from the end of mining operations to satisfaction of completion criteria).

Management actions outlined in the Biodiversity Offsets Management Plan include exclusion fencing, erosion management, vehicle access management, pest and weed management, habitat enhancement and revegetation in designated management area.

Monitoring is carried out annually in accordance with the Biodiversity Offsets Management Plan and consists of Landscape Function Analysis (LFA) indicators, accredited soil analyses indicators and assessment of ecosystem characteristics using an adaptation of the Biometric Assessment Method. The completion criteria targets for the offsets areas are determined by relevant reference site communities.

c Long term protection of the Northern and Southern Offset Areas

Section 3.4b of DA 14/98 requires Evolution to make suitable arrangements for the long-term protection of the Northern and Southern Offset Areas to the satisfaction of the Planning Secretary. Section 4.7 of the Biodiversity Offsets Management Plan outlines that Barrick (the former owner and operator of the CGO) progressed arrangements to provide appropriate long-term protection for the offset areas. A VPA was progressed between Barrick (Cowal) Pty Ltd and the Minister for Planning with draft VPA documents submitted to the then Department of Planning and Industry in 2013. It is understood from recent consultation with DPHI that it was determined that a VPA with the NSW Government was deemed not to be an appropriate mechanism to secure the long-term protection of the offset areas and as such this requirement is yet to be resolved.

Evolution has had two recent meetings with the DPHI (December 2023 and March 2024, the latter of which was also attended by CST) regarding the potential options to provide long term protection to the Northern and Southern offset areas. Consideration has been given to the possibility of establishing either a Biodiversity Stewardship Agreement (BSA) or a Conservation Agreement over these areas. As the Northern and Southern offset areas were established prior to the commencement of the *Biodiversity Conservation Act 2016* (BC Act), they have not been assessed or established under NSW Biodiversity offsets scheme (BOS). They were also developed prior to the commencement of the former *NSW Biodiversity Offsets Policy for Major Projects* (OEH 2014). In other words, these offset sites were developed as area based offsets to address area based biodiversity impacts at CGO, rather than sites established to generate credits to offset a credit liability determined via application of the Biodiversity Assessment Method (BAM).

CST has confirmed that, notwithstanding that there is no credit liability to be retired for the Northern and Southern offset areas, establishment of a BSA in accordance with the BAM and BC Act would require the vegetation within these existing offset areas to be remapped in accordance with the BAM inclusive of BAM plots to determine the credit yields. Evolution is of the view, that the strict framework for assessing a potential stewardship site in accordance with the BAM which would be required to transition the Northern and Southern offset areas is not an appropriate mechanism for these areas which have been actively managed as offset areas since their establishment in 2010.

Consideration, therefore, has also been given to the possibility of establishing a Conservation Agreement with the Biodiversity Conservation Trust (BCT). A review of the *Guidelines for proponents and consent authorities – using offset conservation agreements* (Conservation Agreement Guidelines) (BCT 2020), suggest that a Conservation Agreement with the BCT would be an appropriate mechanism to secure the long-term protection of the Northern and Southern offset sites.

The Conservation Agreement Guidelines note that they should only apply to legacy conditions for major projects issued prior to October 2014 when the NSW Government 'Biodiversity Offsets Policy for Major Projects' was released. The E42 modification and subsequent MOD 11 which provided for the establishment of the Offset Areas were both approved prior to October 2014.

The Northern and Southern offset areas satisfy at least two of the minimum biodiversity values requirements outlined in the Conservation Agreement Guidelines in that the areas contain EECs (Weeping Myall Woodland EEC and Grey Box Woodlands EEC) and also is part of a larger area of remnant vegetation or is connected to a protected area (the Southern offset area connects to the Hillgrove Biodiversity Stewardship Site and existing RVEP Areas (refer Figure 3.1). The offset areas also meet the Conservation Agreement Guidelines minimum requirements for size and configuration.

Evolution has commenced consultation with a Senior Landholder Support Office from the Murray Riverina BCT who has requested some information regarding the current offset structure, the legislation that the offset areas were originally declared under and the existing management obligations of the Offset Areas. Evolution has provided this information with the view of arranging a meeting with DPHI and BCT in the near future.

ii Offsets required under Modification 14

Evolution's MOD14 project spanned the transition of NSW legislation and processes governing assessment of biodiversity impacts and offsets from the *Threatened Species Conservation Act 1995* (TSC Act) to the *Biodiversity Conservation Act 2016* (BC Act). The impacts arising from MOD14 were initially assessed under the now superseded assessment framework. As such, a Statement of Assessment of Reasonable Equivalence (SRE) was sought to allow conversion of the offset liability to the current biodiversity assessment methodology. Consultation occurred with the Biodiversity Conservation Division (BCD) and the SRE was finalised on 21 September 2023 (refer Appendix B). The SRE requires, with the establishment and retirement of credits from a BSA over Hillgrove and Myalla properties, a total of 2426 PCT credits, and 11 Superb Parrot credits under the BAM.

To resolve the final outstanding credit liability outlined in the SRE, Evolution is utilising a combination of establishment of an internal Biodiversity Stewardship Agreement (BSA), direct purchase of credits from a local landholder, and payment(s) into the Biodiversity Conservation Fund (BCF). The summary of steps carried out to date to resolve the MOD14 offset liability is outlined below:

- Assessment and submission of an application for a BSA over Hillgrove and Myalla properties within Evolution owned land (refer Figure 3.1) (formerly referred to as Offset Areas 3 & 6, consisting of PCT26, PCT 53, PCT 55, PCT 56, PCT 82, PCT 185 and PCT 249 credits). See notes below on the status of this BSA.
- Purchase of 610 PCT55 Credits from local Stewardship site, located approximately 18 km to the south-east of CGO (complete 19/06/23).
- Options agreement in place to purchase additional biodiversity credits (450 credits for MOD14) from the same local stewardship site noted above, which is varying the BSA to add additional lands and credit generation. It is understood that comments have been received from CST on the application and are in the process of being responded to.
- Payment into the BCF for 10 PCT185 and 11 Superb Parrot credits (complete 29/10/21).
- Second payment into the BCF for 613 PCT82 and 1 PCT185 to cover known credit shortfall from Hillgrove and Myalla BSA (complete 16/06/2023).

The application for the internal BSA across Hillgrove and Myalla properties was deemed successful with the final version of the BSA issued on 1 February 2024 (BS0147 Hillgrove and Myalla; BSA cover letter provided in Appendix C). This document is currently being reviewed by Evolution and will be signed shortly. Once Evolution has signed the BSA, the BSA will be registered with the Land Registry Services and credits formally issued by the Biodiversity Conservation Trust (BCT) and subsequently retired. Combined, the Hillgrove Myalla BSA sites will generate 980 credits, with credit expected to be available for retirement around July 2024, with 693 credits to be applied to meeting the MOD14 liability.

The residual credit liability remaining, not met by the Hillgrove and Myalla BSA, will be met by:

- Purchase of credits from the local stewardship site which is currently being varied to cover additional lands and thus generate additional biodiversity credits. Evolution has legally secured first rights of purchase for these credits to contribute towards the MOD14 offset liability, which will provide further local biodiversity outcomes – Evolution's preferred outcome compared to paying into the BCF. It is expected that these credits will be issued around June/July 2024, with an anticipated 450 credits to be subsequently purchased and formally retired by Evolution to meet MOD14 credit obligations.

- It is expected that a total of 49 residual credits not met through the purchase from this local stewardship site will be acquitted via the BCF fund (subject to local landholder final credit generation numbers).

Evolution has recently submitted a request to DPHI for an extension to comply with DA 14/98 Condition 3.4 (B1) and 3.4 (B2) to 31 October 2024. As demonstrated above, Evolution has made significant progress towards resolving the MOD 14 offset liability and expects to have the liability fully resolved around August/September 2024. Notwithstanding, a longer extension time has been sought to avoid the need for further extensions due to unforeseen delays.

iii Compensatory wetland areas

The Compensatory wetland areas were established under Condition 3.3 of DA14/98 to offset the loss of 120 ha of wetland which resulted from the original mine approval. The location and management actions of Compensatory Wetland areas are detailed in the Compensatory Wetland Management Plan (Evolution Mining 2003). This plan identified three types of wetland rehabilitation and enhancement measures that have been adopted and approved, with their extent shown within Figure 6 of the Compensatory Wetland Management Plan (Evolution Mining 2003) and reproduced in Figure 3.1 above. These areas are:

- Compensatory wetland – 140 ha, including the fringing River Red Gum community (PCT 249)

- Rehabilitation of the New Lake Foreshore Compensatory– approximately 30 ha, including the fringing River Red Gum community (PCT 249)

- Enhancement of remaining wetland areas within ML 1535 – approximately 620 ha.

In accordance with Condition 1.2 of DA 14/98, the consent only applies until rehabilitation is completed and does not run in perpetuity. Thus, the current commitment for the management and protection of these Compensatory Wetland areas extends only until rehabilitation of the site is complete. After this, there is no in perpetuity commitment or requirement for biodiversity management of these areas.

As outlined in the revised Biodiversity Development Assessment Report (BDAR) (refer Appendix F of the Submissions Report (EMM 2024b)), the Project will impact on a total of 345.52 ha of areas managed under the Compensatory Wetland Management Plan (Evolution 2003a) (conservatively considering both the Compensatory Wetland areas and the enhancement of remaining wetland areas within the ML). As discussed further in Section 3.2.2v below, Evolution has gained in principle support from BCS for a 1:1 area ratio approach to providing in perpetuity offsets to account for impacts to areas currently managed through the Compensatory Wetland Management Plan. As such only a small portion of the original Compensatory Wetland area, alongside the

remaining enhancement of wetland areas within ML1535 will remain. It is proposed to incorporate the management of the remaining Compensatory Wetland Management Plan areas into the Project's Biodiversity Management Plan. Relevant management measures from the Compensatory Wetland Management Plan which would be included in the Project's Biodiversity Management Plan include:

- establishment planting (New Lake Foreshore zone only)
- regeneration planting if required (compensatory wetland area only)
- provision of structural habitat for aquatic fauna via the placement of salvaged root balls, logs, and limbs to create woody debris for aquatic fauna (compensatory wetland area only)
- prevention of stock access and monitoring to assess the regeneration of native vegetation
- pest and weed control
- limiting vehicle access.

iv RVEP areas

The Remnant Vegetation Enhancement Programme (RVEP) areas (shown in Figure 3.1) were established in response to the following approval conditions of DA14/98:

1. Development Consent Condition 3.2(b)(vii):

   (b) The Applicant shall prepare and implement a Flora and Fauna Management Plan for the development to the satisfaction of the Planning Secretary. The plan shall be prepared in consultation with DPI Fisheries and BCS, and cover the mining lease area and monitoring of bird breeding areas as identified by the Applicant in consultation with BCS. The plan shall include, but not be limited to:

   (vii) methods to conserve and enhance wildlife values around Lake Cowal, within the mine lease area, including: protection and enhancement of existing retained habitats.

2. Development Consent Condition 3.7(a):

   The Applicant shall prepare and implement a Land Management Plan for all its land holdings to the satisfaction of the Planning Secretary. The plan shall be prepared in consultation with BCS, DPIE Water, DPI Agriculture and BSC, be consistent with the Flora and Fauna Management Plan, provide for proper land management including, but not limited to:

   (a) pastures and remnant vegetation management;

The RVEP is outlined in the Land Management Plan (Evolution 2003b) and the Flora and Fauna Management Plan (Evolution 2015b) with the four RVEP areas identified in both of these management plans.

The identified RVEP areas were targeted for the following purposes:

- RVEP area 1: Large area of remnant woodland located to the south of Mining Lease (ML) 1535
- RVEP area 2: Lignum/bird breeding areas in the north of Lake Cowal
- RVEP areas 3 and 4: Fringing River Red Gum.

The existing conservation obligation for RVEP areas are not in-perpetuity. That is, these RVEP areas are not designated as "offset areas", and so are not registered on the title of the land. The Land Management Plan (Evolution Mining 2003b, Section 5.4, page 18) states that:

> "5.4 REMNANT VEGETATION ENHANCEMENT PROGRAMME
>
> The Remnant Vegetation Enhancement Programme (also discussed in the FFMP) provides an opportunity to conserve the regional biodiversity and to enhance the habitat available to flora and fauna. During Project construction and operation, areas of remnant vegetation and areas of Lake Cowal wetland located within Barrick-owned land will be managed to maintain and enhance their inherent conservation values." (underlining for emphasis added by the authors of this letter)

That is, the current commitment for RVEP these areas to be managed is for the period of project construction and operation only; there is no in perpetuity commitment or requirement for biodiversity management.

Current management and monitoring activities carried out within the RVEP areas are documented in Evolution's Flora and Fauna Management Plan (Evolution 2015b) and Evolution's Land Management Plan (Evolution 2003b) and include:

- exclusion of livestock
- selective planting
- pest and weed control
- limiting vehicle access
- provision of nest boxes and herpetofauna habitat.

Monitoring involves survey of vegetation plots that are established within each RVEP area to obtain quantitative data on species diversity and abundance.

As discussed further in Section 3.2.3 below, a large portion of RVEP area 2 is proposed to be included in the proposed Biodiversity Stewardship site to offset a component of the Project's biodiversity impacts. This will result in long-term conservation outcomes not currently provided for Lake Cowal, a nationally important wetland that provides important habitat for several State and Nationally listed waterbirds.

The remaining RVEP areas are proposed to be managed for the duration of the Project with relevant management provisions outlined in the Land Management Plan and Flora and Fauna Management Plan proposed to be included in the Project's Biodiversity Management Plan.

3.2.2 Progress of Project's biodiversity offset strategy

i Overview

As outlined in the Submissions Report, Evolution will pursue biodiversity offsets required for the Project, prioritising local outcomes through securing Stewardship sites and/or credits within and nearby Lake Cowal where possible.

The Project's biodiversity offset strategy has been prepared to provide a framework to meet the Project's biodiversity offset obligations whilst also seeking to meet the Project's anticipated schedule. Although the biodiversity offset strategy primarily aims to meet requirements under the BC Act, it also encompasses aquatic biodiversity and Commonwealth migratory birds offset requirements. The strategy also provides an offset solution to compensate for impacts to the Compensatory Wetland Area.

While included in the Directory of Important Wetlands in Australia, Lake Cowal sits wholly within privately-owned land and is currently not protected under any Commonwealth or State government reservation mechanism. Historically, the entire lake bed has been cropped and/or grazed when conditions allow. Currently when dry, the eastern half of the lakebed is primarily used for cropping and grazing by local landowners. The western half is owned by Evolution and the company has chosen to manage this land for biodiversity purposes.

While the Project will have an additional disturbance area of 1,032.16 ha including approximately 367.4 ha within Lake Cowal, it will provide a mechanism to conserve large areas of Lake Cowal and its immediate surrounds in perpetuity via the establishment of biodiversity stewardship sites under the BC Act to offset the impacts of the Project. Approximately 2,500 ha of land within and directly adjacent to Lake Cowal will be secured in stewardship sites in perpetuity and actively managed. This will provide long-term conservation security for Lake Cowal which is not currently provided under the existing tenure.

ii Credit sources

The Project's biodiversity offset strategy identifies potential credit sources to meet the Project's biodiversity offset obligations whilst also seeking to meet the Project's anticipated schedule. The Project is divided into nine stages to allow for flexibility in the Project's schedule/delivery. The emphasis has been placed on resolving offsets for the early stages of the Project (Stages 1, 2a, 2b, and 3), noting that the specific approach to source credits for the Project's respective stages will be an evolving process depending on opportunities that arise, discussions with landholders and regulators, or other future unforeseen changes.

Currently the Project's biodiversity offset strategy packages stages in to 'offset packages' to deliver efficiencies in cost and time in delivering BSAs. That is, it is more efficient to source and generate credits that are required for stages with a similar commencement date as a package due to economies of scale, rather than individually for each stage (noting that credits will need to be retired prior to vegetation clearance commencing on each stage).

A summary of the ecosystem credit liability per offset package and proposed credit sources for the offset package is provided in Table 3.1 below. A total of 43 Species credits will also be required to offset impacts to the NSW listed threatened plant *Pilularia novae-hollandiae* (Austral Pillwort), 39 of which are required for Stage 1 and the remainder required prior to Stage 3. It is noted that all credit outcomes are indicative only, and will change with confirming Stewardship site boundaries, detailed field survey, landholder negotiations and the approval process.

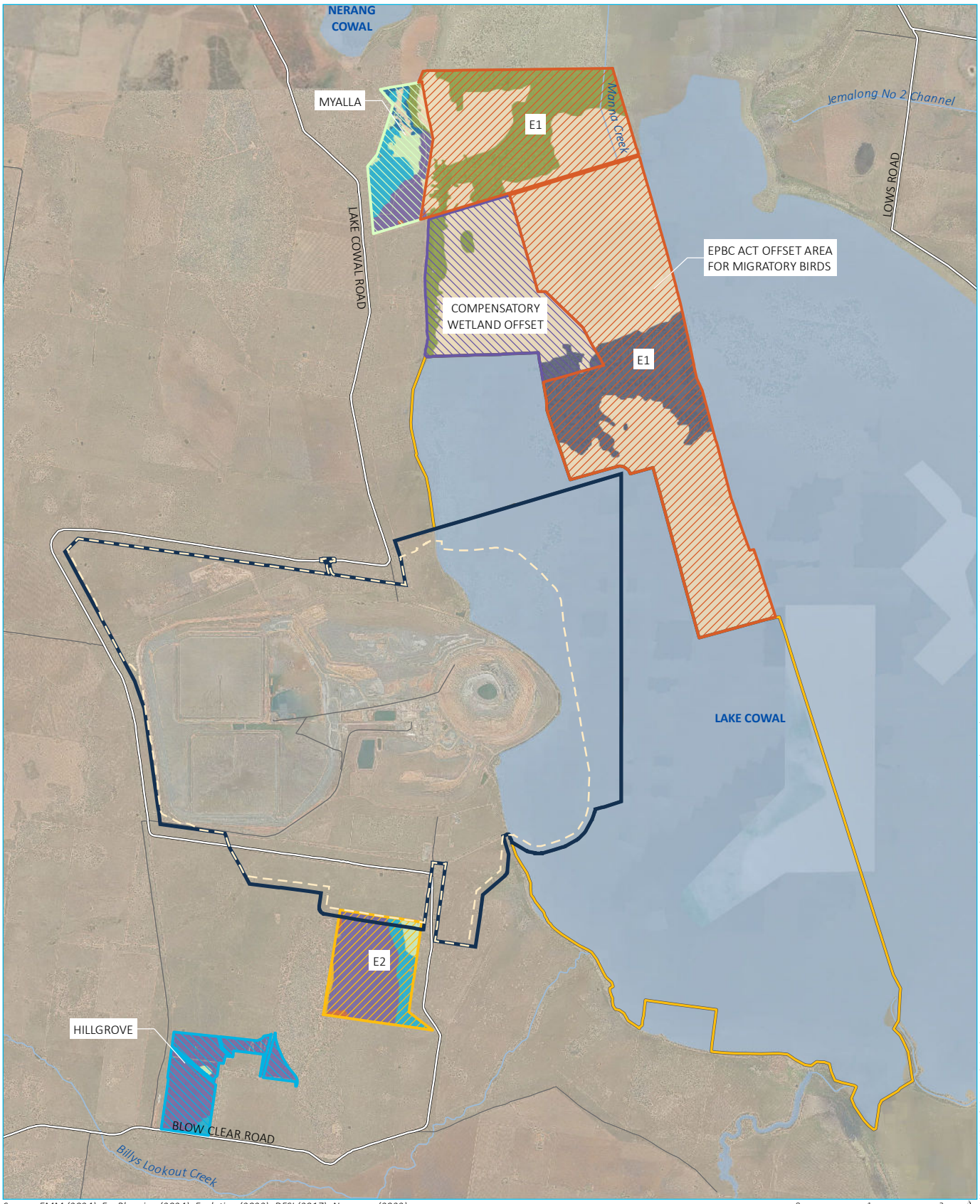
Table 3.1 Ecosystem credit liability and sources of credit supply for the Project by offset package

Offset package	Credit liability per offset package	Indicative credits generated: Evolution landholdings			Indicative credits generated local landholders		Potential credit shortfall needing to be sourced locally/market or BCF
		Hillgrove and Myalla BSA (surplus credits)	Stewardship sites to meet P1/P2 (E1, E2, T2)	Future stewardship sites to meet P3/P4 (E3, E4, E5, E6, E7)	Local BSA 1 (option agreement in place)	Local BSA 2 (negotiation in progress)	
P1 Stages 1, 2a and 2b; and compensatory wetland offset	7,034	333	6,211	0	196	253	-41 PCT 244
P2 Stage 3	3,069	0	806	0	354	880	-279 PCT 26 -750 PCT 55

Table 3.1 Ecosystem credit liability and sources of credit supply for the Project by offset package

Offset package	Credit liability per offset package	Indicative credits generated: Evolution landholdings			Indicative credits generated local landholders		Potential credit shortfall needing to be sourced locally/market or BCF
		Hillgrove and Myalla BSA (surplus credits)	Stewardship sites to meet P1/P2 (E1, E2, T2)	Future stewardship sites to meet P3/P4 (E3, E4, E5, E6, E7)	Local BSA 1 (option agreement in place)	Local BSA 2 (negotiation in progress)	
P3 Stages 5, 6 and 7	4,377	0	71	2,347	0	0	-930 PCT 26 -1,009 PCT 55 -20 PCT 185
P4 Stages 4a and 4b	5,567	0	121	5,446	0	0	0
Total	**20,047**	**333**	**7,209**	**7,793**	**550**	**1,133**	**-3,029**

As indicated in Table 3.1, almost 85% of the overall Project credit requirement is expected to be met through a combination of BSAs established within Evolution landholdings (inclusive of an adjacent landholding which Evolution has entered into an in principle agreement to purchase) and purchase from two local stewardships sites currently under assessment, with whom Evolution either has an option agreement to purchase credits in place or are in the process of negotiating an agreement. Notwithstanding, there are current credit shortfalls particularly for PCT 26 and PCT 55 in Stages 3 onwards (Table 3.1), which will need to be met via the market, local landholders and/or payment into the BCF. Further information regarding the discrete proposed offset packages is provided in the following subsections.



Source: EMM (2024); EcoPlanning (2024), Evolution (2023); DFSI (2017); Nearmap (2023)

0 1 2 km

GDA 1994 MGA Zone 55

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KEY

- Project area
- Project disturbance area
- Major road
- Minor road
- Named watercourse
- Named waterbody
- Area within Evolution's landholdings available for establishing offsets for OPC stage 4a and 4b - Southern LPB. Exact extent TBD

PCT mapping
- PCT 17
- PCT 26
- PCT 53
- PCT 55
- PCT 56
- PCT 70
- PCT 80
- PCT 82
- PCT 185
- PCT 217
- PCT 249

Offset package 1
- E1
- E2
- Hillgrove
- Myalla
- Compensatory wetland offset

Revised stewardship site boundaries on Evolution owned land

Evolution Mining
Cowal Gold Operations
Open Pit Continuation Project
Response To Government Agency Advice
On Submissions Report
Figure 3.2

EMM
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a Offset Package 1: Stages 1, 2a and 2b

For the initial Stages 1, 2a, and 2b, Evolution proposes to vary the Hillgrove and Myalla BSA. As identified in Figure 3.2[1], the proposed variation will include additional offset areas over Evolution's landholdings (inclusive of an adjacent landholding which Evolution has reached an in principle agreement to purchase). The proposed variation to the Hillgrove and Myalla BSA will largely meet credit requirements for offset package 1 with shortages for certain Plant Community Types (PCTs) credits and Austral Pillwort credits addressed through arrangements with two local landholders (refer Table 3.1). An options agreement with one of these landholders has been signed with the negotiations in progress with the other landholder. A small payment into the BCF is expected to be required to meet the requirement for around 41 PCT 244 credits due to insufficient suitable land availability. The proposed variation to the Hillgrove and Myalla BSA is well progressed with submission of the variation application (along with the Biodiversity Stewardship Site Assessment Report (BSSAR), Management Plan and Total Fund Deposit) expected to be submitted to CST in June 2024.

b Offset Package 2: Stage 3

For Stage 3, credit requirements can be partially met through credits generated in Evolution's landholdings for Offset Package 1, and credits from the two identified local landholders. However there is currently a shortfall of PCT 55 and PCT 26 credits. Evolution has commenced preliminary additional identification of landholdings in the local region containing PCT 55 and PCT 26 credits with the view of establishing additional (or varying existing) stewardship sites to meet the identified shortfall.

c Offset Package 3: Stages 5, 6 and 7

A large portion of Stages 5, 6 and 7 are expected to be met largely through a second BSA across Evolution's landholdings. This Evolution BSA may also generate all the credits required for Stages 4a and 4b, although the latter may be retired later than Stages 5, 6 and 7. Note that the availability of suitable areas for this BSA is contingent upon confirmation of vegetation mapping. Nevertheless, there is expected to be a shortfall of credits for PCTs 26 and 55 for Stages 5, 6 and 7 that cannot be met within Evolution's landholdings. Evolution intends to meet this shortfall through establishing additional (or varying existing) stewardship sites.

d Offset Package 4: Stages 4a and 4b

All credits required for Stages 4a and 4b are expected to be met through the establishment of the second BSA across Evolution's landholdings, which will also generate most credits for Stages 5, 6 and 7.

iii Offsetting migratory shorebirds

Application of the EPBC Act environmental offsets policy tool identified that 1,438.2 ha of migratory bird species habitat would be required to offset for the residual impact to the following species:

- Latham's Snipe (*Gallinago hardwickii*)
- Sharp-tailed Sandpiper (*Calidris acuminata*)
- Glossy Ibis (*Plegadis falcinellus*)
- habitat important to EPBC Act listed migratory shorebirds.

[1] The location of the proposed offset area on an adjacent landholding which Evolution has entered into an option to purchase is not shown on Figure 3.2

The offset area proposed for migratory shorebirds is within the broader offset areas required under the BC Act for Stages 1 and 2 of the Project. Since lodgement of the Submissions Report and Revised BDAR the stewardship site boundaries for migratory shorebirds have been updated from that previously presented to Commonwealth DCCEEW, due to refinements following detailed field work. The new area for initial offsets is around 1,460.86 ha (noting that there may be further minor boundary refinements), which comprises PCT 17 Lignum shrubland wetland (237.70 ha), PCT 53 grassland/sedgeland (982.33 ha) and PCT 249 River Red Gum woodland (240.83 ha). This revised area meets 100% of offset liability of all stages for the migratory/threatened shorebirds. That is, the area of offsets provided in this initial offset site exceeds the 1,438.2 ha offset requirement (see above section). The revised offset area for migratory shorebirds is shown in Figure 3.2.

Active management of initial migratory bird offsets is proposed to commence prior to the start of Stage 3 [once total fund deposit (TFD) is 100%].

In addition to the initial offsets that will meet 100% of the offset requirement, Evolution will also deliver additional offsets for the Project that will also benefit migratory shorebirds. These are:

- 364 ha provided to offset impacts to Compensatory Wetland; established under the original development consent (PCTs 17, 53 and 249)
- additional approx. 1,150 ha of migratory shorebird habitat provided for offsets for Stages 4a and 4b of the Project (PCT 53).

iv Offsets required for impacts to key fish habitat under the *Fisheries Management Act* 1994

Aquatic offsets under the *NSW Fisheries Management Act* 1994 (FM Act) are expected to be required as Lake Cowal is identified as "key fish habitat" and therefore the Biodiversity Offsets Policy for Major Projects Fact Sheet: Aquatic Biodiversity (DPI 2014) applies, which requires offsets for mapped key fish habitat at a minimum 2:1 ratio.

PCT 17 and 53 occur in Lake Cowal and are classified as key fish habitat. PCT 249 fringes Lake Cowal; it is considered that this is not key fish habitat but would occur within the key fish habitat buffer zone (noting that a 50–100 m buffer to Type 1 or 2 habitats or Class 1 to 3 waterways measured from the top of the bank/drainage also apply (DPI 2013). The area of the three vegetation communities required to be offset under a 2:1 arrangement is provided in Table 3.2 (noting that PCT 249 is a buffer only and to not require offset under the FM Act). BSAs to be established within Evolution-owned lands to meet the offset obligation under the NSW BOS will meet these FM Act offset requirements with offset obligations under the FM Act all being met with the first delivery of offsets via E1, E2 and the Compensatory wetlands offset areas.

Table 3.2 Offsets to be met under the *Fisheries Management Act* 1994 with Evolution-owned land

PCT	Area impacted (ha)	Offset Area required at 2:1 (ha)
PCT17	12.04	24.08
PCT53	311.19	622.38
PCT249	51.99	103.99
Total	375.22	750.45

v Offsets to account for impacts to Compensatory Wetland areas

As described in further detail in Section 4.1.1, Evolution supports the BSC requirement for a BSA for the Compensatory Wetland Area to be established prior to commencement of Stage 1 of the Project as well as the BCS recommendation that the 365.64 ha area required to offset the impacted Compensatory Wetland Area must be additional to those required to address residual impacts of the Project.

Since presenting the area for the BSA in Figure 10.1 of the revised BDAR (EMM 2024b), provided as Appendix F to the Submissions Report, there have been some changes to the boundary of this proposed Compensatory Wetland Area due to recent refinements of the vegetation mapping, mapping, survey of lot boundaries, and to account for credit discounting within the RVEP 2 areas (refer Section 3.2.3 below). The revised area for the proposed Compensatory Wetland Area is shown in Figure 3.2 with further details regarding the composition of the PCTs within the Compensatory Wetland offset area provided in Section 4.1.1.

3.2.3 Use of RVEP area 2 for Biodiversity Offsets

Provide an update on the use of existing RVEP areas for biodiversity offsets.

Use of RVEP lands as an offset site is permitted by NSW DPHI since these areas were not created as offset sites (as per correspondence from Stephen O'Donoghue on 19 December 2023). Confirmation was received in March 2024 that CST would accept the RVEP areas as land that is eligible for establishing a BSA however expected additionality will apply to determine the number of biodiversity credits that can be created for this area (as per section 11.9 of the BAM). Further consultation has been carried out with CST to confirm whether use of these lands as Stewardship sites will be subject to credit discounting (reduction of all biodiversity credits awarded) and if so the level of credit discounting to be applied. CST requested Evolution provide a table providing a summary of the proposed additionality for Cowal RVEP area 2 (included as Appendix E). This summary was provided to CST on the 9 April 2024 and indicated the level of discounting to be applied to RVEP areas based on current management obligations was 34%. CST provided confirmation via email (refer Appendix E) on 15 April 2024 that CST agreed with the proposed level of discounting.

3.3 Erosion modelling

Provide further information (such as a risk screening assessment) to identify the level of risk associated with erosion, particularly on the eastern pit walls, with a focus on the areas of the pit located closest to the bund wall and lake.

Include an analysis of how any identified risks can be appropriately managed with consideration given to mitigation measures, including provision of a suitable buffer area with minimum setbacks and/or laybacks from the lake and bund wall, and/or other measures to demonstrate sufficient safeguards from erosion impacts to the bund wall and lake.

SLR Consulting Australia (SLR) prepared an Erosion Assessment Report (included as Appendix J of the Submissions Report) to document factors that contribute to erosion on the weathered zone of the pit walls (SLR 2024a). The SLR report also included a management "framework" that could be applied at Cowal Gold Operations (CGO) to understand the risk and opportunities that should be considered as Evolution move towards a viable closure strategy.

Further to this assessment, and in response to DPHI's request for further information to identify the level of risk associated with erosion, SLR has carried out a supplementary erosion assessment included as Appendix H of this report (SLR 2024b).

To address DPHI's request for information, SLR has carried out a supplementary qualitative risk and opportunity assessment of the aspects, impacts, causes, and risks associated with erosion and instability of the extremely weathered zone of the open pit walls. The supplementary risk assessment built on three previously identified primary project risks relating to erosion and sediment control, rehabilitation material resources and interaction between Lake Cowal and CGO referred to in the Submissions Report, Appendix D - Proposed Environmental Management Framework Risk Assessment (refer to Table 3.1 in Appendix G).

The ten supplementary qualitative risks associated with erosion, material availability and interaction between the operational pit wall and the Lake Protection Bund (LPB) identified by SLR are documented in Table 3.2 in Appendix G. The highest potential supplementary risk identified is the potential for interaction of the pit wall(s) with Lake Cowal. SLR further proposes existing mitigation currently implemented on site and/or additional mitigation measures to manage the supplementary risks (refer Table 3.2 in Appendix G).

SLR has prepared a conceptual drawing depicting the conceptual final landform of the Project with cross sections of the E41, E42 and GR open pits (reproduced as Figure 3.3 below). The cross sections verify the following.

- GR Pit the Operational slope may be in the order of 20.8º and there is the potential for a Conceptual closure slope of 13.3º. There is also the potential for a Conceptual contingency closure slope of 11.3º that could be achieved if considered necessary.
- E42 Pit the Operational slope would be in the order of 25.2º with a Conceptual closure slope of 24.6º. A Conceptual contingency closure slope of 16.5º could also be achieved if considered necessary.
- E41 Pit the Operational slope could be in the order of 23º with a Conceptual closure slope of 18.8º. There is also the potential for a Conceptual contingency closure slope of 13.5º that could be achieved if considered necessary.

It is not the intent of these conceptual drawings to infer these lower slope angles are required, rather to verify that there is in the order of ~100 m of land to achieve lower slopes as a closure contingency (in the event they are considered required).

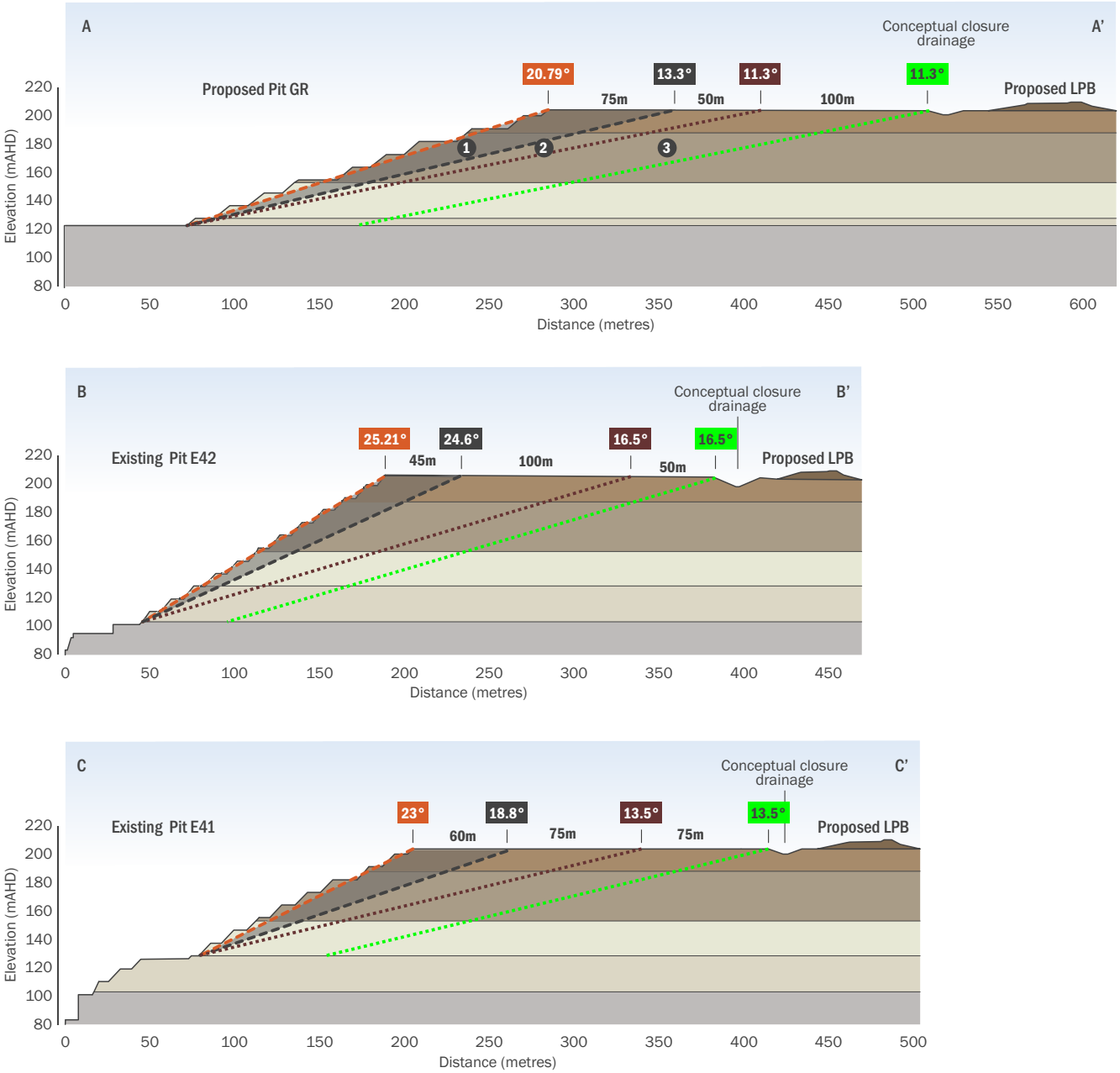


Figure 3.3 Closure landform design opportunities for the open pit (Source SLR 2024)

3.4 Aboriginal Cultural heritage

Provide an analysis of existing requirements and obligations and identify which would need to be transferred to a new consent.

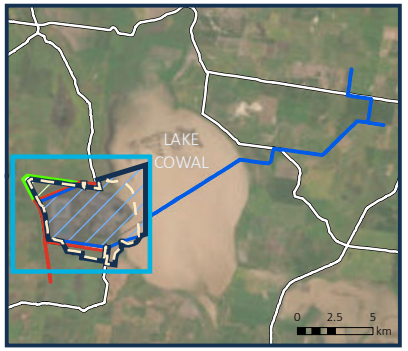
A detailed review of the existing permits and consents relevant to the CGO as well as the existing Indigenous Archaeology and Cultural Heritage Management Plan (IACHMP) was carried out to identify the status of the existing requirements and obligations under these permits/consents and IACHMP and whether there were on-going or outstanding obligations which would need to be transferred to the Project's approval (should approval be granted). The following sections provide an overview of these documents with a detailed review of the Special and Specific Conditions of each Consent/Permit provided in Table E.1 to Table E.3 in Appendix E.

3.4.1 Permits and consents relevant to the CGO

i Overview

The following permits and consents have been issued for the CGO under Section 87 and Section 90 of the *National Parks and Wildlife Act 1974* (NPW Act) and are shown in Figure 3.4:

- Permit 1468 – issued 27 October 2003
  - authorises archaeological investigation and mitigation measures within the ML 1535 Area and water pipeline/borefield area.
- Consent 1467 – issued 27 November 2002
  - authorises the destruction of Aboriginal objects in ML 1535 Area and water pipeline/borefield area once the relevant conditions of Permit 1468 have been carried out.
- Permit 1681 – issued 28 July 2003
  - authorises archaeological investigation and mitigation measures within the re-aligned Travelling Stock Route (TSR) and upgrade of the access road from West Wyalong.
- Consent 1680 – issued 28 July 2003
  - authorises the destruction of Aboriginal objects in the TSR and upgrade of the access road from West Wyalong once the relevant conditions of Permit 1680 have been carried out.
- Aboriginal Heritage Impact Permit (AHIP) C0004570 – issued 27 June 2019
  - authorises harm to the Aboriginal objects listed in Schedules B and C of the permit in accordance with the conditions listed in the Aboriginal Heritage Impact Permit (AHIP). The AHIP relates to the modification area: MLA 561, proposed TSR relocation and Lake Cowal Road realignment areas around the perimeter of MLA 561.
- Care Agreement C0004976
  - authorises the transfer and safe keeping of Aboriginal objects identified during the Aboriginal Cultural Heritage Assessment (ACHA) completed for the modification 14 area to Evolution Mining (Cowal) Pty Limited under section 85A(1)9(c) of the NPW Act.



KEY

- Project area
- Project disturbance area
- DA14/98 approved surface disturbance
- Major road
- Culturally modified tree

Permit/consent and AHIP boundaries

- Existing consent 1467/Permit 1468
- Existing consent 1680/Permit 1681
- AHIP C0004570

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Source: EMM (2024); Evolution (2023); DFSI (2017); Nearmap (2023)

0 1 2 km

GDA 1994 MGA Zone 55

N

Existing heritage permits and approvals relevant to CGO

Evolution Mining
Cowal Gold Operations
Open Pit Continuation Project
Response To Government Agency Advice
On Submissions Report
Figure 3.4

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ii Consent 1467/Permit 1468

a Consent 1467/Permit 1468 – expiry

Item no.3 and 5 of the Special and Specific Conditions of Consent 1467 outline the duration of operation for the consent:

> "3. This Consent operates in respect of the land covered by MLA 45 only for the period that the following approvals remain in force:
>
> - Exploration Licence 2864 and Exploration Licence 4510 or any renewals of the same; or
> - The development consent granted for the Cowal Gold Mine by the Minister for Urban Affairs and Planning on 26 February 1999 or a modification of the same or any new development consent which authorises the Cowal Gold Mine."
>
> "5. This consent shall lapse when the Minister for Mineral Resources acknowledges that satisfactory rehabilitation works has been completed under a mining lease granted in respect of MLA 45 or eighteen (18) years after the completion of construction works, whichever occurs first. For this purpose of this condition, construction works are the earthworks, engineering and building works which are required to be completed before mining operations commence."

The above is interpreted as meaning that this consent could potentially be expired if:

- the appropriate approvals (Development Consents and exploration licences, etc.) are no longer in force
- the definition of 'before mining operations commence', which if taken as the establishment of the mine in 2005, would result in 18 years extending to late 2023 or before. It is unclear whether later additions or modifications to the mining activity could be used to extend the establishment date and thereby the expiry age.

A variation to this consent was sought in early 2022 with Heritage NSW authorising an extension to the AHIP to December 2042 (refer Appendix F). As such, this consent remains valid for approximately the next 16 years.

It is also important to note the following Special Condition as it relates to the status of Aboriginal objects not subsequently destroyed by works associated with the consent:

> "6. Should any Aboriginal objects listed in Schedule A above remain in existence/*in situ* at the date of the lapse of this Consent, any destruction of the Aboriginal objects will be unlawful unless authorised by a new consent granted under section 90 of the *National Parks and Wildlife Act 1974*."

This effectively refers to any unmitigated Aboriginal objects situated within the ML 1535 Area and water pipeline / borefield area currently.

b Permit 1468 – Special and Specific Conditions

Permit 1468 authorises archaeological works relating to the Cowal Gold Project in the ML 1535 Area (inclusive of the borefield and water pipeline areas) and operates in conjunction with the Research Design and Study Plan (see Figure 3.4). These works must be completed prior to Consent 1467 (authorising destruction of Aboriginal objects) being actioned.

The permit outlines 18 Special and Specific Conditions (as shown in Table E.1) relating to archaeological salvage and other mitigation measures. All conditions required under the permit have been met as documented via the following reports:

- Pardoe, C. 2009a. Archaeological Investigations at Lake Cowal. Report to Barrick Gold of Australia Limited.

- Pardoe, C. 2009b. Archaeological Excavations at Lake Cowal. Report to Barrick Gold of Australia Limited.
- Pardoe, C. 2009c. Compliance Document for Archaeological Investigations at Lake Cowal.

iii Consent 1680/Permit 1681

a Consent 1680/Permit 1681 – expiry

Item no.3 and 5 of the Special and Specific Conditions of Consent 1680 are the same as Consent 1467 above and outline the duration of operation for the consent:

> "3. This Consent operates in respect of the land nominated above only for the period that the following approvals remain in force:
>
> - The development consent granted for the Cowal Gold Mine by the Minister for Urban Affairs and Planning on 26 February 1999 or a modification for the same or any new development consent which authorises the Cowal Gold Mine; or
>
> - The approval granted for the Cowal Gold Project Access Road Upgrade by the Bland Shire Council on 21 April 1999 pursuant to Part 5 of the *Environmental Planning and Assessment Act 1979* (NSW), or a modification of the same or any new approval which authorises the Cowal Gold Project Access Road Upgrade."
>
> "5. This consent shall lapse when the Minister for Mineral Resources acknowledges that satisfactory rehabilitation work has been completed under Mining Lease 1535 or eighteen (18) years after the completion of construction works, whichever occurs first. For the purpose of this condition, construction works are the earthworks, engineering and building works which are required to be completed before mining operations commence."

Again, the above is interpreted as meaning that this consent could potentially be expired if:

- the appropriate approvals (Development Consents and exploration licences, etc.) are no longer in force
- the definition of 'before mining operations commence', which if taken as the establishment of the mine in 2005, would result in 18 years extending to late 2023 or before. It is unclear whether later additions or modifications to the mining activity could be used to extend the establishment date and thereby the expiry age.

Consent 1680 also contains the same Special Condition in relation to the status of Aboriginal objects as per Consent 1467.

> "6. Should any Aboriginal objects listed in Schedule A above remain in existence/in situ at the date of the lapse of this Consent, any destruction of the Aboriginal objects will be unlawful unless authorised by a new consent granted under section 90 of the *National Parks and Wildlife Act 1974*."

b Permit 1681 – Special and Specific Conditions

Permit 1681 authorises archaeological works relating to the Cowal Gold Project in the TSR and road upgrade (see Figure 3.4). It operates in conjunction with the Research Design and Study Plan. These works must be completed prior to Consent 1680 (authorising destruction of Aboriginal objects) being actioned.

The permit outlines 11 Special and Specific Conditions (as shown in Table E.2) relating to archaeological salvage and other mitigation measures. All conditions required under the permit have been met as documented via the following reports:

- Pardoe, C. 2009a. Archaeological Investigations at Lake Cowal. Report to Barrick Gold of Australia Limited.
- Pardoe, C. 2009b. Archaeological Excavations at Lake Cowal. Report to Barrick Gold of Australia Limited.
- Pardoe, C. 2009c. Compliance Document for Archaeological Investigations at Lake Cowal.

iv AHIP C0004570

a AHIP C0004570 – expiry

AHIP C0004570 commenced on the 27 June 2019 and has a duration of 14 years which means that it will expire 27 June 2033.

> "C. This AHIP commences on the date it was signed unless otherwise provided by this AHIP. Unless otherwise revoked in writing, this AHIP remains in force for:
>
> - 14 years from the date of commencement, that is 27 June 2033."

b AHIP C0004570 – conditions

There are 37 Conditions which must be complied with in regard to AHIP C0004570 (see Table E.3 in Appendix E). This permit covers the north-western corner of the overall project area (see Figure 3.1) and authorises impacts to Aboriginal heritage in this area (Lot 101 and 102 DP 1059150) once certain mitigative actions have been carried out, including surface collection and salvage excavation.

No further documentation relating to the AHIP was available for review which suggests that the conditions are most likely not yet complied with and therefore still required prior to any harm or development occurring within the AHIP boundary.

The AHIP also includes a 'no-harm' area within Schedule A, which prohibits impacts to #39-4-0311. This is a culturally modified tree, AHIMS #39-4-0311, in the south-eastern corner of ML1535, on the fringe of the E41 open cut pit, is to be conserved. It is unclear why the site was included in the AHIP, since:

i) the site had previously been (and remains) included in the area of Permit 1468/Consent 1467

ii) the site was not in the vicinity of the actual AHIP curtilage, which encompasses the northwestern portion of the project area

iii) there is little reference of discussion of the site in (Niche 2019 Aboriginal Cultural Heritage Assessment: Cowal Gold Operations – Processing Rate Modification) that may indicate a reason why it was managed in this way. In contrast, the proposed management strategy in Niche (2019) for the site actually states 'salvage if required, otherwise avoidance'.

Regardless, currently, this is the only site currently listed in any permits as 'no-harm', and is situated within the SSD project area.

v Care Agreement C0004976

The care agreement commenced on 1 July 2019 and will expire on the 31 December 2032. The care agreement allows the applicant to fulfil obligation in relation to the long-term management and curation of Aboriginal objects salvaged as part of CGO operations.

The care agreement sets out the terms and conditions which must be followed and indicates that Aboriginal objects recovered as part of existing permits are to remain on site in a 'locked shipping container'. The Project's ACHA process undertook several discussions with the RAPs on the curation of recovered cultural materials, which included both the temporary on-site and off-site repositories, with cultural materials ultimately returned to Country following remediation of the mine in 2042, it is therefore proposed to retire the care agreement and to establish a Keeping Place within the Project area or within Evolution land holdings adjacent to Lake Cowal in consultation with the Project RAPs.

3.4.2 Existing Indigenous Archaeology and Cultural Heritage Management Plan

Condition 3.1(a)(ii) of the Development Consent requires that an Indigenous Archaeology and Cultural Heritage Management Plan (IACHMP) be prepared in addition to the Special and Specific Conditions as set out by the above permits. The IACHMP must include a Chance Finds Protocol and identify future salvage, excavations and monitoring of any archaeological sites within the site prior to and during development.

The IACHMP was **not** a specific condition or requirement of the Permits/Consents but needed to comply with the overall Development Consent (3.1(a)(ii)).

The original IACHMP (Evolution 2003c) was prepared and approved in October 2003 and outlines all of the requirements as listed in Condition 3.1(a)(ii). Of note in this plan is:

- The management and mitigation of *named* Aboriginal objects and sites across the mining lease under a 'research design and study plan'. These sites were identified as part of earlier assessments, and included P1, LC1, LC2, LC3, LC4, LCB1-16 inclusive and exposures labelled as A-N inclusive.
- The management and mitigation of environmental zones identified across the mining lease, with a focus on the 'lake's edge' under a 'research design and study plan'.
- Ongoing unexpected finds procedures for previously unidentified cultural materials, including human remains.
- There is limited, if any, reference to the need for monitoring of ground disturbance through grader scrapes. Rather there is reference to monitoring of the 'beach zone' for potential burials, and the requirement to ensure that topsoil stripped from Aboriginal sites is stockpiled and returned to the same locale (i.e. to ensure the cultural materials within the soil remain on Country in broadly the place they came from).
- Various administrative requirements on ensuring intellectual property remains with the Aboriginal community and close involvement of the Wiradjuri Condobolin Corporation in relation to activities associated with the plan.

It is anticipated that the SSD approval will require a new ACHMP to be prepared. An ACHMP will be prepared for the Project that will consolidate any requirements proposed as part of the SSD area without conflict of existing approvals. Any specific management measures relating to an amended AHIP C0004570 will be transitioned into the new ACHMP to be prepared. This may require consideration of Aboriginal sites along the water supply pipeline and Bland Creek Paleochannel borefield (covered by existing consent 1467) that are not outlined in the ACHA (EMM 2023b) or ACHA addendum (EMM 2024c). It is to be expected that the new ACHMP will include consideration of machine monitoring of the 'beach zone' for potential burials, and the requirement to ensure that topsoil stripped would be stockpiled and retained and re-used within the Project area, and not removed from mine site, thereby ensuring unidentified cultural materials remain on Country.

3.4.3 Impact assessment

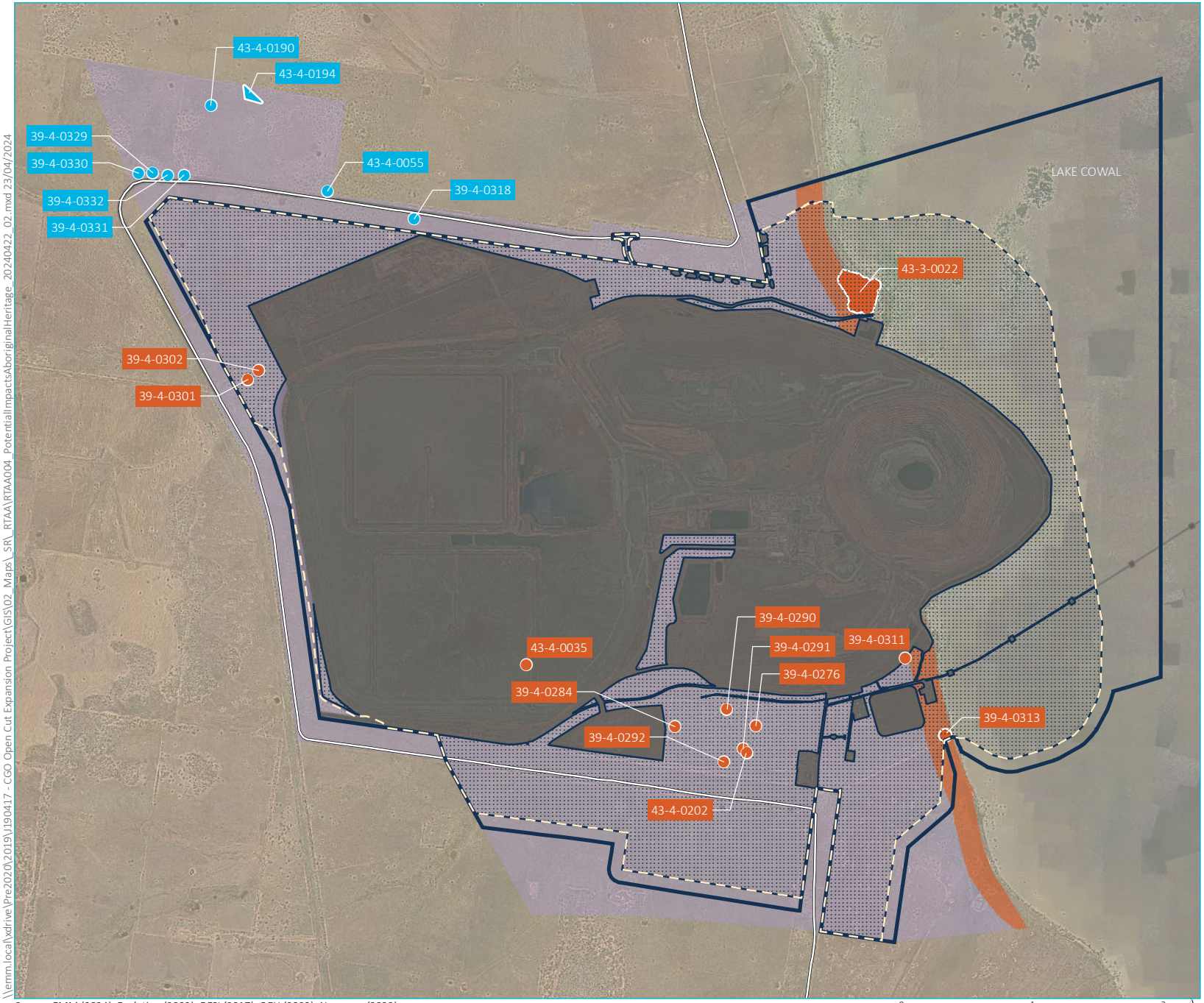
Twelve Aboriginal objects and sites will be fully impacted by the Project as illustrated in Table 3.3 and shown on Figure 3.5. This includes:

- two significant stone artefact sites (#43-3-0022 and #39-4-0313)
- two culturally modified tree sites (#39-4-0311 and #43-4-0035), noting that there is strong evidence one of these sites (#43-4-0035), has been previously mitigated during the establishment of the tailings dam
- eight hearth sites.

In addition, the Project will also result in partial impacts to the lake's edge zone (#43-4-0189) and a background artefact scatter (#43-4-0191) encompassing large parts of the Project disturbance footprint (refer Table 3.3).

Table 3.3 Updated potential impacts for the Aboriginal sites and objects within the Project area

AHIMS #	Site type	Status	Significance	Consent/permit	Type of harm	Degree of harm	Consequence of harm
39-4-0276	Hearth	Valid	Low	1467/1468	Direct	Whole	Complete loss of value
39-4-0284	Hearth	Valid	Low	1467/1468	Direct	Whole	Complete loss of value
39-4-0290	Hearth, low density artefact scatter	Valid	Low	1467/1468	Direct	Whole	Complete loss of value
39-4-0291	Hearth	Valid	Low	1467/1468	Direct	Whole	Complete loss of value
39-4-0292	Hearth	Valid	Low	1467/1468	Direct	Whole	Complete loss of value
39-4-0301	Hearth	Valid	Low	1680/1681	Direct	Whole	Complete loss of value
39-4-0302	Hearth	Valid	Low	1680/1681	Direct	Whole	Complete loss of value
39-4-0311	Culturally modified tree	Valid-tentative	Moderate	1467/1468; C0004570	Direct	Whole	Complete loss of value
39-4-0313	Medium density artefact scatter	Valid	Moderate	1467/1468	Direct	Whole	Complete loss of value
43-3-0022	High density artefact scatter	Partially destroyed	High	1467/1468	Direct	Whole	Complete loss of value
43-4-0035	Culturally modified tree, unspecified artefact site	Presumed destroyed	Moderate	1467/1468	Direct	Whole	Complete loss of value
43-4-0202	Hearth	Valid	Low	1467/1468	Direct	Whole	Complete loss of value
43-4-0191	Low density artefact scatter	Valid	Low	1467/1468; 1680/1681; C0004570	Direct	Partial	Partial loss of value
43-4-0189	Heritage focus area – cultural deposit	Valid	High	1467/1468	Direct	Partial	Partial loss of value



KEY

- Project area
- Project disturbance area
- Direct impact area
- DA14/98 approved surface disturbance
- Major road
- Lake edge zone (43-4-0189)
- Background scatter (43-4-0191)

Potentially impacted Aboriginal site

- Hearth/culturally modified tree
- Artefact scatter/archaeological deposit

Aboriginal site outside of the Project area, and not impacted

- Hearth
- Artefact scatter/archaeological deposit

\\emm.local\xdrive\Pre2020\2019\J190417 - CGO Open Cut Expansion Project\GIS\02_Maps_SR_RTAA\RTAA004_PotentialImpactsAboriginalHeritage_20240422_02.mxd 23/04/2024

Source: EMM (2024); Evolution (2023); DFSI (2017); OEH (2023); Nearmap (2023)

0 1 2 km

GDA 1994 MGA Zone 55

N

Project impacts on Aboriginal heritage

Evolution Mining
Cowal Gold Operations
Open Pit Continuation Project
Response To Government Agency Advice
On Submissions Report
Figure 3.5

EMM
creating opportunities

In addition to the sites listed in Table 3.3, the Project will require ongoing management of sites associated with the pipeline and borefield area as currently authorised by conditions of Permit 1468. These sites and associated management measures are outlined in Table 3.4 and will be consolidated into the revised ACHMP.

Table 3.4 Management of Aboriginal heritage sites by conditions of Permit 1468

Site name	Zone and location	Condition of Permit 1468	Management Summary
Site LCB9	Back Plain Zone Within water pipeline area / borefield	Special Condition 7	Representative sample of surface Aboriginal objects to be collected, documented and stored for safe-keeping at an onsite "Keeping Place". Excavation of test pits and possible extended excavation. A representative sample of sub-surface Aboriginal objects to be collected, documented and stored at an onsite "Keeping Place". All collected Aboriginal objects to be eventually replaced.
Site LCB14	Back Plain Zone Within water pipeline area / borefield	Special Condition 7	Representative sample of surface Aboriginal objects to be collected, documented and stored for safe-keeping at an onsite "Keeping Place". Excavation of test pits and possible extended excavation. A representative sample of sub-surface Aboriginal objects to be collected, documented and stored at an onsite "Keeping Place". All collected Aboriginal objects to be eventually replaced.
Site LCB1-LCB8, LCB10-LCB13, LCB15, LCB16	Back Plan Zone Within water pipeline area / borefield	Special Condition 2	No specific archaeological works required.

3.4.4 Summary

In summary, the following will need to be considered as part of the Project approval (should it be approved):

- Evolution understands Consent 1680/Permit 1681 is likely to have lapsed and seeks Heritage NSW's confirmation that this is the case. Any Aboriginal objects that have not been managed and/or destroyed under the Consent will be managed under the Project's ACHMP.
- Consent 1467/Permit 1468 remains valid to December 2042. A new ACHMP will be developed and approved, prior to this Consent being relinquished, post approval of the SSD. Any Aboriginal objects that have not been managed and/or destroyed under Consent 1467 will be managed under the Project's new ACHMP.
- The conditions required under AHIP C0004570 have not been implemented. This permit is valid until 2033 and the conditions would need to be complied with prior to any development occurring across the permit area. A variation to this Consent will be sought post approval to ensure the Consent only relates to areas outside the SSD Project Area. Any Aboriginal objects within the Project area that have not been managed and/or destroyed under the Consent would require approval of the Project's ACHMP to allow harm.

- A revised ACHMP will be prepared for the Project that will consolidate any requirements proposed as part of the Project without conflict of existing approvals. Any specific management measures relating to an amended AHIP C0004570 will be transitioned into the new ACHMP to be prepared. This may require additional consideration of site that are not outlined in the ACHA (EMM 2023b) or ACHA addendum (EMM 2024c) but would be within the broader surface collection and excavation strategies. This will include those sites and management measures applicable to the pipeline and borefield area as outlined in Table 3.4. It is to be expected that the new ACHMP will include a requirement to ensure that topsoil stripped is stockpiled and retained and re-used within the Project area, and not removed from mine site, thereby ensuring unidentified cultural materials remain on Country.

4 Response to government agency advice

4.1 Biodiversity, Conservation and Science Group

The BCS advice on the Submissions Report and revised BDAR provided as Appendix F to the Submissions Report identified four residual matters that required resolution to ensure compliance with the Project's Secretary's Environmental Assessment Requirements (SEARs), however noted that the re-submission of a revised BDAR was not necessary. A summary of the residual matters identified by BCS and associated response is provided in the sections below.

4.1.1 Impacts to the Compensatory Wetland Area

BCS supports the overall proposed approach to offset impacts to the Compensatory Wetland Area, however section 10.1.5 of the Revised BDAR states that:

"Retirement of ecosystem credits from the agreed Compensatory Wetland area in a staged manner, in line with the area of compensatory wetland impacted by the project stages".

BCS does not support this approach because these impacts have already occurred as part of the existing approved operations. The 345.64 hectares (ha) of proposed Biodiversity Stewardship Agreement (BSA) for the Compensatory Wetland Area must be secured prior to commencement of Stage 1 of the Project.

Recommendation:

That the 365.64 ha area required to offset the impacted Compensatory Wetland Area must be additional to those required to address residual impacts of the project.

BCS Recommendation: The 365.64 hectares must at least:

- 12.04 ha of plant community type (PCT) 17
- 291.01 ha of PCT 53
- 42.59 hectares of PCT 249

Recommendation:

The additional offset area must be secured within a BSA at the location outlined in Figure 10.1 and section 10.1.5 of the BDAR.

Evolution supports the requirement for a BSA for the Compensatory Wetland Area to be established prior to commencement of Stage 1 of the Project, as well as the BCS Recommendation that the area required to offset the impacted Compensatory Wetland Area will be additional to those required to address residual impacts of the Project.

It is noted, however, that the total area of Compensatory Wetland Area impacted upon and additional offset to be delivered is 345.64 ha. This is consistent with Section 10.1.5 of the BDAR RTS version (EMM 2024b), and is also consistent with the sum of the 12.04 ha of PCT 17, 291.01 ha of PCT 53, and 42.59 hectares of PCT 249 given in the BCS comments.

Minor amendments to the proposed conditions of approval (COA) recommendations from by BCS are proposed, as outlined below.

Evolution seeks flexibility on the exact composition of PCTs composing the Compensatory Wetland Area, and presents a revised area for the Compensatory Wetland Area for endorsement with BCS. Since presenting the area for the BSA in Figure 10.1 of the revised BDAR (EMM 2024b), provided as Appendix F to the Submissions Report, there have been some changes to the boundary of this proposed Compensatory Wetland Area due to:

- Recent vegetation mapping by EcoPlanning (accredited assessors for BSA) indicated subtle differences in the extent of PCTs available in the area identified in Figure 10.1 of the revised BDAR. This led to adjusting the western extent to remove planted vegetation that was not consistent with PCT 249 (i.e. non wetland vegetation).

- The area identified in Figure 10.1 of the revised BDAR overlaps with a Remnant Vegetation Enhancement Program (RVEP) area. Although there is approval from DPHI and the CST to establish a BSA over this area (Appendix D), credit discounting will apply.

The revised area for the proposed Compensatory Wetland Area is shown in Figure 3.2 and is larger than required before considering discounting due to the RVEP area. The CST has recently confirmed that a 34% discount will be applied to in areas that overlap the RVEP area. Evolution are in the process of refining the specific area proposed for the Compensatory Wetland Offset Area, due to detailed vegetation mapping, land parcel survey, and RVEP credit discounting, and thus the area shown should be taken to be indicative only.

4.1.2 Scattered tree module BAM-C case

The scattered tree module has been applied on category one land and corresponding ecosystem credits included in the BDAR. However, the BAM-C case for the scattered tree module has not been finalised and submitted to BCS and the finalised credit report has not been included in Appendix L (BAM Calculator reports) of the BDAR.

Recommendation: Finalise and submit the BAM-C case for scattered trees and confirm the final credit report still matches Section 8.8(i), Table 8.13 and Table 8.14 of the BDAR (RTS version). Provide the BAM-C credit reports in an addendum to the BDAR.

Following lodgement of the Submissions Report, a BAM-C case for the scattered tree module has now been finalised (00046529/BAAS19000/24/00046530) and was submitted to BCS on 5 March 2024. The final credit reports are provided as Appendix G.

Running this through the BAM-C led to no change from the credit requirements stated in the revised BDAR provided as Appendix F to the Submissions Report: total of 48 credits for PCT 55 Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions credits required (10 HBT credits and 38 No HBT credits).

It is noted that one stage where the species was unidentified was added to the BAM-C as Belah (*Casuarina cristata*) given this was the most common tree in the area and characteristic of PCT 55.

4.1.3 Austral Pillwort protection

BCS recognises the updated and appropriate mitigation measures and the proposed adaptive management strategy to protect the retained Austral Pillwort in areas adjacent to the construction and operation footprint. However, there is no commitment to offset impacts to this species should monitoring results show that proposed controls are unsuccessful, and the retained Austral Pillwort has been harmed.

Recommendation: BCS recommendation: A COA to offset any impacts in accordance with the BAM to mapped Austral Pillwort areas that are shown through monitoring to have been harmed by construction and operation of the project.

The Austral Pillwort was detected in close proximity to the current mining at the CGO (immediately to the north of the current mine site), as well as within heavily cropped land to the south of the CGO. Thus, the species appears to tolerate disturbance, as long as the micro-climate and seasonal conditions are appropriate. The long period between detections strongly suggests that likely exists for protracted periods as propagules (spores), awaiting suitable conditions to vegetatively express. These conditions rely on substantial rainfall towards the end of a calendar year, and thus the species is very cryptic. All of these factors would make it problematic to determine whether an impact has occurred, as there could be substantial periods where the species is not detected, but is present as spores. Therefore, Evolution's view is that the recommended condition is not practical, and is therefore not supported.

The revised BDAR (EMM 2024b) presented as Appendix F to the Submissions Report included an assessment of potential impacts to Austral Pillwort in areas adjacent to the construction and operational footprint. A range of mitigation measures and implementation of an ongoing monitoring program have been proposed to protect the retained Austral Pillwort areas adjacent to the additional construction and operational footprints. Mitigation measures include:

- the disturbance areas to be clearly marked or fenced to prevent accidental damage to adjoining remnant native vegetation during vegetation clearance activities or construction works
- areas of habitat containing retained Austral Pillwort (i.e. adjacent to the additional disturbance footprint) are to be identified and marked out as a no go zone
- protective fencing (e.g. parawebbing) and sediment/erosion controls will be placed around retained Austral Pillwort individuals for their protection during construction, where required.

Monitoring of Austral Pillwort persistence and habitat condition adjacent to construction areas will be documented within the Biodiversity Management Plan to be prepared should the Project be approved. This will allow the persistence of retained Austral Pillwort and condition of their habitat to be assessed during and following construction to determine if an indirect impact has occurred.

4.1.4 Mitigation measures and fauna monitoring of the Integrated Waste Landform

BCS has recommended changes directly to Evolution Mining in response to the ongoing six-monthly integrated waste landform (IWL) fauna monitoring. These reviews and actions should be collated, included in the adaptive management strategy of the BDAR, and then carried through after project approval to the post-approval management plans. For example, previously recommended actions include preparation of threatened species identification charts for the observers who complete twice daily fauna monitoring of the IWL.

Recommendation: A COA to ensure the Biodiversity Management Plane includes a BCS review comments from six-monthly monitoring reports about mitigation measures and adaptive management of fauna associated with operation of the IWL.

It is noted that BCS had the following feedback for Evolution during the review of the Flora and Fauna Management Plan (DOC22-885565) regarding the ongoing six-monthly IWL fauna monitoring:

- There needs to be data collected to species level to identify if threatened species are being exposed to any risk, e.g. Freckled Duck, Magpie Goose, Blue-billed Duck, all of which occur in Lake Cowal.
- There needs to be a distinction between observations that are for the purpose of detecting incidents and observations that are made by observers capable of identifying bird species.
- It is not clear how much water (surface area and depth) is present in the IWL at any particular time.

It is important to note that the twice daily fauna observations (guild level) are completed by the Processing Department while they complete operational checks, rather than qualified ecologists. These staff cannot reliably identify waterbirds to species level during these twice daily fauna checks.

Nevertheless, training can be provided to Processing Department staff and identification charts provided to those undertaking the observations to assist more obvious species that can be more easily identified (e.g. Freckled Duck, Magpie Goose, Blue-billed Duck). However, the data collected may not be reliable. Hence, it would be requested that any sightings of a threatened species are supported by photographic evidence.

Considering the need to identify potential impacts to threatened species, Evolution updated the latest draft of the FFMP to specify when species-level identification occurs, which is only in the instance of fauna death. Identification is completed by either the CGO environment team or the West Wyalong Vet. So therefore, if any impacts were to occur out at the IWL, they could confirm if any species impacted are threatened.

To further address the suggestions from BCS, the following changes to the information presented in the revised BDAR (provided as Appendix F to the Submissions Report) will be incorporated into the revised Biodiversity Management Plan to be prepared for the Project, should the Project be approved:

- Requirements to train staff to identify threatened birds that may use the IWL to be included in the mitigation measure of CGO staff training within the revised BDAR table (refer Table 4.1 below). Training requirements now recommended include:

  > "Staff working in the IWL will undertake a wildlife observation training, with a focus on identification of more easily identifiable threatened waterbirds (e.g. Freckled Duck, Magpie Goose, Blue-billed Duck) that may use the IWL. Threatened species identification charts are to be prepared by a qualified ecologist, then used by observers undertaking twice daily fauna monitoring of the IWL."

- Requirement to record any threatened birds using the IWL are proposed to be included (refer Table 4.1). Data that now needs to be recorded includes:

  "Threatened species using the IWL (including photograph to confirm identification)" and "Number of individuals of each threatened species using the IWL (including photograph where possible to confirm identification)."

- Requirement to record the surface area and depth of water added to data to be recorded during monitoring (refer Table 4.1). Requirement now reads that the following is to be recorded:

  "supernatant surface area (including surface area and depth of water)".

- The suggested monitoring has been amended (refer Table 4.1) to be specific to fauna monitoring using the IWL, rather than flying overhead. The proposed monitoring approach now included in Table 2.4 reads:

  "Observations of wildlife (primarily avifauna) using the IWL twice daily by CGO staff."

These changes will be incorporated into a revised Biodiversity Management Plan to be prepared for the Project, should the Project be approved.

Table 4.1 Mitigating residual impacts – management measures and implementation (revised BDAR Table 8.3)

EIS cross-reference ID	Mitigation measure	Method/technique	Timing	Frequency	Responsibility	Likely efficacy	MNES
Direct impacts on fauna from construction and operation activities							
TE05	CGO staff training	The approved BMP and CEMP will detail CGO / construction staff training requirements to ensures personnel are aware of the sensitive environment they are working in and the measures to minimise impacts including as relevant: • Constructions crew are to undertake training prior to commencement of work to inform them of sensitive biodiversity areas, including threatened and migratory species and ecological communities. They are to be informed of the areas approved to be disturbed, delineated no go areas and the protocol to follow in the case of an unexpected threatened species find. • Education of staff during induction about abiding by above driving and vehicle speed rules to reduce fauna strike risk, including periods when vehicle strikes are more likely based on fauna behaviour (e.g. sunrise and sunset). • Staff working in the IWL are to undertake a wildlife observation training, including ~~basic bird~~ identification of more easily identifiable threatened waterbirds (e.g. Freckled Duck, Magpie Goose, Blue-billed Duck) that may use the IWL. Threatened species identification charts are to be prepared by a qualified ecologist, then used by observers undertaking twice daily fauna monitoring of the IWL.	Prior to and during construction and operation	Infrequent. As required.	Evolution	High. Proven to be effective in management of biodiversity issues encountered at CGO whilst undertaking construction and operation activities.	All MNES values present

Note: Red text indicates amendment to BDAR text to meet BCS recommendation.

Table 4.2 Adaptive management strategy (revised BDAR Table 8.4)

Uncertain biodiversity impact	Baseline data required	Proposed monitoring approach	Trigger for management	Risk of failure	Response
Potential impacts on fauna associated with IWL during operation, including cyanide	Existing fauna monitoring data collected at CGO's existing TSF and IWL, which commenced in 2006, will form the baseline dataset to identify any increases in fauna mortality or illness associated with the Project. Established control locations will be continued to be monitored to allow mining related impacts to be differentiated from natural variation.	Monitoring to be undertake includes (but not limited to): • Permanent establishment of Anabat™ microbat call detectors at TSF and IWL, as well as analogous control locations, recording for four hours from dusk. Bat species to be identified to the species level (if possible) and activity levels to be compared through time by a suitably experienced ecologist. Evolution should explore the potential for real-time, automated bat call identification to improve ability to detect and respond to a trigger. • Observations of wildlife (primarily avifauna) ~~visitations and interactions~~ using the IWL. Data to be recorded includes (but not limited to): – date and time of inspection – type of wildlife guild observed	Biannually an assessment of impacts to fauna is to be undertaken, with findings included as part of a submission to CGO regulators. This report is to compile and assess the following data: • IWL quarterly site visits to conduct intensive wildlife observations, IWL perimeter fence inspections, provide on-site training to wildlife observers • desktop review of existing electronic data collected by Anabat™ Swift devices • desktop review of existing wildlife visitation data recorded at the IWL and control site. Results to be compiled and performance to be assessed: • an evaluation of the accuracy of wildlife and chemistry monitoring data	Minor: CGO has designed and improved its control strategies for Cyanide management through its established CMP, which was approved by Department of Planning in 2006. Since commencement, an independent audit of the environmental performance of CGO, including performance on the CMP, has occurred in annually since 2004 (except 2020 and 2021). Management of cyanide at CGO has been certified by the International Cyanide Management Institute's (ICMI) Code for Cyanide Management. This code is a voluntary, performance driven, certification program of best practices for gold and silver mining companies and the companies producing and transporting cyanide used in gold and silver mining. The Cyanide Code provides a management system for the safe management of cyanide throughout its use cycle. Environmental performance indicators demonstrate the	Reducing cyanide levels in the tailings dams in the event it is established that fauna deaths are occurring from cyanide in tailings dam water. Contingency measures for reducing cyanide levels in the tailings dams in the event it is established that fauna deaths are occurring from cyanide in tailings dam water are presented in Section 8 of the FFMP. Measures include: • adding cyanide destruction chemical(s) to tailings dam waters to reduce existing cyanide levels, or • increasing the dosage rate of cyanide destruction chemical(s) in the cyanide destruction circuit to achieve new cyanide level in tailings discharge to the dam. In the event of wildlife deaths occurring due to cyanide, Evolution will consult with the relevant government agencies to agree on an appropriate course of action. Other measures to supplement wildlife management beyond minimising use of cyanide and cyanide destruction beyond be considered to scare away birds and animals include: • floating balls • remote-control airborne devices • use of netting.

Table 4.2 Adaptive management strategy (revised BDAR Table 8.4)

Uncertain biodiversity impact	Baseline data required	Proposed monitoring approach	Trigger for management	Risk of failure	Response
		– threatened species using the IWL (including photograph, where possible, to confirm identification) – number of individuals of each wildlife guild present – number of individuals of each threatened bird species using the IWL (including photograph, where possible, to confirm identification) – habitat (for example, supernatant, beach, embankment, etc.) – wildlife behaviour and IWL habitats that individuals interacted with (for example, flying over the tailings dam, wading in the supernatant pond, etc.) – fauna effects (as defined in the CGO FFMP) – fauna incidents (as defined in the CGO FFMP) – fauna deaths	• an assessment of seasonal patterns in wildlife visitations • a review of monitoring protocols and identification of any deficiencies • the provision of appropriate remedial management options.	effectiveness of the CMP. Key results of annual reports from 2010 to 2021 period are: • no cyanide-related wildlife mortality or effect were recorded • CN_{WAD} concentrations have remained low and within licence conditions for the TSF. That is, the maximum CN_{WAD} of water sampled twice daily from the tailings slurry has never exceeded the 50 mg/L limit.	

Table 4.2 Adaptive management strategy (revised BDAR Table 8.4)

Uncertain biodiversity impact	Baseline data required	Proposed monitoring approach	Trigger for management	Risk of failure	Response
		– supernatant surface area (including surface area and depth of water). Efficacy of this wildlife monitoring to be tested by carcass replication trials at least every eight weeks, such as use of coloured balloons across TSF and IWL to represent carcasses. All carcasses are to be collected and examined to determine the cause of mortality, particularly if it can be attributed to cyanide toxicosis. The process to be followed for fauna autopsies is provided in Section 6.3 of the FFMP. CGO observations to be supplemented by quarterly observations by a suitably qualified ecologist.			

4.2 Resources Regulator

The Resources Regulator noted in their advice that the information presented in the submissions report had not adequately addressed matters raised on their previous submission to the EIS. In addition to the matters raised by the Resources Regulator on the EIS, two additional comments were made being:

> The mine operator must be able to demonstrate that it is effectively managing the risk of wall failure including material falling from pit walls and posing a risk to worker health and safety.
>
> The submission claims a LOM of 10 years; however the mine operator will need to consider the likelihood that this time period may increase in the event that more ore is found at depth. Given the time dependent nature of wall failure, the likelihood of a mine life extension must be considered by the mine operator.

A further response to the matters raised by the Resources Regulator in their initial advice on the EIS and the additional comments made in their advice on the submissions report is provided below.

4.2.1 Geotechnical stability

The following submissions box outlines the matters raised relating to open pit design geotechnical and slope stability by the Resources Regulator in its submissions on the EIS and Submissions Report.

EIS submission

Further information on slope stability analysis undertaken and justification of factor of Safety that has been adopted to predict stable landforms in final voids side walls. There are references to geotechnical assessments by AECOM 2023, SLR2023, and Mining One 2020, none of which have been provided/attached to the EIS.

The mine has a long history of significant rockfall events primarily due to aggressive wall angles, which needs to be considered as part of the extension project. The application states that the geotechnical inputs used in the design process is in a Mining One 2020 report that has not been supplied in the application. Therefore, further information is required on the geotechnical design of the pits and the proposed controls to be implemented through the Safety Management System for the protection of workers.

Submission Report submission

The mine operator must be able to demonstrate that it is effectively managing the risk of wall failure including material falling from pit walls and posing a risk to worker health and safety.

The submission claims a life of mine (LOM) of 10 years, however the mine operator will need to consider the likelihood that this time period may increase in the event that more ore is found at depth. Given the time dependent nature of wall failure, the likelihood of a mine life extension must be considered by the mine operator.

i Geotechnical assessment and design process

Appendix I of the Submissions Report (Mining One 2023a) summarised the geotechnical stability assessments and peer reviews carried out to date to inform the Project's open pit designs. As noted in the Submissions Report, the overall outcome of the geotechnical pit design and assessment process to date, is that no fatal flaws have been identified, and that the methodology and the basis for the stability assessments conform with industry standards.

Since lodgement of the Submissions Report, Evolution has provided DPHI and the Resources Regulator the following reports, pertaining to the Project's recent Feasibility Study (FS) and a review of the Stage-H design referenced in Appendix I of the Submissions Report:

- *CGO OPC Feasibility Study, Chapter 6: Geotechnical and Hydrogeology* (Mining One 2023b)

- *Cowal Stage H, Operation Design Support* (Mining One 2023c)
- *Peer review of the CGO OPC Feasibility Study* (AMC 2023)
- *Independent Review of the Mining One Cowal Open Pit Continuation (OPC) Study Design Process* (Stacey Mining Geotechnical Ltd 2022).

Evolution and Mining One also met with the Resources Regulator on the 14 February 2024 to discuss the Resources Regulator's specific concerns relating to rockfall. Evolution presented to the Resources Regulator an overview of the rockfall analysis work that has been completed to date, including in response to the unfavourable geotechnical conditions encountered in Stage H. Mining One noted that the Project's PFS (used as the basis for the EIS technical assessments) adopted the Stage H geotechnical design criteria for the PFS open pit designs. Since submission of the EIS, Mining One has carried out further geotechnical assessment to inform the FS, involving further geological mapping and geotechnical interpretation to advance the recommendations and findings from the PFS. Detailed analysis of the E42 geology has provided the opportunity to introduce a more targeted approach to geotechnical design criteria by recognising the rock characteristics associated with eight different lithologies. As a result of this work, four new geotechnical design criteria were developed with all but one of those criteria delivering a flatter Inter Ramp Angle (IRA) than the current Stage H pit design angles.

The mine has a robust safety and health management system that has enabled the mine to continue operating through the adoption of proactive controls to manage the geotechnical conditions. These controls are based on the most up to date understanding of the geotechnical conditions at site. As a result of CGO's ongoing review of site safety, many of the findings from the FS geotechnical study have been incorporated into the safe design and management of the current and proposed mining areas at CGO.

The Resources Regulator noted they were satisfied with the information provided during the meeting and asked Mining One to provide an updated memorandum of the rockfall analyses carried out since completion of the PFS as part of the next submission to DPHI (i.e. this report). Mining One has therefore prepared a geotechnical update (Mining One 2024) included as Appendix I of this report).

ii Future mine extensions

The Project is seeking an extension for an additional mine life of 10 years. Any extension of mining operations, should additional recoverable ore be identified at a depth beyond what has been considered, would be subject to future assessment and approval, including additional geotechnical designs and investigations. The geotechnical designs presented in the EIS have been developed based on the proposed 10-year mine life sought and have been all available information available at that time.

4.2.2 Erosion modelling/management of sodic soils

It is noted that erosion modelling has not been undertaken on the final void landforms.

It is recommended that erosion modelling, preferably Landform Evolution Modelling, is conducted in these areas due to the known highly dispersive soils and erodible oxides identified in the sidewalls of the final voids. This is considered necessary due to the lake protection bund being located within a relatively close distance of the crest of the final voids. An understanding of likely long-term post-closure erosion and potential crest cutback for the final void landforms is required and will inform the need for erosion treatments of these areas.

Further information is required on the proposal to remove benches in sodic soils within E42 final void landform and placement of rock/soil matrix on these slopes. Further information on what material (what depth within the final void) this surface treatment will apply to considering problematic oxides intercepted in the voids.

Further information on the batter angle for the final voids for this treatment to be practicably applied, considering the batter angle is currently 45 degrees in oxides in E42 void. Clarification that the final void landform and associated footprint take this into account.

i Supplementary erosion assessment

Evolution and EMM considered this request for erosion modelling of the final void landforms at the time of preparing the Submissions Report and sought expert independent advice from SLR who prepared an Erosion Assessment Report (SLR 2024a) included as Appendix J of the Submissions Report, to document factors that contribute to erosion on the weathered zone of the pit walls. The SLR report also included a management "framework" that could be applied at Cowal Gold Operations (CGO) to understand the risk and opportunities that should be considered as Evolution move towards a viable closure strategy.

As outlined in Section 4.3.4 of the Submissions Report, landform evolution modelling requires a detailed final landform design, and while there is a feasibility study level design for the operational development of the open pits (that will be taken through to detail design and implementation by Evolution in due course) and a conceptual final landform presented in the EIS and Rehabilitation Strategy (EMM 2023c – refer Appendix Z of the EIS), the detailed final void landform design for the pit walls, has not yet been fully defined and will evolve over the Project's operational life in response to geological conditions, ongoing review of the geotechnical model and mine economics.

As such SLR's expert view was that there was very limited value in undertaking extremely detailed numerical analyses of the existing pit walls or the proposed pit walls using SIBERIA for example, when this assessment would be based on a broad series of assumptions including using one material type over the entire surface of the pit walls when the material types in the pit walls have significantly different chemical and physical properties within the soil and regolith profile (see Submissions Report Appendix J, Section 4). Rather SLR, made a series of recommendations (refer Submissions Report Appendix J, Section 5) which will be adopted by Evolution, to ensure the stability of the open pits will be maintained into perpetuity. Key commitments that Evolution made in the Submissions Report based on SLR's recommendations included:

- A knowledge base for the Project's open pit final landform designs will be developed to ensure that all relevant technical aspects are being utilised and evaluated for the final landform designs for the open pit walls. The knowledge base will provide the foundation for the final landform detailed design and may include tabulated data, detailed conceptual models and 3D CAD models that bring together the soil fertility, geological logs, geotechnical parameters, groundwater level and flow and vertical and horizontal dewatering data, surface water management, and the final landform design components including vegetation and other remediation measures.

- A staged open pit closure strategy will be detailed in the DPHI approved Rehabilitation Strategy. The open pit closure strategy will outline a staged work program that will ensure a viable, stable final landform is developed for the open pits prior to mine closure. The staged work program will be actively progressed over the mine life using data and knowledge gathered from the knowledge base above and through rehabilitation trials.

Since receipt of the Resources Regulator advice on the Submissions Report and further discussions with DPHI, further expert advice from SLR has been sought. In response to DPHI's request for further information to identify the level of risk associated with erosion, SLR has carried out a supplementary erosion assessment (SLR 2024b) included as Appendix H of this report and summarised in Section 3.3 above. SLR's supplementary assessment included a qualitative risk and opportunity assessment, building on the Project's post approval risk assessment included in Appendix E of the Submissions Report, which identified the aspects, impacts, causes, and risks associated with erosion and instability of the extremely weathered zone of the open pit walls, with the highest potential supplementary risk identified being the potential for interaction of the pit wall(s) with Lake Cowal. SLR subsequently developed a conceptual site model for the proposed pit shells (reproduced as Figure 3.3 in Section 3.3) to document that the proposed operational pit slopes are in the order of ~100 m from the LPB and that there is a substantial area of land to work within to achieve a safe, stable, self-sustaining final void landform design. Observations from the operation of the E42 open pit over the past 10 years verify the extent of sheet, rill, inter-rill and gully erosion that has occurred, and the (limited and isolated) extent of localised slumping associated with erosion. The site observations and management plans also verify that access to slumps can be undertaken to implement corrective actions (if required).

The supplementary erosion assessment demonstrates that the risks associated with erosion of the pit walls can be adequately managed throughout the mine life and post closure to ensure a safe, stable, self-sustaining final void landform design.

ii Sodic soils and closure open pit design angle in sodic zone

As outlined in Section 4.3.3 of the Submissions Report, the Project's cutback of the E42 Pit and earthworks across the shoulder to link the E42 pit with the GR pit will remove some of the upper benches with existing areas of erosion in the upper sodic soils. Consideration of the treatment of the residual benches is on-going and will be subject to future details designs.

Ongoing assessment and design work will be undertaken over the mine life to develop detailed designs for rehabilitation of the open pits including the upper erodible layers. These designs will transition from a geotechnical and mine safety lens, to a landform design perspective that provides a sustainable outcome for the site and the stakeholders on the adjoining land.

The rational for this approach, objectives and recommendations are outlined in Appendix J of the Submissions Report (refer Sections 4 and 5).

Having addressed surface water drainage and groundwater management systems to minimise erosion post mine closure, Evolution will look at a number of methods to stabilise the batters in the oxides levels that could include:

- remediate sodic strata on as-built benches, berms and batters with chemical amelioration (e.g. gypsum), other chemical solutions that may become available to stabilise slopes
- revegetation – with plants such as Chrysopogon zizanioides, commonly known as vetiver grass
- use of rock armour
- reprofiling the faces / benches
- geofabrics.

Evolution will trial and monitor a range of solutions as part of its progressive rehabilitation program before closure and believes different solutions, or a range of options in combination, may be required for different parts of the upper pit walls.

As noted above, the supplementary erosion assessment completed by SLR (refer Appendix H) further demonstrates that the risks associated with sodic soils and erosion of the pit walls can be adequately managed throughout the mine life and post closure to ensure safe, stable, self-sustaining final void landform design.

4.2.3 Final landforms across IWL and WREs

Clarification of the final landform across the top elevations of the IWL and WRE is required to show how surface water across these areas will drain internally via nominated "shallow swales".

Information on the capacity of internal drainage in these areas post-closure, considering these will form relatively large catchments and likely create a significant volume of surface water to be managed for significant rainfall events, consistent with modelling requirements in ANCOLD 2019.

i Final landform of IWL and waste rock emplacements

a Waste rock emplacements

The conceptual final landform of the Project's waste rock emplacements are consistent with the rehabilitation principles outlined in Modification Report prepared for MOD14 of DA 14/98 (Resource Strategies 2018) and further detailed in the DPHI approved Rehabilitation Management Plan (Evolution 2023) prepared in accordance with Condition 2.4(c) of DA 14/98 and Clause 9 of Schedule 8A of the Mining Regulation 2016. The currently approved rehabilitation objectives for the waste rock emplacements which are proposed to be adopted for the Project include:

- safe, stable and non-polluting final landforms, designed to incorporate microrelief and integrate with surrounding natural landforms
- constructed landforms are to generally drain to the final void
- minimise visual impact of final landforms as far as is reasonable and feasible. Restore ecosystem function, including maintaining or establishing self-sustaining ecosystems
- restore or maintain land capability generally as described in the EIS (i.e. the Project's EIS).

Numerous rehabilitation investigations and trials have been undertaken since CGO commenced construction in 2005 to determine the most appropriate rehabilitation methods, rehabilitation materials and revegetation species likely to achieve the rehabilitation objectives for the CGO's final landforms. Further to this Evolution has demonstrated successful rehabilitation of the existing perimeter waste rock emplacement and portions of the northern and southern waste rock emplacements.

Existing controls, as documented in the approved current Rehabilitation Management Plan (Evolution 2023), will be adopted in the Project's Rehabilitation management plan, including as relevant to water management:

- Inclusion of rock mulch in the surface cover of waste emplacement slopes to provide resistance to erosion, increase infiltration and reduce surface water flow and velocity on waste emplacements.
- Due to the sodic and dispersive nature of the oxide waste rock material, gypsum should be spread on the surface of oxide waste rock material prior to the application of the rehabilitation cover materials (e.g. rock mulch and gypsum-treated topsoil).

- Due to the expected salinity and sodicity of the oxide waste rock, this material is not suitable for use as rock mulch on the batter slopes of the waste rock emplacements.
- Backsloping berms and ripping will continue to be implemented as required to slow water velocity.
- Revegetate batters as soon as possible to assist in stabilising the slope.
- During revegetation, seed and planting densities will be balanced to ensure suitable ground cover is established and minimise the occurrence of high-density tree and shrubs which may limit ground cover and result in instability in the longer-term.
- Post rainfall inspections and annual review of rehabilitation progress completed via third party.
- Reshape target areas to remove erosion features.
- Waste rock emplacements will continue to be designed to meet the long-term goal of directing potential seepage generated from waste rock emplacement areas during operation and post-closure toward the open pit. This has involved construction of a low permeability basal layer for the waste rock emplacements, which slopes towards the open pit and would provide drainage control (i.e. the base drainage control zone). Waters permeating through the waste rock emplacements would be intercepted by this low permeability layer and ultimately flow to the open pit via constructed drainage channels (refer Section 4.2.3ii below).
- Drainage on the top surfaces of the waste rock emplacements will be managed via a series of small shallow basins (depressions), a rehabilitation cover system (including gypsum-treated subsoil and topsoil) that absorbs rainfall. The use of depressions will be aimed at maximising internal drainage without creating permanent ponding during normal and heavy rainfall events.

b IWL

The conceptual final landform of the IWL northern expansion is consistent with the rehabilitation principles outlined in Modification Report prepared for MOD14 of DA 14/98 and further detailed in the DPHI approved Rehabilitation Management Plan (Evolution 2023) prepared in accordance with Condition 2.4(c) of DA 14/98 and Clause 9 of Schedule 8A of the Mining Regulation 2016.

The currently approved rehabilitation objectives for the IWL which are proposed to be adopted for the Project include:

- safe, stable and non-polluting final landforms, designed to incorporate microrelief and integrate with surrounding natural landforms
- constructed landforms are to generally drain to the final void
- minimise long term groundwater seepage zones
- minimise visual impact of final landforms as far as is reasonable and feasible
- restore ecosystem function, including maintaining or establishing self-sustaining ecosystems
- restore or maintain land capability generally as described in the EIS (i.e. the Project's EIS).

As per the approved Rehabilitation Management Plan the top surfaces of the IWL would form a low, internally draining landform, with drainage affected by controlled placement of cover materials and a number of shallow swales. The IWL final surfaces would form contained catchments to minimise surface water runoff from the top surface down the batters. The rehabilitation cover system materials for the top surfaces is likely to include a capillary break layer of rock to restrict the upwards migration of tailings salts and a thick layer of gypsum-treated soil to provide for moisture/absorption and storage, and a plant rooting medium. Rehabilitation trials will continue to be undertaken to determine the most suitable revegetation species for the top surface of the IWL.

Existing controls, as documented in the approved current Rehabilitation Management Plan (Evolution 2023), will be adopted in the Project's Rehabilitation management plan, including as relevant to surface water management:

- Water management measures on surface of IWL will include use of shallow swales and controlled placement of cover materials to control surface runoff and minimise long-term ponding.
- revegetation concepts including selecting species suited to the hydrological features and substrate materials of the landform and would be based on results of rehabilitation investigations and trials in consultation with regulatory authorities.
- Revegetation to include salt tolerant species (including sedges and rushes) in and surrounding areas where ponding is likely to occur.
- Prior to mine closure, develop detailed design for rehabilitation of IWL top surfaces, based on currently approved rehabilitation concepts and results of water balance modelling (likely quantity and quality of surface water ponding and expected duration of ponding).

ii Post closure drainage

Both the UCDS and ICDS will be left in place for mine closure as the separation of the two water sources are current post closure requirements. During mining operations surface water around the pits will be directed to the ICDS, the water will report to the perimeter dams (D21, D23 and D24) where pumping and transfer of water will be managed by the open pit mining process to move water around site. It is currently in the interest of CGO to keep water out of the pit not only due to the cost of rehandling this water out of the mining area but also to ensure the integrity of the oxide zone. As this area is an active stockpiling (topsoil/subsoil) area with live stockpiles the drainage designs have not yet been presented, however the nature of the natural flow is to the east and operations will manage drainage for this.

Upon closure the dams will be decommissioned and backfilled however the drainage system will be left in place, hence the water will continue to drain into the ICDS and down to the eastern most point of the mining area (this is the lowest RL).The planned closure concept at this point is that water captured to the east of the pits will use an open rock drain in the oxides on the eastern side of the E42 pit (current grade of the oxide approximates 22 degrees). This would drain down to the primary rock and then the ramp system will direct the water to the base of pit. For water to the west of the pit, the existing drainage system would be utilised. At closure this drain would be rock armoured and water directed to the ramp system of the E42 pit which would be re-graded to act as a final landform drain. All ramps within the oxide zone have 2.0 m of primary rock placed as a part of the road engineering so no additional rock would be required, rather recontouring of the ramp will be carried out as required to maintain water in the centre of the ramp. The ramp in the primary rock zone will not be modified.

4.3 DCCEEW Water

The DCCEEW Water advice on the Submissions Report provided additional recommendations regarding water licensing, groundwater modelling and impacts to be addressed prior to determination. Additional post approval recommendations were also provided. A response to each of the recommendations from DCCEEW Water is provided in the sections below.

4.3.1 Prior to determination recommendations

i Water licensing

a LPB dewatering

Recommendation: The proponent demonstrates the ability to obtain sufficient entitlement or provide a methodology to scale the project within the held entitlement.

Explanation: This recommendation was provided on review of the EIS, is yet to be resolved, and represents a significant risk to the project. There is insufficient water entitlement in the Bogandillon and Manna Creeks Water Source to account for the maximum potential water take due to construction of the northern bund (2,851 ML) and the southern bund (4,365 ML). The proponent has put forward a dewatering proposal for the northern bund over a two year period with the use of carry over water. This is potentially a feasible option based on 90% of modelled take scenarios. However, the use of a similar proposal for the southern bund is acknowledged by the proponent to be a risk to the project due to the timeframes required.

DCCEEW Water acknowledges the proponent is investigating the potential for a specific purpose access licence to account for the water take, however this cannot currently be used to demonstrate feasibility of the project as there is currently no provision for such a licence.

Evolution is continuing to engage with DCCEEW Water and the Minister for Water regarding an exemption to enable the dewatering of lake water captured behind the LPB to occur without the requirement for a water access licence entitlement to be held. On 12 April 2024, in response to a representation, the Minister replied to Evolution indicating that she did 'not support establishing a new type of specific purpose access licence specifically for Evolution Mining and [was] also not likely to support the creation of a new category of licence for surface water dewatering where dewatering does not consume water or cause water loss.' However, the Minister did indicate that '[an] exemption for surface water dewatering generally or a set of surface water return flow rules may be options [she] was willing to consider'. The Minister has 'asked the department to prioritise this work', but acknowledged that 'it is not possible to be completed within the timeframe required for development consent…' (refer Appendix J).

In the event an exemption is not granted prior to development consent, the Project can be developed and managed within current held water access licence (WAL) entitlements. As outlined in the Submissions Report (EMM 2024a), the LPB water balance modelling demonstrated that the northern portion of the LPB can be dewatered within the existing entitlement without scaling of dewatering rates. If, by the time the southern LPB needs dewatering, an exemption has still not been progressed, Evolution will either schedule construction of the southern LPB around lake conditions, or scale dewatering of the southern portion of the LPB to ensure water take from the Bogandillon and Manna Creeks Water Source remains within currently held WAL entitlements.

The water-take requirements presented in the Submissions Report were calculated based on a wet climatic conditions (90th percentile) when construction of the LPB occurs at a time when Lake Cowal is fully inundated. In the event that construction occurs during drier conditions, which allow the waters in Lake Cowal to recede, less water take will be required.

b Potential take from Lachlan Regulated River Source

Recommendation: The proponent makes a commitment to obtain sufficient entitlement to account for the maximum potential water take from the Lachlan Regulated River Water Source and acknowledges the potential risk in obtaining this entitlement when required.

Explanation: Table 4.1 of the Submissions Report (RTS) indicates there is currently insufficient entitlement held in the Lachlan Regulated River Water Source and that this will be addressed by obtaining additional entitlement when required. This approach poses a risk to the project's water supply availability as it relies on trading options being available with other water holders when this is required.

As noted in the Submissions Report, in years where the current entitlement in the Lachlan Regulated River Water Source is predicted to be insufficient to meet Project demands, CGO will enter the water trading market to secure sufficient allocation.

A review of the water trading market within the Lachlan Regulated River Water Source was presented in the Water Licensing Strategy provided as Appendix I to the EIS. The water licensing strategy identified that trading in this water source is common, even in the driest of years, and Evolution's ability to secure temporary water (via allocation assignments) is considered to be a very low risk to the Project should this be required on occasion to account for the maximum potential water take from the Lachlan Regulated River Water Source.

c Proposed extraction from saline borefields and pit dewatering

Recommendation: The proponent should confirm if the proposed water take from the saline groundwater supply borefield, pit dewatering and eastern saline borefield will exceed current assessed and approved extraction limits. Where the water take has not been assessed and approved, an impact assessment on the water source and water users is requested.

Explanation: Table 4.2 of the RTS indicates there is insufficient entitlement held in the Water Access Licences linked to the works for the saline groundwater supply borefield, pit dewatering and eastern saline borefield. An additional impact assessment is required for proposed water take that exceeds approved limits.

The Project does not propose to change existing processing rates or external water supply sources. The water balance completed for the Project (ATC Williams 2023) predicted a decrease in the predicted demand from the Bland Creek Paleochannel (BCP) borefield and eastern saline borefield compared to approved operations.

Groundwater modelling prepared to support the EIS and Submissions Report was based on predicted extraction requirements from the eastern saline borefield and the BCP borefield based on historical daily pumping data sourced from the borefield pumping records.

Maximum take from the eastern saline borefield and the BCP borefield was presented in Table 4.2 of the Submissions Report, however these maximum extraction rates are not considered to reflect Project water supply requirements.

Maximum take from the eastern saline borefield was 401.5 megalitres per year (ML/yr) based on maximum historical annual use, noting the current associated WAL (36569) has a share component of 300 unit shares.

Maximum take from the BCP borefield was 2,044 ML/yr based on maximum historical annual use, noting the current associated WAL (31864) has a share component of 3,350 unit shares.

Maximum take from the saline groundwater supply borefield within ML 1535 borefield was 376 ML/yr, noting the current associated WAL (36615) has a share component of 366 unit shares.

As outlined in the Submissions Report, licensed allocation can be temporarily transferred from the BCP borefield to boost licensed extraction from the eastern saline borefield if required.

WAL 36569 for the eastern saline borefield currently nominates water supply work approval 70WA614933, which relates to five groundwater extraction works (bores). Condition DK7269-00002 of the approval places extraction conditions on each of these bores as follows (emphasis added):

> The volume of groundwater extracted from **each** of the following water supply works authorised by this approval must not exceed:
>
> i. 301 ML/year for work ESID141652 (SB01),
>
> ii. 301 ML/year for work ESID 141653 (SB02),
>
> iii. 301 ML/year for work ESID 233722 (SB05),
>
> iv. 301 ML/year for work ESID 233723 (SB03),
>
> v. 304 ML/year for work ESID 233724 (SB04).

Evolution can confirm that any temporary (allocation) trade required to meet the maximum groundwater take from the eastern saline borefield would be well within the assessed and approved bore extraction limits - cumulatively 1,540 ML/yr, providing annual extraction from any one bore does not exceed the volume specified in the above approval condition.

There are no bore extraction limits on the water supply works associated with WAL36615 (70WA614090) or WAL31864 (70WA614076).

d Administrative requirements under the Water Management Act 2003

Recommendation: The proponent should ensure a WAL with sufficient entitlement nominates the relevant work to account for the proposed water take for the saline borefield and pit dewatering.

Noted. Evolution will ensure all WALs for the eastern saline borefield and pit dewatering have sufficient water entitlement or allocation necessary for the Project, with WALs nominating the relevant work that will be used to take the water.

ii Groundwater model and impact assessment

a Model boundaries

Recommendation: The proponent should change the model boundary from constant head to general head conditions and reassess the predicted impacts on the lake, alluvium and groundwater dependent ecosystems (GDEs), unless the model area is extended to the Lachlan River. This is to include quantification of the changes to drawdown impacts due to the change.

Explanation: DCCEEW Water acknowledges the proponent has reviewed and updated the constant head boundary conditions in response to the EIS stage recommendation. However, this approach is considered inadequate to address DCCEEW Water's concerns regarding potential underestimation of drawdown impacts and risk to the water source.

The groundwater model prepared to support the EIS was peer reviewed by Will Minchin in accordance with the Australian Groundwater Modelling Guidelines (Barnett et al 2012).

Following submission of the EIS, DPHI appointed Noel Merrick to undertake an independent peer review of the groundwater model and subsequently a revised groundwater model and impact assessment was provided as an appendix to the submissions report which responded to requests for information and matters raised by Noel Merrick and DCCEEW Water.

Constant head boundary cells were adopted to aid in numerical stability towards a highly parameterised Monte Carlo predictive uncertainty analysis, and was considered appropriate by the DPHI independent peer reviewer. DCCEEW raised the concern that by fixing the head at model boundaries, flux may be induced to the groundwater model, potentially buffering the extent of simulated drawdown.

The influence of this on modelling outcomes was tested by running the model with updated heads assigned to the constant head boundary conditions, which showed minimal influence to modelled fluxes and history-matching performance. Specifically, by demonstrating that the flux induced through boundary cells associated with proposed mining is 12.5 ML/day, and by following the rationale presented by DCCEEW, it was not considered necessary to undertake further modelling to demonstrate limited influence to modelled drawdown. EMM has committed to the use of general head boundary conditions in future modelling exercises.

b GDE assessment and potential impact on River Red Gums

Recommendation: The proponent should provide further clarification and justification of modelled groundwater drawdown impacts on River Red Gum plant communities.

Explanation: DCCEEW Water acknowledges the proponent has completed a supplementary GDE study (Appendix H), however further information is required to provide confidence in the potential impacts on River Red Gum plant communities.

The drawdown and potential impacts on GDEs described in Section 5.4.2 of the Groundwater Model Report (Attachment C to the revised Groundwater Impact Assessment) requires clarification. Figure 5.19 shows groundwater levels higher for the proposed recovery case (realistic long-term pit water levels) than groundwater levels for the current approved scenario. However, Figure 5.18 appears to be inconsistent with Figure 5.19 as it shows the GDE area to the north of Lake Cowal to be within the 5 m incremental groundwater drawdown contour area. In addition, Section 6.3.1 of the revised Biodiversity Development Assessment Report (BDAR) (Appendix F) indicates up to 10 m of incremental drawdown in the River Red Gum areas.

Given the drawdowns described, the statement that there is no impact on River Red gums (Section 4.1.2(viii) of the RTS and Section 6.4.3 of the revised Groundwater Impact Assessment (Appendix G)) requires further justification. The proponent states that these plant community types are drawing water from the shallow unsaturated adose zone, generally between 0.4 m and 1.5 m below ground level. However, DCCEEW Water understands River Red Gums require access to groundwater or regular inundation to remain healthy and are known to access deeper groundwater sources including paleochannels (DPE 2023). The impact of the predicted drawdown on the deep-water uptake of these plant communities should address the requirement of the Level 2 minimal impact considerations of the NSW Aquifer Interference Policy for predicted impacts on GDEs of more than 10% of cumulative variation in the water table, preparing appropriate studies to demonstrate that the variation will not prevent the long term viability of the dependent ecosystem.

The DCCEEW Water supplementary advice noted that Figure 5.19 of the groundwater modelling report (Appendix C of the Groundwater Impact Assessment EMM 2024d) shows groundwater levels higher for the ‘proposed recovery’ case (realistic long-term pit water levels, also known as Prediction 5) than groundwater levels for the current ‘approved’ case (also known as Prediction 2). Although this is not intuitive, the results show this because long-term “dry” pit conditions were assumed for Prediction 2 as summarised in Table 5.1 and explained in detail on Page 88 of the groundwater modelling report. For Prediction 5, a more rigorous assessment of recovery levels was adopted, which has been informed by ATC Williams’ Goldsim pit-recovery model and is thus “less dry” and allows water levels to recover higher.

The DCCEEW Water supplementary advice noted that there appears to be inconsistency between groundwater modelling report Figure 5.18 and Figure 5.19, as it shows the GDE area to the north of Lake Cowal to be within the 5 m incremental groundwater drawdown contour area. This is correct as PCTs located within the 5 m, means PCTs could experience drawdowns >5 m. When comparing the incremental drawdown contours in Figure 5.18 to the GDE hydrographs shown in Figure 5.19, the comparison is made by subtracting the blue solid hydrograph shown in Figure 5.19 from the black dotted hydrograph i.e. the incremental drawdown contours are created by subtracting the modelled heads from the "Proposed dry-case" scenario from the "Approved" scenario. The drawdown contours shown in Figure 5.18 represent maximum incremental drawdown irrespective of when it might occur. It is also conservative, as the "dry" case has been used to determine drawdown and may show larger incremental drawdown results compared to say, if Prediction 5 (Proposed recovery case) was used.

The DCCEEW Water supplementary advice notes that Section 6.3.1 of the revised BDAR (EMM 2024b) indicates up to 10 m of incremental drawdown in the River Red Gum areas. This is not quite the case as the 10 m drawdown contour is never realised. The text in Section 6.3.1 related to PCT10 (River Red Gum) should be updated from "The change in groundwater depth was modelled to increase by 2–5 m over 4.69 ha and 5–10 m over 1.50 ha", to "The change in groundwater depth was modelled to increase by 2–5 m over 4.69 ha and greater than 5 m over 1.50 ha. No area was modelled to show drawdown greater than 10 m".

The Supplementary advice noted that DCCEEW Water understands:

1. River Red Gums require access to groundwater or regular inundation to remain healthy and are known to access deeper groundwater sources including paleochannels

2. the impact of the predicted drawdown on the deep-water uptake of these plant communities should address the requirement of the Level 2 minimal impact considerations of the NSW Aquifer Interference Policy for predicted impacts on GDEs of more than 10% of cumulative variation in the water table, preparing appropriate studies to demonstrate that the variation will not prevent the long term viability of the dependent ecosystem.

The groundwater modelling triggered predicted groundwater drawdown impacts >10% of the natural variability experienced at the GDE/PCT locations, prompting the detailed GDE assessment undertaken by EMM and 3D Environmental (2024), over the period of November 2023 - January 2024. The assessment was crucial to understanding the local groundwater dependence for River Red Gums within the study are and the potential effects of groundwater drawdown.

In response:

- EMM and 3D Environmental used a multiple lines of evidence approach aligned with best practice techniques (IESC, 2019 and GDE toolbox, 2011) to form a robust scientific GDE assessment. The assessment found that River Red Gums within the groundwater study area drew moisture primarily from soil moisture within the shallow vadose zone, generally between 0.4 and 1.5 mbgl, which is maintained by surface water and/or a perched groundwater system fed by Lake Cowal. There was no evidence that the PCTs have a reliance on the permanent groundwater source hosted in the Upper Cowra Formation, with strong evidence against its suitability.

- River Red Gums require access to groundwater and/or regular inundation to remain healthy and are known to access deeper groundwater sources including paleochannels (DPE 2023). The River Red Gums in the groundwater study area are subjected to regular inundation from surface water and perched groundwater fed by the ephemeral Lake Cowal.

- River Red Gums are opportunistic, adaptive, and will use the most reliable moisture source available (Thorburn et al. 1994; Mensforth et al. 1994; Holland et al. 2006; Doody et al. 2009). Furthermore, soil moisture plays a critical role in tree health (Rodriguez et al. 2007; Tamea et al 2009; Orellana et al. 2012), with Doody et al. (2015) demonstrating that soil moisture alone, in the absence of inundation, can sustain the health of a River Red Gum through periods of drought up to six years before significant decline in tree health is observed.

- Although root depths of 12–22.6 mbgl have been reported for River Red Gums, the development of a tap root system can be largely hindered by a thick clay horizon. Jones et al. (2020) found clay to present an extreme physical barrier to root penetration of River Red Gum adjacent to Lake Broadwater, QLD, with occasional tree roots recorded in clay to a depth of 4 mbgl. In that study, a maximum rooting depth of 7.6 mbgl was found across four sites within Australia's Great Artesian Basin with geological settings that are comparable to Lake Cowal and surrounds, which was consistently shallower than that reported in literature. Similarly, the rooting depth of River Red Gums and dependence on groundwater would be obscured by the thick massive clays associated with the Cowra formation in which River Red Gum occur.

- River Red Gums are commonly found fringing lakes and rivers, tapping into the soil moisture fed by surface waters near permanent and ephemeral water bodies and utilising this water as a primary source, as evident along the River Murray (Holland et al. 2006), and Hunter River (Eco Logical 2022).

- In the aquatic and GDE assessment for the Hunter Valley Operation Continuation Project (Eco Logical 2022), River Red Gum were found to access an ephemeral perched water table fed by the Hunter River and rainfall infiltration in the shallow alluvium, alike those within the CGO groundwater study area. Groundwater modelling found potential impact from the project in only small areas of the alluvial aquifer (AGE 2022), however impacts to the system and River Red Gums were considered minor or negligible due to continued bank storage recharge from the Hunter River.

- Declining health of River Red Gum communities along the River Murray due to changes in flood regimes, resulting in a soil moisture availability deficit, has been documented across multiple assessments, including Doody & Overton (2009), Bren (1986), Doody et al (2015). The decline in health is particularly noted in the lower River Murray where flooding is required to combat salt accumulation from the naturally saline regional aquifer that discharges into the river in this region (Bacon et al. 1993).

- Dunn et al. (1994) reports that River Red Gums are highly salt tolerant, with a threshold of 1.5 dS m−1 (equivalent to 30,000 µS/cm). The salinity measures within the unconfined Upper Cowra Formation during the GDE study (taken after a significant wetting event) were over 10,000 µS/cm above this threshold, making this groundwater unavailable for the PCTs.

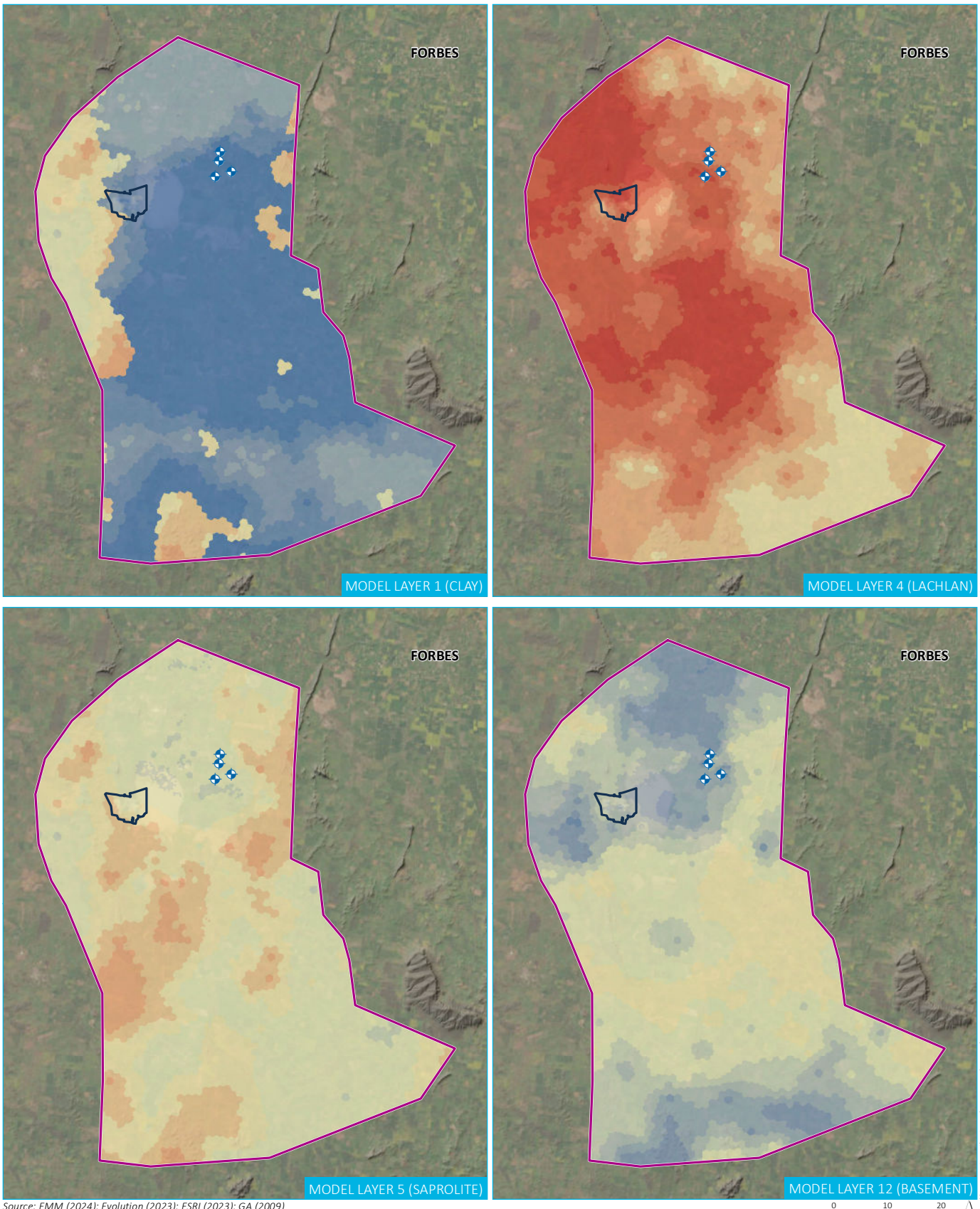
River Red Gums within the groundwater study area utilise soil moisture within the shallow vadose zone as their water source. The literature provided supports the notion that River Red Gums can use soil moisture, regularly inundated by surface water and lake fed perched groundwater systems, effectively for their survival and health. Concerns regarding the potential impact of aquifer drawdown on the PCTs within the study area have been negated by the understanding that they are not dependent on the potentially affected and deeper groundwater system.

c Spatial distribution of modelled hydraulic conductivity

Recommendation: The proponent should update section 4.3 of the revised Groundwater Model Report to include figures of the key parameters for the entire model domain, similar to Figure 4.12 which depicts horizontal hydraulic conductivity for saprolite model layer 5.

Explanation: DCCEEW Water acknowledges the proponent has completed additional work on hydraulic conductivity, however additional figures are requested to represent this work and to assist in interpretation of the calibrated model.

Rather than reproduce the Groundwater Model Report for the purpose of this Report (as this was the sole updated considered warranted), the requested figure showing the key parameters of the model domain has been included below. This figure will be included in future modelling reporting.



Source: EMM (2024); Evolution (2023); ESRI (2023); GA (2009)

0 10 20 km

GDA 1994 MGA Zone 55

N

KEY

- Study area
- Project area
- Bland Creek Palaeochannel Borefield (BCPB)

Log horizontal hydraulic conductivity (m/d)

- -5.0 - -4.5
- -4.5 - -4.0
- -4.0 - -3.5
- -3.5 - -3.0
- -3.0 - -2.5
- -2.5 - -2.0
- -2.0 - -1.5
- -1.5 - -1.0
- -1.0 - -0.5
- -0.5 - 0
- 0 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0

Base realisation modelled horizontal hydraulic conductivity

Evolution Mining
Cowal Gold Operations
Open Pit Continuation Project
Response To Government Agency Advice
On Submissions Report
Figure 4.1

EMM creating opportunities

4.3.2 Post approval recommendations

A summary of the DCCEEW Water recommendations for future groundwater model updates and response is provided in Table 4.3.

Table 4.3 DCCEEW Water post approval recommendations

Recommendation / reference ID	Summary of recommendation	Supported	Response
Recommendation 2.4 Reference 2.1	Future model calibration and predictive scenario runs must include the additional production bores (and their history of usage/entitlement) obtained from WaterNSW on 20 October 2023.	Yes	Periodic review and validation of the groundwater model has been committed to in the EIS and will be undertaken every three years in line with existing conditions of consent. Future groundwater model reviews and calibration will incorporate the additional production bores (and their history of usage / entitlement) obtained from WaterNSW on 20 October 2023.
Recommendation 2.4 Reference 2.7	Future assessment of impacts must include the additional bores (production and BLR) that were obtained from WaterNSW on 20 October 2023.	Yes	The outcomes of the future groundwater model reviews and validation will be presented in a groundwater model review and validation report with predicted impacts against assessed and approved impacts to groundwater bores presented in the sites Annual Review.
Recommendation 2.4 Reference 3.2	Future modelling to revise the base elevation of the model from -900 m AHD to at least 1.5 times the depth of the underground mining stopes {DRN cells are active to -849 m AHD) to minimise interaction with the no flow boundary.	Yes	Future groundwater model reviews and calibration will incorporate revisions to the base elevation of the model in line with this recommendation from DCCEEW Water. Periodic review and validation of the groundwater model has been committed to in the EIS and will be undertaken every three years in line with existing conditions of consent.
Recommendation 2,4 Reference 3.3	Time varying backfill modelled hydraulic parameters, assigned to the paste backfill in the underground mining stopes, to be updated in future modelling to assess the groundwater recovery timeframe.	Yes	The groundwater model will be reviewed and calibrated every three years in line with existing conditions of consent. These future model reviews will incorporate revisions to the hydraulic parameters assigned to the past backfill. The model changes and outcomes of the future groundwater model validation processes, including any changes in predictions, be presented in a groundwater model review and validation report.
Reference 3.11	Future assessment of impacts must include the most likely or realistic scenario for pit water level recovery rather than or in addition to the extreme cases provided in this assessment.	Yes	Alternative scenarios for pit water level recovery timeframes will be presented in future groundwater model review and calibration reports to be prepared following the periodic groundwater model review and validation process. This will be undertaken every three years, in line with existing conditions of consent. Predicted pit water level recovery versus actual pit water level recovery will be presented in the sites Annual Review.
Reference 3.12	Further discussion regarding conceptual model uncertainty is required for future modelling assessments.	Yes	Further discussion on conceptual model uncertainty will be presented in future groundwater model review and calibration reports to be prepared following the periodic groundwater model review and validation process to be undertaken every three years should the Project be approved.

Table 4.3 DCCEEW Water post approval recommendations

Recommendation / reference ID	Summary of recommendation	Supported	Response
Recommendation 2.4 Reference 3.13	Stream gauging data for defining river stage elevations, if the data is available, to be used as part of future modelling assessments.	Yes	As part of the future groundwater model review and calibration process to be undertaken every three years, stream gauging data will be incorporated, where available, to understand the influence of this data on predicted groundwater baseflow loss.
Reference 3.14	Further discussion regarding recharge rates is required for future modelling assessments.	Yes	Further discussion regarding modelled recharge rates will be presented in future groundwater model reviews and validation reports to be prepared following the periodic groundwater model review and validation process.
Reference 3.15	A sensitivity run assessing the Gilmore Fault Zone as a preferential flow conduit is required with discussion of the influence on impacts as part of future modelling.	Yes	A sensitivity run to assess the Gilmore Fault Zone as a preferential flow conduit will be included as part of the future groundwater model period review and validation process to be undertaken every three years.
References 3.4, 3.6 and 3.7	Future modelling and assessment to include climate change predictions and incorporate below average rainfall predictive scenarios.	No	As outlined in the Submissions Report (EMM 2024a), the Project will only extend the total mine life to 2042, which is within a 50 year lifespan. A review of the NSW Climate Projections indicated that in the near future (2020-2039), the annual change in rainfall at the mine site would only be +0.73% while the annual change in temperature would only be 0.66°C. Therefore, specific climate change scenarios were not considered necessary to address the regulatory requirements for this Project. The consideration of future climate change scenarios as part of future groundwater model reviews and validation is not considered necessary. The model changes and outcomes of the future groundwater model validation processes, including any changes in predictions, will be presented in a groundwater model review and validation report.

4.4 Heritage NSW

Heritage NSW advice on the Submissions Report, and the Addendum Aboriginal Cultural Heritage Assessment (ACHA) provided as Appendix K to the Submissions Report noted that:

> "…the addendum ACHA and additional clarification on matters relating to the status of a number of Aboriginal heritage sites provided by EMM on 12 February 2024 have adequately addressed the comments that were previously raised by Heritage NSW".

Heritage NSW supported the supplementary mitigation measures presented in Section 5 of the Addendum ACHA and provided recommended COA.

The proposed recommended COA presented in the advice on the Submissions Report is supported. No further information is required to be provided in response to the Heritage NSW advice. Notwithstanding, Evolution will continue to liaise with Heritage NSW regarding the surrender and/or variation of the existing permits and through the preparation of the ACHMP.

4.5 DPHI Crown Lands

4.5.1 Travelling stock reserves

The acquisition of the Travelling Stock Reserve (TSR) (Lot 100 DP 1059150) by Evolution by way of revocation of the current reserve and execution of land transfer deeds will need be completed in due course. Realignment of the TSR will also need to be further discussed with the Bland Shire Council and Local Land Services post approval stage. It is noted Evolution Mining are actively engaging with DPHI Crown Lands on the land transfer deed.

Noted. Evolution will continue to engage with Bland Shire Council, Local Land Services and DPHI Crown Lands on the Travelling Stock Reserve realignment and land transfer deed noting this process is occurring outside of the Project's approval process.

4.5.2 Landowner consent

DPHI Crown Lands has identified the requirement for the proponent to lodge an application for landowners consent to authorise the development. It is noted Evolution Mining has made contact with DPHI Crown Lands recently and intends to lodge the application.

Landowner consent from the Minister for DPHI was issued by DPHI Crown Lands on 13 March 2024. A copy of the landowner consent from DPHI Crown Lands was provided to DPHI on 13 March 2024.

4.6 DPI Fisheries

The advice received from DPI Fisheries dated 4 April 2024 noted the DPI Fisheries had reviewed the Submissions Report, that their issues had been addressed, and had no further comment. No additional information is required to be provided in response to the DPI Fisheries advice.

4.7 Environment Protection Authority

The advice received from the EPA on the Submissions Report noted that the EPA had no further comment. No further action is required to be provided in response to the EPA advice. Evolution will continue to engage with the EPA on the post approval implementation and management of the Project with an initial focus on post approval construction activities to ensure all requirements and expectations from the EPA are met.

4.8 Mining Exploration and Geoscience

The advice received from MEG on the Submissions Report noted that MEG had no further comments on the Project in relation to the *Mining Act 1992* considerations and raised no further issues. No further action is required in response to the MEG advice on the Submissions Report.

Abbreviations

Aboriginal Cultural Heritage Assessment	ACHA
Aboriginal Cultural Heritage Management Plan	ACHMP
Aboriginal Heritage Impact Permit	AHIP
Biodiversity Assessment Method	BAM
Biodiversity Conservation Act 2016	BC Act
Biodiversity Conservation and Science Group	BCS
Biodiversity Conservation Fund	BCF
Biodiversity Conservation Trust	BCT
Biodiversity Development Assessment Report	BDAR
Biodiversity offsets scheme	BOS
Biodiversity Stewardship Agreement	BSA
Biodiversity Stewardship Site Assessment Report	BSSAR
Bland Creek Paleochannel	BCP
Commonwealth Environment Protection and Biodiversity Conservation Act 1999	EPBC Act
Community and Environment Management Consultative Committee	CEMCC
conditions of approval	COA
Construction Environment Management Plan	CEMP
Cowal Gold Operations	CGO
Credit Supply Taskforce	CST
Department of Planning and Environment	DPE
Department of Planning, Housing and Infrastructure	DPHI
derived native grassland	DNG
Endangered Ecological Community	EEC
Environmental Planning and Assessment Act 1979	EP&A Act
Fisheries Management Act 1994	FM Act
groundwater dependent ecosystem	GDE
hectares	Ha
Hollow-bearing Tree	HBT
Indigenous Archaeology and Cultural Heritage Management Plan	IACHMP
integrated waste landform	IWL
Landscape Function Analysis	LFA
Lake Protection Bund	LPB

Memorandum of Understanding	MoU
million tonnes per annum	Mtpa
Mining Exploration and Geoscience	MEG
mining lease	ML
National Parks and Wildlife Act 1974	NPW Act
plant community type	PCT
Remnant Vegetation Enhancement Program	RVEP
Secretary's Environmental Assessment Requirements	SEARs
State significant development	SSD
Statement of Assessment of Reasonable Equivalence	SRE
threatened ecological communities	TECs
Threatened Species Conservation Act 1995	TSC Act
total fund deposit	TFD
Travelling Stock Reserve	TSR
up-catchment drainage system	UCDS
Voluntary Planning Agreement	VPA
waste rock emplacement	WRE
water access licence	WAL

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Appendix A

VPA/MOU endorsement letters from Councils

EMM
creating opportunities

5 April 2024

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CGO Open Pit Continuation (OPC) Planning Agreement - Offer

Dear Mr Grant Baker,

We refer to recent communications between Cowal Gold Operations (**CGO**) and Bland Shire Council (**BSC**) in relation to an offer made by CGO to enter into a planning agreement with BSC under section 7.4 of the *Environmental Planning and Assessment Act 1979*. The offer is made in connection with the proposed State Significant Development application (SSD-42917792) for the Cowal Gold Operations – Open Pit Continuation.

The purpose of this letter is to formally offer to BSC, monetary contributions on the terms and conditions set out below and in accordance with the terms listed in **Appendix 1.**

- CGO to make an annual payment of $200,000 to be applied towards a Council Infrastructure Investment Fund. The funding is to be made available to BSC via an annual lump sum payment for the duration of the mining operations approved under any consent granted for SSD-42917792.
- In respect of contributions towards road maintenance, CGO to increase the existing MoU Payments by 50%, together with continuing the payment of $60,000 per annum currently payable under the CGO Underground Development Planning Agreement (DA No. SSD 10367).
- CGO proposes that the new planning agreement will incorporate the terms of the existing CGO Underground Development Planning Agreement for convenience and so that the Council is only required to consider and rely on one document for future reporting purposes.
- With respect to the contributions under the CGO Underground Development Planning Agreement in Schedule 5 - Direct Community Support & Sponsorships CGO agrees to increase the current contributions payable by $100,000 so that the total contribution for this item is $250,000 per annum (averaged over five-year tranches).
- All reasonable costs associated with the negotiation and execution of the agreement capped at $16,000, will be paid for by CGO.

We acknowledge BSC must undertake several processes as outlined in **Appendix 2** to this memo to enable execution of the Planning Agreement. The above Offer and Agreement in Principle is the starting point of the process with Step 1 deemed Complete and Step 2 currently underway.

As part of the State Significant Development Process, CGO need to demonstrate to the Department of Planning, Housing and Infrastructure (DPHI) that an offer has been made and an agreement in principle has been reached by both parties. Accordingly, we kindly request that you return a signed copy of this letter confirming BSC's acceptance of this offer.

Joe Mammen

General Manager - Cowal Gold Operations
Mobile +61 400 734 684 / Email: Joe.Mammen@evolutionmining.com

Signed by the authorised delegate for Bland Shire Council ABN 13 251 814 087

Signature

Grant Baker

Name

General Manager - Bland Shire Council

Title

8/4/24

Date

Appendix 1 – Key Terms

Listed below are definitions for Key Terms to be incorporated into the new planning agreement with further definition to be agreed by both parties.

- **Start Date:** The amended VPA would commence, subject to two (2) factors both being satisfied – within 30 days of the OPC Project Development Consent Approval (SSD42917792) & Evolution Mining Final Investment Decision (FID) on the OPC Project. Until such time that the amended VPA commences, contributions would continue to be paid pursuant to the existing agreement terms.
- **End Date:** Until the cessation of mining operations under SSD42917792
- **Amount of each payments:** Is in accordance with the Letter of Offer.
- **CPI:** In accordance with the mechanisms of the existing UG VPA (Development Application No. SSD 10367)
- **Agreed structure of the community enhancement fund management:** In accordance with the mechanisms of the existing UG VPA (Development Application No. SSD 10367) – Specifically Schedule 5.

  In addition to Schedule 5, we confirm, that in the event Evolution have not contributed a minimum value, CGO would provide any gap funding to council for subsequent community distribution.

  Schedule 5 will be updated to reflect this additional commitment.

Appendix 2 – Planning Agreement Next Steps

BSC Steps to complete the OPC Planning Agreement

1. Make formal offer to Council – Complete.
2. Council to sign offer so that evidence of the agreement in principle can be provided to the DPHI - Underway
3. Prepare the Planning Agreement document - Underway
4. Draft document to be considered by Council's legal advisors and then any amendments to be sent back to Evolution for consideration by its lawyers (Should there have been amendments).
5. Introduce at Council Workshop for discussion.
6. Planning Agreement to be reported to the full council, seeking approval to place on Public Exhibition.
7. Prepare the Public Exhibition notice in accordance with section 205 of the *Environmental Planning and Assessment Regulations 2021*. Moss Environmental have a template which we can use.
8. 28 days exhibition period.
9. Council to consider any submissions received, Amend the Planning Agreement based on responses if deemed necessary by Council and Evolution.
10. Council to report the final document at a full council meeting with approval for delegation to be provided to the General Manager to execute the Planning Agreement.
11. Send final document to Evolution.
12. All parties agree and Sign.
13. Council to set up or update its Public Planning Agreement register.
14. Council to completed Annual reporting under EPA Act for Planning Agreements.

19 February 2024

Greg Tory
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CGO Open Pit Continuation (OPC) Project

Proposed increase to the existing Cowal Gold Mine Memorandum of Understanding (MoU) – Road Maintenance

Dear Mr Greg Tory,

As part of the State Significant Development (SSDA) process for the Open Pit Continuation Project, CGO has engaged with Lachlan Shire Council (LSC) regarding ongoing road maintenance contributions and community engagement.

As discussed in our meeting on 8th February 2024, the findings within the Economic Report of the Environmental Impact Statement (EIS) for the Project suggest that ongoing financial support should be based around EVN's existing contributions and community support over the extended life of CGO.

Notwithstanding, in the spirt of collaboration and to demonstrate CGO's community commitment, CGO has considered the request made by LSC and agrees to increase the contributions and community support by a 50% uplift to the contributions under the existing road memorandum of understanding (**MoU**). CGO proposes that this outcome be effected by a variation to the MoU.

If LSC agrees to proceed on this basis then I kindly request that LSC confirm its acceptance by signing and returning this letter where indicated below. CGO will then arrange for the necessary MoU variation to be prepared to reflect the agreed approach.

Kind regards

Joe Mammen
General Manager - Cowal

Cowal Gold Operations
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LSC Representative:

Name: GREG TORY

Signature:

Position: GENERAL MANAGER

Date: 25 MARCH 2024

19 February 2024

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CGO Open Pit Continuation (OPC) Project

Proposed increase to the existing Cowal Gold Mine Memorandum of Understanding (MoU) – Road Maintenance

Dear Mr Steve Loane,

As part of the State Significant Development (SSDA) process for the Open Pit Continuation Project, CGO has engaged with Forbes Shire Council (FSC) regarding ongoing road maintenance contributions and community engagement.

As discussed in our meeting on 8th February 2024, the findings within the Economic Report of the Environmental Impact Statement (EIS) for the Project suggest that ongoing financial support should be based around EVN's existing contributions and community support over the extended life of CGO.

Notwithstanding, in the spirt of collaboration and to demonstrate CGO's community commitment, CGO has considered the request made by FSC and agrees to increase the contributions and community support by a 50% uplift to the contributions under the existing road memorandum of understanding (**MoU**). CGO proposes that this outcome be effected by a variation to the MoU.

If FSC agrees to proceed on this basis then I kindly request that FSC confirm its acceptance by signing and returning this letter where indicated below. CGO will then arrange for the necessary MoU variation to be prepared to reflect the agreed approach.

Kind regards

Joe Mammen
General Manager - Cowal

Cowal Gold Operations
Mobile +61 400 734 684
Email: Joe.Mammen@evolutionmining.com

FSC Representative:

Name:	Steve Loane OAM
Position:	General Manager
Date:	27 February 2024

Appendix B

Statement of reasonable equivalence DA14/98 MOD 14

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DOC23/847353-1

Statement of assessment of reasonable equivalence of biodiversity credits

A delegate of the Environment Agency Head of the Department of Planning and Environment has determined that the number of biodiversity credits required to be retired under the *Threatened Species Conservation Act 1995* (**TSC Act**) as part of the development consent listed in Part 1, are reasonably equivalent to the number and class of biodiversity credits under the *Biodiversity Conservation Act 2016* (**BC Act**) set out in Part 2.

This document outlines that determination, made in accordance with clause 22(3) of the *Biodiversity Conservation (Savings and Transitional) Regulation 2017*.

Part 1 Existing statutory obligation to retire credits

Request made by: Evolution Mining (Cowal) Pty Limited
Date request received: 21 September 2023 (amendment)
Development Consent reference: DA 14/98MOD14
Development name: Cowal Gold Mine

Existing statutory obligation reference	Biodiversity credit name (Plant Community Type name and ID, or threatened species name)	IBRA sub region	Management Zone	Number of credits
DA 14/98 MOD14	Weeping Myall open woodland of the Riverina Bioregion and NSW South Western Slopes Bioregion (LA212/PCT26)	Lower Slopes	Moderate/Good and Low	109[1]
DA 14/98 MOD14	Western Grey Box - Poplar Box - White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion (LA152/PCT82)	Lower Slopes	Moderate/Good and Low	816[2]

[1] Biobanking Credit Calculator Reference 0056/2018/4738MP. Management Zones Moderate/Good and Low have been combined within DA 14/98 MOD14 consent conditions.
[2] Biobanking Credit Calculator Reference 0056/2018/4737MP. Management Zones Moderate/Good and Low have been combined within DA 14/98 MOD14 consent conditions.

DA 14/98 MOD14	River Red Gum swampy woodland wetland on cowals (lakes) and associated flood channels in central NSW (LA191/PCT249)	Lower Slopes	Moderate/Good	19[3]
DA 14/98 MOD14	Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions (LA105/PCT55)	Lower Slopes	Low	193[4]
DA 14/98 MOD14	Dwyers Red Gum - White Cypress Pine - Currawang shrubby woodland mainly in the NSW South Western Slopes Bioregion (LA144/PCT185)	Lower Slopes	Moderate/Good	18[5]
DA 14/98 MOD14	Derived tussock grassland of the central western plains and lower slopes of NSW (LA138/PCT250)	Lower Slopes	Moderate/Good and Low	2,532[6]
DA 14/98 MOD14	Superb Parrot (*Polytelis swainsonii*)	NA	NA	7[7]

[3] Biobanking Credit Calculator Reference 0056/2018/4738MP.
[4] Biobanking Credit Calculator Reference 0056/2018/4737MP.
[5] Biobanking Credit Calculator Reference 0056/2018/4737MP.
[6] Biobanking Credit Calculator Reference 0056/2018/4737MP and 0056/2018/4738MP. Management Zones Moderate/Good and Low have been combined within DA 14/98 MOD14 consent conditions.
[7] Biobanking Credit Calculator Reference 0056/2018/4738MP.

Part 2 Determination of reasonable equivalence

The number and class of biodiversity credits that are reasonably equivalent under the BC Act are:

Ecosystem Credits

1. **Name of Plant Community Type:** Weeping Myall open woodland of the Riverina Bioregion and NSW South Western Slopes Bioregion (PCT26)

Number of ecosystem credits required if credits aren't retired from the applicant's Stewardship sites 3 and 6	42
Number of ecosystem credits required if credits are retired from the applicant's Stewardship sites 3 and 6	0[8]
Offset trading group[9]	Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray Darling Depression, Riverina and NSW South Western Slopes bioregions
Hollow bearing trees	Vegetation containing hollow-bearing trees
Vegetation class	Riverine Plain Woodlands
Vegetation formation	Semi-arid Woodlands (Grassy sub-formation)
IBRA[10] subregion	Lower Slopes and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

[8] Based on draft credits generated in 00035972/BAAS19000/22/00035974 with 0% proportionally allocated to credits with hollows; hollow-bearing trees credits are provided within PCT55 (DOC22/1012847). South West Region Planning Team previously supported the approach to create credits for PCT26 and PCT82 within a BSA associated with DA1498 MOD14, and to use these credits in their entirety to offset impacts associated with DA1498 MOD14 for PCT26 and PCT82 (DOC21/947365). South West Region Planning Team also support the current approach to create credits for PCT26 and PCT55 within a BSA associated with DA1498 MOD14, and to use these credits in their entirety to offset impacts associated with DA1498 MOD14 for PCT26 and PCT55 (DOC22/980656).

[9] Offset trading group amended from Riverine Plain Woodlands with a percent cleared value ≥90% to Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray Darling Depression, Riverina and NSW South Western Slopes bioregions at the request of the applicant (DOC23/847351).

[10] Interim Biogeographic Regionalisation for Australia

2. **Name of Plant Community Type:** Weeping Myall open woodland of the Riverina Bioregion and NSW South Western Slopes Bioregion (PCT26)

Number of ecosystem credits required if credits aren't retired from the applicant's Stewardship sites 3 and 6	207[11]
Number of ecosystem credits required if credits are retired from the applicant's Stewardship sites 3 and 6	218[12] [13]
Offset trading group[14]	Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray Darling Depression, Riverina and NSW South Western Slopes bioregions
Hollow bearing trees	Not applicable
Vegetation class	Riverine Plain Woodlands
Vegetation formation	Semi-arid Woodlands (Grassy sub-formation)
IBRA[15] subregion	Lower Slopes and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

[11] Includes 78 credits from a full recalculation and 129 credits which have been re-allocated from PCT250, as requested by the applicant and in consultation and agreement with BCD's South-West Region Planning Team (DOC22/998782).

[12] Includes 89 credits from draft credits generated in 00035972/BAAS19000/22/00035974 and 129 credits which have been re-allocated from PCT250, as requested by the applicant and in consultation and agreement with BCD's South-West Region Planning Team (DOC22/998782).

[13] Based on draft credits generated in 00035972/BAAS19000/22/00035974 with 100% proportionally allocated to credits without hollows. South West Region Planning Team previously supported the approach to create credits for PCT26 and PCT82 within a BSA associated with DA1498 MOD14, and to use these credits in their entirety to offset impacts associated with DA1498 MOD14 for PCT26 and PCT82 (DOC21/947365). South West Region Planning Team also support the current approach to create credits for PCT26 and PCT55 within a BSA associated with DA1498 MOD14, and to use these credits in their entirety to offset impacts associated with DA1498 MOD14 for PCT26 and PCT55 (DOC22/980656).

[14] Offset trading group amended from Riverine Plain Woodlands with a percent cleared value ≥90% to Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray Darling Depression, Riverina and NSW South Western Slopes bioregions at the request of the applicant (DOC23/847351).

[15] Interim Biogeographic Regionalisation for Australia

3. **Name of Plant Community Type:** Western Grey Box - Poplar Box - White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion (PCT82)

Number of ecosystem credits required	155
Offset trading group	Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions
Hollow bearing trees	Vegetation containing hollow-bearing trees
Vegetation class	Floodplain Transition Woodlands
Vegetation formation	Grassy woodlands
IBRA[16] subregion	Lower Slopes and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

4. **Name of Plant Community Type:** Western Grey Box - Poplar Box - White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion (PCT82)

Number of ecosystem credits required	889[17]
Offset trading group	Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions
Hollow bearing trees	Not applicable
Vegetation class	Floodplain Transition Woodlands
Vegetation formation	Grassy woodlands
IBRA[18] subregion	Lower Slopes and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

[16] Interim Biogeographic Regionalisation for Australia

[17] Includes 243 credits from a full recalculation and 646 credits which have been re-allocated from PCT250, as requested by the applicant and in consultation and agreement with BCD's South-West Region Planning Team (DOC22/998782).

[18] Interim Biogeographic Regionalisation for Australia

5. **Name of Plant Community Type:** River Red Gum swampy woodland wetland on cowals (lakes) and associated flood channels in central NSW (PCT249)

Number of ecosystem credits required	9
Offset trading group	Inland Riverine Forests with a percent cleared ≥50% and <70%
Hollow bearing trees	Vegetation containing hollow-bearing trees
Vegetation class	Inland Riverine Forests
Vegetation formation	Forested Wetlands
IBRA[19] subregion	Lower Slopes and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

[19] Interim Biogeographic Regionalisation for Australia

6. **Name of Plant Community Type:** Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions (PCT55)

Number of ecosystem credits required if credits aren't retired from the applicant's Stewardship sites 3 and 6	1,215[20]
Number of ecosystem credits required if credits are retired from the applicant's Stewardship sites 3 and 6	1,038[21] [22]
Offset trading group	North-west Floodplain Wetlands with a percent cleared value ≥70% and <90%
Hollow bearing trees	Not applicable
Vegetation class	North-west Floodplain Woodlands
Vegetation formation	Semi-arid Woodlands (Grassy sub-formation)
IBRA[23] subregion	Lower Slopes and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

[20] Includes 210 credits based on a full recalculation and 1,005 credits which have been re-allocated from PCT250, as requested by the applicant and in consultation and agreement with BCD's South-West Region Planning Team (DOC22/998782).

[21] Based on draft credits generated in 00035972/BAAS19000/22/00035974, with 25% proportionally allocated to credits without hollows as requested by the applicant (DOC22/1012847).

[22] Includes 33 credits from draft credits generated in 00035972/BAAS19000/22/00035974 and 1,005 credits which have been re-allocated from PCT250, as requested by the applicant and in consultation and agreement with BCD's South-West Region Planning Team (DOC22/998782).

[23] Interim Biogeographic Regionalisation for Australia

7. **Name of Plant Community Type:** Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions (PCT55)

Number of ecosystem credits required if credits aren't retired from the applicant's Stewardship sites 3 and 6	0
Number of ecosystem credits required if credits are retired from the applicant's Stewardship sites 3 and 6	104[24]
Offset trading group	North-west Floodplain Wetlands with a percent cleared value ≥70% and <90%
Hollow bearing trees	Vegetation containing hollow-bearing trees
Vegetation class	North-west Floodplain Woodlands
Vegetation formation	Semi-arid Woodlands (Grassy sub-formation)
IBRA[25] subregion	Lower Slopes and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

[24]Based on draft credits generated in 00035972/BAAS19000/22/00035974, with 75% proportionally allocated to credits with hollows as requested by the applicant (DOC22/1012847).

[25] Interim Biogeographic Regionalisation for Australia

8. **Name of Plant Community Type:** Dwyers Red Gum - White Cypress Pine - Currawang shrubby woodland mainly in the NSW South Western Slopes Bioregion (PCT185)

Number of ecosystem credits required	13 [26]
Offset trading group	Inland Rocky Hill Woodlands with a percent cleared value <50%
Hollow bearing trees	Not applicable
Vegetation class	Inland Rocky Hill Woodlands
Vegetation formation	Semi-arid Woodlands (Grassy sub-formation)
IBRA[27] subregion	Lower Slopes and any IBRA subregion that adjoins the subregion within which the development occurs and any such subregion that is within 100 kilometres of the outer edge of the impact site.

9. **Name of Plant Community Type:** Derived tussock grassland of the central western plains and lower slopes of NSW (PCT250)

Number of ecosystem credits required	0 [28]
Offset trading group	Not applicable
Hollow bearing trees	Not applicable
Vegetation class	Not applicable
Vegetation formation	Not applicable
IBRA[29] subregion	Not applicable

[26] Includes 10 credits from a full recalculation and 3 credits which have been re-allocated from PCT250, as requested by the applicant and in consultation and agreement with BCD's South-West Region Planning Team (DOC22/998782).

[27] Interim Biogeographic Regionalisation for Australia

[28] The applicant has re-mapped vegetation over the site that was originally assigned to PCT250, in consultation and agreement with BCD's South-West Region Planning Team (DOC22/998782). The original 1,782 credits of PCT250 have been re-allocated as follows as requested by the applicant: PCT 26 = 129 credits; PCT 55 = 1,005 credits; PCT 82 = 646 credits; PCT 185 = 3 credits (DOC22/1012847).

[29] Interim Biogeographic Regionalisation for Australia

Species Credits

1. **Name of threatened species**: Superb Parrot *Polytelis swainsonii*

Number of species credits required	11

This statement was issued on 2 November 2023.

Authorised by:

ADumbrell

AMY DUMBRELL
A/Director Biodiversity Offsets Scheme
Department of Planning and Environment
Delegate of the Environment Agency Head

Appendix C

BS0147 Hillgrove Myalla Cover letter

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Our ref: DOC24/81271

Ms Bonnie Coxon
Evolution Mining (Cowal) Pty Limited
Level 24, 175 Liverpool Street
Sydney NSW 2000

By email: bonnie.coxon@evolutionmining.com

Dear Bonnie

Biodiversity Stewardship Agreement – BS0147 Hillgrove and Myalla

Congratulations – I am pleased to inform you that your application for a biodiversity stewardship agreement (BSA) was successful. The final version of the **Hillgrove and Myalla** biodiversity stewardship agreement is enclosed and ready to be signed.

This letter and attachments provide information that you need to consider when signing the agreement.

Returning your signed biodiversity stewardship agreement

A copy of the biodiversity stewardship agreement, Abstract and 13NP form are attached for signing. Please refer to the *Agreement signing guidance* enclosed. This document outlines how the agreement and association documents must be executed.

If you have elected to sign electronically
Please return the signed agreement, Abstract and 13NP form, as three separate files, via email to bsa.applications@environment.nsw.gov.au

If you have elected to sign in hard copy
Please return the signed original copy of the agreement, abstract and 13NP form in an Express Post envelope to the address below:

Attn: Judy Fleming
Credits Supply Taskforce
C/- PO Box 299A
Inverell NSW 2360

Once you have returned the signed documents, the Director of the Credits Supply Taskforce (Taskforce), Department of Climate Change, Energy, the Environment and Water (DCCEEW), will execute your agreement.

Registration of the agreement

The Taskforce will register the agreement with the NSW Land Registry Service (LRS). The abstract of the agreement will be registered on the property title. Once registered on title the biodiversity credits will be listed on the Biodiversity Offset Scheme credit supply register. The BCT will notify you when credits have been issued and return a signed copy of the agreement to you for your records.

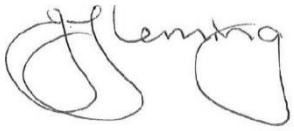
Ongoing management of your agreement

Following the registration of your agreement on title and issue of credits, your agreement will be managed by the BCT. The BCT will contact you to provide a welcome pack including a copy of your agreement, and discuss the ongoing implementation, monitoring and reporting requirements.

Thank you for working with the Taskforce to establish this biodiversity stewardship agreement.

If you have any further questions, please phone 0488 499 873 or email judy.fleming@environment.nsw.gov.au or alternatively, contact Jennie Powell on 8275 1668 or email jennie.powell@bct.nsw.gov.au

Yours sincerely



Judy Fleming
Project Officer
NSW Credits Supply Taskforce

1 February 2024

Enclosure: Agreement signing guidance
Biodiversity Stewardship agreement – BS0147
13NP Form – BS0147
Abstract – BS0147

Appendix D

Correspondence with CST: RVEP Areas

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From:	Sandra Walpole
To:	Steven Ward; John Seidel
Cc:	Janet Krick; James Wearne; Glenn Stuckey; Hayden Beck; Alison Cowie; Robyn Provost
Subject:	RE: Evolution BSAs for OPC Project: meeting notes from 31 Jan 24 and actions
Date:	Monday, 15 April 2024 3:13:12 PM
Attachments:	image001.png image002.png image003.png image004.png image005.png

Good afternoon Steven,

Thank you for your patience while we considered the level of discounting to be applied to RVEP areas based on current management obligations provided by Hayden on the 9/4/24.

We are happy to confirm that we agree to the discounting total set out in the table. The CST will apply the discounting when the BSA agreement is drafted, so you will not need to make any adjustments in BOAMS.

Based on our feedback, are you able to provide an indicative date for submission? Also, can you please provide a contact at Evolution Mining to get an update on the progress of signing the Hillgrove and Myalla BSA agreements?

Please don't hesitate to contact John or myself for any further clarification.

Kind regards
Sandra Walpole

Sandra Walpole
Manager Conservation Program Delivery

Negotiation and Delivery
Credits Supply Taksforce
Department of Climate Change, Energy, the Environment and Water
M 0488 666374 **E** Sandra.Walpole@environment.nsw.gov.au
11 Farrer Place, Queanbeyan, NSW 2620
www.dcceew.nsw.gov.au

NSW GOVERNMENT

I acknowledge the Ngunnawal and Ngambri people as the traditional custodians of the land I live and work on and show my respect to elders past and present.

From: Steven Ward <sward@emmconsulting.com.au>
Sent: Monday, 15 April 2024 1:22 PM
To: John Seidel <John.Seidel@environment.nsw.gov.au>; Sandra Walpole <sandra.walpole@environment.nsw.gov.au>
Cc: Janet Krick <jkrick@emmconsulting.com.au>; James Wearne <jwearne@emmconsulting.com.au>;

Table 1 **Proposed additionality for Cowal RVEP area 2 variation application. Note that only RVEP area 2 is being considered to establish a Biodiversity Stewardship Site over (as shown in Figure 1 below this table).**

Required Management Action	Percentage credit reduction under BAM Table 10	Quantitative justification for proposed credit reduction *Identify the improvements and additional measures that have been included in the variation application. e.g. enhancement to existing management action and/or increase to TFD management action funding.*	Proposed credit reduction (%) to be applied for variation	[Enter name of credit] *(Duplicate for each species)*	
				Total credits without additionality reduced	Total credits created with additionality reduced
Preparation of a Management Plan	5%	**Activities subject to additionality: *Preparation of a management plan is a required element of the existing conservation obligation*** The Remnant Vegetation Enhancement Program (RVEP) developed for Cowal Gold Operations (CGO) includes management obligations to conserve and enhance wildlife values around Lake Cowal, consistent with the requirements of DA14/98Consent Condition 3.2(b)(vii). The Flora and Fauna Management Plan (FFMP; Section 9.3; Evolution 2015a) and Land Management Plan (LMP; Section 5.4; Evolution 2003) provide management obligations for RVEP areas. These management plans are required under the consent and have been approved by regulators; links to these management plans are provided in the reference list below. The above management plans outline that RVEP areas will be managed during CGO operations, which are currently approved until 2040. There is no commitment within DA14/98 Conditions of approval, the FFMP or the LMP to continue management of these areas post the completion of mining operations. Thus, active management is required for 16 years (from 2024) compared to a 20+ timeframe for a Stewardship site. That is, 80% of what is required under a Stewardship site. However, the FFMP and LMP lack performance targets and monitoring has been required within RVEP Area 2 (see Figure 1). As such, the success of these management plans in achieving ecological gains is largely unknown. For this reason a further reduction (to 60% of the discount under BAM Table 10) is proposed. It is noted that this approach has also been applied to other management actions. That is: • Where active management similar to that required in BAM Table 10 is required under current management plans, 80% of the BAM Table 10 credit	3%		

		discount is proposed due to the shorter time frame (ie. 4 instead of 5%, or 8 instead of 10%). • Where there are current management requirements which partially align with, but they are less than, that required in BAM Table 10, 60% of the BAM Table 10 credit discount is proposed (ie. 3 instead of 5%, or 6 instead of 10%). • Where there is no current requirement which aligns with that required in BAM Table 10, then a 0% credit discount is proposed. The Management Plan being prepared under the BAM as part of the Biodiversity Stewardship Agreement (BSA) will enhance existing management actions by specifying performance targets, to ensure ecological gains are realised. The new management plan will also be employed in perpetuity, providing that ecological gains into the future rather than ending once mining operations cease. Given that the FFMP and LMP lack performance measures and will cease once mining operations end, whilst the new management plan will provide enhancement of obligations for management that will extend in perpetuity, it is proposed that 3% out of a possible 5% discounting is applied.	
Fire Management	10%	**Activities subject to additionality:** ***Periodical ecological burning has been or is to be carried out*** ***Ecological burning is supported by funding*** There is no requirement for ecological burns under the FFMP or LMP. Moreover, ecological burning is not supported by funding. The Management Plan being prepared under the BAM for the BSA will improve this management action by ensuring ecological burns are included (where practical and appropriate) and adequately funded. The new management plan will also manage fire in perpetuity. Therefore, based on a lack of current fire management, whilst the new management plan will provide obligations for fire management, it is proposed that 0% discounting is applied.	0%
Grazing Management	5%	**Activities subject to additionality:** ***Strategic grazing of stock*** As per Table 1 of the LMP, strategic light grazing by stock of the wetland areas in RVEP area 2 is proposed to occur prior to the first flood event occurring and following flood events to assist weed control and pasture management.	3%

		The requirement to manage stock in RVEP areas will end once mining operations cease (ie. full grazing to feed stock could recommence). The Management Plan being prepared under the BAM as part of the BSA will improve management action by ensuring grazing management occurs in perpetuity. This will largely be assisted through providing fencing installation, monitoring and ongoing maintenance, rather than ceasing once mining ends. Therefore, although there are some obligations for grazing management in RVEP area 2, grazing management requirements will end once operation of the mine ceases. The new management plan and BSA will provide in perpetuity stock management, so it is proposed that 3% out of a possible 5% discounting is applied.	
Native Vegetation and Threatened Species Habitat Management	10%	**Activities subject to additionality:** ***Existing obligation specifies actions that restore or rehabilitate native vegetation*** Native vegetation management in RVEP area 2 is passive only. The LMP states that selective planting of native vegetation may be conducted in RVEP areas to increase the quantity of remnant vegetation and to link areas of existing remnant vegetation, where practicable. However, planting in RVEP areas to date has targeted woodland communities only (Evolution 2015b; Figure 2). As native vegetation in RVEP area 2 is an ephemeral wetland, with no woodland present, the management of native vegetation management in that area is passive only. Moreover, any native vegetation management in the RVEP areas will also cease at the end of mining operations. The Management Plan being prepared under the BAM as part of the BSA will ensure native vegetation management in perpetuity. Therefore, there are only obligations for passive management of native vegetation in RVEP area 2, and these obligations will end once operation of the mine ceases. The new management plan offers considerable improvements to stock management that are in perpetuity, so it is proposed that 6% out of a possible 10% discounting is applied.	6%
Pest Animal Control	10%	**Activities subject to additionality:** ***Existing obligation specifies actions that control:*** • ***feral and/or overabundant native herbivores*** • ***vertebrate pests including foxes, cats and/or other miscellaneous species such as pigs, goats*** Pest control of rabbits, feral pigs, feral cats, wild dogs, and foxes is required within RVEP areas under LMP and FFMP. These obligations for pest animal control will end once mine operations cease.	8%

		The Management Plan being prepared under the BAM as part of the BSA will ensure pest animal control occurs in perpetuity. Therefore, the new management plan will provide far longer benefits to pest control than the existing management plans as pest animal control will be required in perpetuity. Hence, it is proposed that 8 out of a possible 10% discounting is applied.	
Integrated Weed Control	10%	**Activities subject to additionality:** ***Existing obligation specifies that broad-scale weed control or site-based weed control has been or is to be carried out*** ***Weed control actions are supported by funding*** Weed control is required within RVEP areas under the LMP and FFMP with existing obligations specifies that broad-scale weed control or site-based weed control has been or is to be carried out. As a requirement, the Management Plan being prepared under the BAM as part of the BSA will ensure weed control occurs in perpetuity. Therefore, the new management plan will provide far longer benefits to weed control than the existing management plans as weed control will be required in perpetuity. Hence, it is proposed that 8 out of a possible 10% discounting is applied.	8%
Management of Human Disturbance	5%	**Activities subject to additionality:** ***Existing obligation specifies actions that require:*** • ***removal of existing and future rubbish*** • ***measures that restrict access to the site including vehicles and trail bikes*** Limiting vehicular access is required within RVEP lands under the FFMP and LMP. However, there are no provisions for removal of rubbish from RVEP areas under the FFMP or LMP. The requirement for management of human disturbance will also end once mining operations cease. The Management Plan being prepared under the BAM as part of the BSA will require initial and ongoing removal of rubbish. Human disturbance will also be managed in perpetuity under this new management plan. Therefore, the new management plan will require far longer and improved benefits to manage human disturbance than the existing management plans. Hence, it is proposed that a 3% out of a possible 5% discount is applied.	3%
Threatened Species Habitat Management	5-10%	**Activities subject to additionality:** ***Existing obligation specifies other management actions identified in the TBDC as being required to create biodiversity credits for that threatened species***	0%

		There is no obligation for management of threatened species habitat within RVEP areas under the FFMP or LMP. Therefore, it is proposed that 0% discounting is applied.	
Monitoring	5%	**Activities subject to additionality: *Existing obligation specifies:*** • ***monitoring of biodiversity outcomes against performance measures*** • ***reporting of actions undertaken*** The LMP and FFMP requires monitoring of biodiversity within RVEP areas, with annual surveys of established vegetation plots (50 x 20 m) within some RVEP areas to obtain quantitative data on species diversity and abundance. Control plots are also established at sites outside of the enhancement areas to provide a reference point against which the management measures can be assessed. Although monitoring results are reported annually, there are no performance measures in terms of ecological response targets for management (see the most recent monitoring report by DnA Environmental 2022). Lastly, the requirement for monitoring of RVEP areas will end until mining operations cease. The Management Plan being prepared under the BAM as part of the BSA will require use of the Ecological Monitoring Module (EMM) to assess the effectiveness of the management plan, which will compare monitoring results to performance targets, to ensure that ecological gains are realised. Monitoring requirements will also be required in perpetuity. Therefore, the new management plan provides improvements to the existing management plans through providing greater monitoring rigour through employing the EMM, use of performance targets to ensure ecological gains are realised, whilst extending monitoring requirements into the future rather than ending once mining operations cease. Hence, it is proposed that 3% out of a possible 5% discounting is applied.	3%
TOTAL			34%

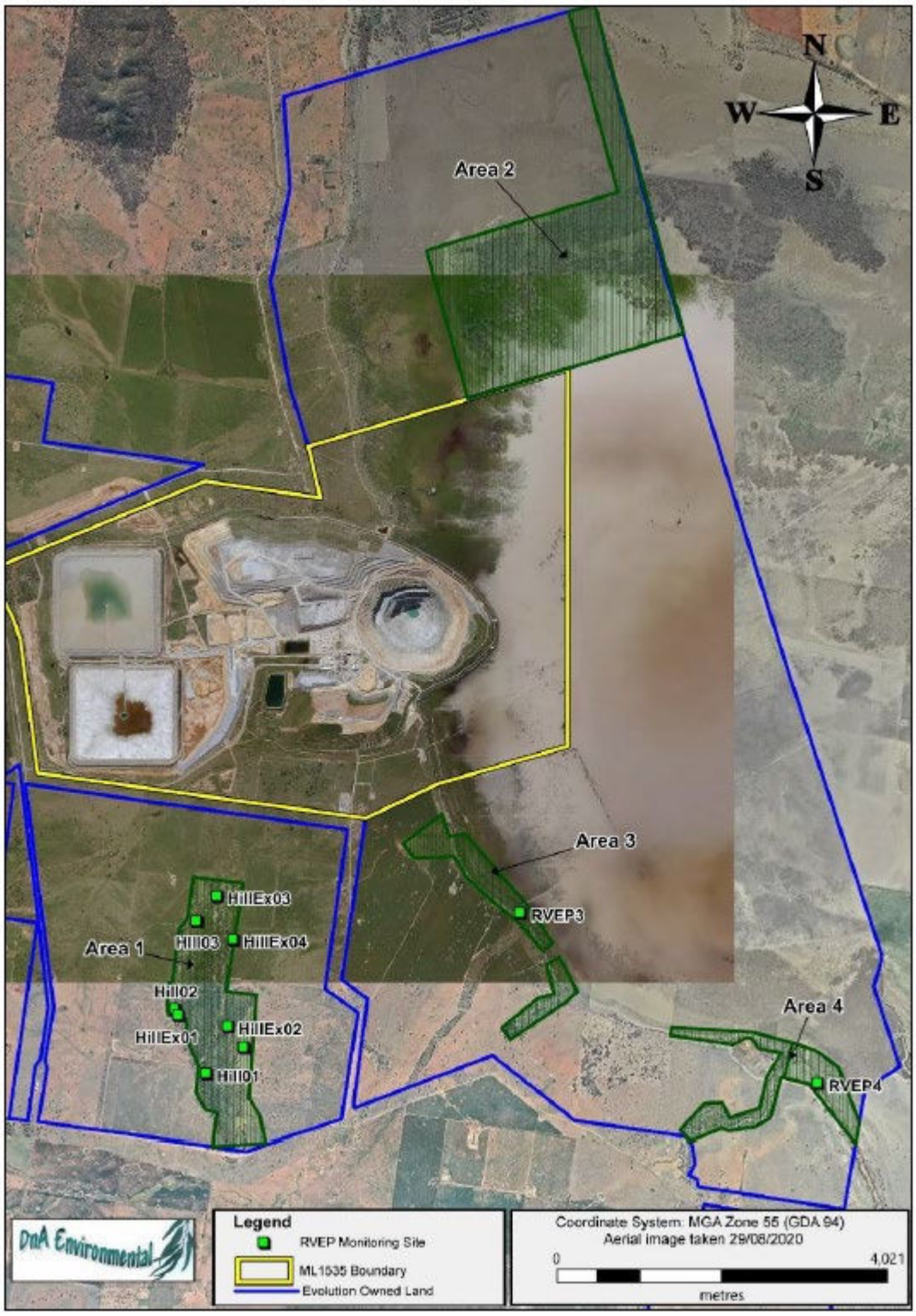

Figure 1. Location of RVEP areas and the associated monitoring sites (DNA Environmental 2022)

Figure 2. Location of plantings to date (Evolution 2024; as supplied by T. Rawson 22 March 2024)

References

DnA Environmental 2022, 2021 Remnant Vegetation Enhancement Program Monitoring Report, prepared for Cowal Gold Operations Evolution Mining (Cowal) Limited.

Evolution Mining (Cowal) Pty Limited 2003a, Land Management Plan, available: https://evolutionmining.com.au/wp-content/uploads/2015/07/Land-Management-Plan.pdf

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Appendix E

Existing Aboriginal heritage consent and permit review

EMM
creating opportunities

E.1 Existing AHIP Permit/Consent review

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
Special and Specific Conditions					
1. The permit does not cover human skeletal remains. Should human remains be uncovered all work at the particular location shall cease and the Department of Environment and Conservation, Cultural Heritage Branch, archaeologist at Dubbo be notified immediately.	N/A	N/A	Y – Pardoe (2009a, b, c) No skeletal remains identified	1.The permit does not cover human skeletal remains. Should human remains be uncovered all work at the particular location shall cease and the NPWS archaeologist at Dubbo shall be notified immediately.	N- remains valid
2. All work shall be carried out in accordance with the Research Design and Study Plan that is Attachment 5 to the Application (the "Research Design and Study Plan") as modified by the Special and Specific Conditions applying to the permit.	N/A	N/A	Y – Pardoe (2009a, b, c)	2. The Consent covers only those objects described in the instrument of Consent and in any Schedules thereto.	N/A

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
3. This permit allows for test pit investigations and extended excavation (if warranted) of three alluvial fans within the footprint of the proposed open cut pit and site P1 (NPWS 43-4-7). It further allows for the salvage, collection and storage/curation of a representative sample of Aboriginal objects located during these works in accordance with Special Condition 12. These works must be carried out in the following manner: • Excavation need not proceed beyond the test pit investigation stage in the absence of any cultural material. • All test pits and excavations shall be conducted in accordance with the Research Design and Study plan except for the test pits for the alluvial fans on the open cut footprint shall be placed as follows. A 10 metre (or less) x 1 metre trench shall be placed on the fan on any axis as determined by the permit holders and/or their instructed delegates who must be qualified archaeologists. This shall be intersected by a second trench of the same dimensions perpendicular to the first such that the trenches will define and fall within the boundaries of an extended 10 m x 10 m excavation should cultural material be encountered.	Lake Edge Ridge	#43-4-0007 (P1)	Y – Pardoe (2009a, b, c)	3. This permit operates in respect of the land covered by MLA 45 only for the period that the following approvals remain in force: • Exploration Licence 2864 and Exploration Licence 4510 or any renewals of the same; or • The development consent granted for the Cowal Gold Mine by the Minister for Urban Affairs and Planning on 26 February 1999 or a modification of the same or any new development consent which authorises the Cowal Gold Mine. A subsequent variation in March 2022 suggests the expiry of this permit was extended to 2042.	N
4. The scarred tree known as P2 (NPWS #43-4-8) shall be treated as per the Research Design and Study Plan with the following qualifications: • The tree shall be cut a minimum of 40-50 cm above and below the scar (where possible). Where this is not possible cuts will be made as far away from the scar edge as practicable. • The cut surfaces of the scarred sections shall be bored with a number of holes which shall be filled with an insecticide to provide termite resistance. The holes should then be plugged and the surfaces sealed to exclude moisture. • The tree shall be temporarily stored in the temporary keeping place (as approved for Section 87 permit no 1361) in a manner	Beach	#43-4-8 (P2)	Y – Pardoe (2009) Final repository may still require discussion and resolution	4. This Consent operates as follows: 4.1 Subject to paragraph 4.3, 4.4 and 4.5 below, this Consent does not operate in relation to a specific area until a holder of Permit #1468 has certified in writing, in accordance with Special Condition 16 of that permit, that the archaeological works authorised by Permit #1468 for that specific area have been completed; 4.2 Subject to the Special and Specific Conditions of this Instrument of Consent, once that certification has been given in relation to a specific area, this Consent authorises the destruction of Aboriginal objects in the area specified in the certification by Barrick Australia Limited, its employees and	Y

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
that will provide freedom from incidental damage yet allow for continuous air circulation. That is, the tree shall not be wrapped or constrained in a manner that prevents the timber from breathing or causes it to become wet such that it may be subject to undue cracking or fungal attack. • The final location of the tree shall be determined in consultation with the Wiradjuri Condobolin Corporation. The final location of the tree must satisfy the following. A concrete slab or similar shall be laid and the super structure of the shelter be prefabricated and ready for immediate installation before moving the object to the selected location. This is to avoid any undue exposure to the weather that may negatively impact upon the integrity of the object. Said shelter shall be constructed in a manner that provides security but visual access only to the object. Intrepretive signage shall be provided by Barrick Australia Limited to the shelter briefly explaining the tradition function of the object.				contractors and the employees and contractors if it parent company Barrick Gold of Australia Limited in the course of their lawful activities in that area. In particular: Where Permit #1468 authorises the collection of a representative sample of Aboriginal objects from the surface of land, this Consent authorises the destruction of surface and subsurface Aboriginal objects that remain after the representative sample (as determined by the permit holder and/or his instructed delegates) has been collected; Where Permit #1468 authorises the collection of a representative sample of Aboriginal objects after excavation, this Consent authorises the destruction of Aboriginal objects that remain after excavated Aboriginal objects identified by the permit holder and/or his instructed delegates have been collected; Where Special Condition 9 pf Permit #1468 authorises the identification of concentrations of Aboriginal objects on the back plain, this Consent authorises the destruction of Aboriginal objects on the back plain after the permit holder and/or his instructed delegates have undertaken the measuring and recording activities authorised by Special Condition 9. 4.3 If Permit #1468 does not authorise any archaeological works within a specific area, this Consent authorises the destruction of all Aboriginal objects within that specific area. 4.4 This Consent may operate within the footprint of the proposed open cut pit and site P1 (NPWS #43-4-7) before the test pit excavations and extended excavations authorised by Special Condition 3 of Permit #1468 have been carried out, provided that a permit holder has certified pursuant to Special Condition 16 of Permit #1468 that the salvage and collection	

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
				activities in relation to surface Aboriginal objects in that area have been completed. 4.5 Nothing in this Consent of Permit #1468 should be interpreted to mean that all surface and/or sub-surface Aboriginal objects must be collected from any specific area before a holder of Permit #1468 may certify that the collection activities for that specific area have been completed and this Consent may operate in relation to the relevant area.	
5. This permit allows for the excavation of site LC1 (NPWS #43-3-21). It further allows for the salvage collection and storage of a representative sample of Aboriginal objects located during these works in accordance with Special Condition 12. The excavation shall be undertaken in accordance with the Research Design and Study Plan by a specialist archaeologist nominated by the registered native title claimants for the area of MLA 45 as specified in the Research Design and Study Plan. If the registered native title claimants for the area of MLA 45 advise the permit holders in writing that they do not wish to nominate a specialist archaeologist to undertake these works the excavation works shall be undertaken by the permit holder and/or his instructed delegates who must be qualified archaeologists. The excavations will however be overseen by a holder of this permit and the nominated archaeologist must comply with any directions from the permit holders.	Lake Edge Ridge	#43-3-21 (LC1)	Y – Pardoe (2009a, b, c)	5. This consent shall lapse when the Minister for Mineral Resources acknowledges that satisfactory rehabilitation works has been completed under a mining lease granted in respect of MLA 45 or eighteen (18) years after the completion of construction works, whichever occurs first. For this purpose of this condition, construction works are the earthworks, engineering and building works which are required to be completed before mining operations commence.	Y
6. Salvage works at sites LC1, LC2, LC3, LC4, P1, A, F, G, L, J, K, L, M and N, defined in Attachment S of the Application and situated on the land described in Schedule B of Consent #1467 shall be completed in the following manner: • A permit holder and/or his instructed delegates shall inspect the land in these site locations and identify surface Aboriginal objects. The Wiradjuri Condobolin Corporation, West Wyalong Local Aboriginal Land Council and Mooka Traditional Owners	Lake Edge Ridge	#43-3-21 (LC1) #43-3-22 (LC2) #43-3-23 (LC3) #43-3-24 (LC4) #43-4-7 (P1)	Y – Pardoe (2009a, b, c)	6. Should any Aboriginal objects listed in Schedule 'A' above remain in existence/in situ at the date of the lapse of this Consent, any destruction of the Aboriginal objects will be unlawful unless authorised by a new consent granted under section 90 of the National Parks and Wildlife Act 1974.	N

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
Council (hereafter the "Aboriginal Community") shall be notified of the programme and a representative/s shall be invited to observe and where appropriate participate in the recording and collection works. • A representative sample of Aboriginal objects from each site shall be taken. Their position shall be recorded by a GPS and they shall be bagged and temporarily stored in accordance with Special Condition 13 until they are dealt with in accordance with the procedures outlined in Special Condition 12. • The collected Aboriginal objects shall be replaced in a location as close as possible to their original location at a time when the works within the specific area do not pose a future threat to them. Replacement will be supervised by a permit holder and/or his instructed delegates. The Aboriginal community shall be notified of the programme and a representative/s shall be invited to observe and where appropriate participate in replacement works. • Remaining Aboriginal objects shall be collected with the soil during soil stripping operations and temporarily stored in soil stockpiles before being replaced during rehabilitation activities. A Cultural Heritage Officer retained by Barrick shall undertake routine monitoring following replacement as a threat abatement measure. Should this officer identify a likely threat, the officer shall be empowered to halt proceedings. Barrick Australia Limited shall immediately upon notification investigate the matter and should the threat be verified, take necessary action to remove or mitigate the threat.	Backplain	#43-4-20 (A) #43-4-25 (F) #43-4-26 (G) #43-4-31 (L) #43-4-29 (J) #43-4-30 (K)			

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
7. Salvage works at sites LCB9 and LCB14 defined in Attached S of the Application and situated on land described in Schedule B of Consent #1467 shall be completed in the following manner: • A permit holder and/or his instructed delegates shall inspect the land in these site locations and identify surfaces Aboriginal objects. The Aboriginal community shall be notified of the programme and a representative/s shall be invited to observe and where appropriate participate in recording and collection works. • A representative sample of surface Aboriginal objects from each of these sites shall be collected. Their position shall be recorded by a GPS and they shall be bagged and temporarily stored in accordance with Special Condition 13 until they are dealt with in accordance with the procedures described in Special Condition 12. • A permit holder and/or his instructed delegates who must be qualified archaeologist shall excavate test pits of the width of the pipeline trench x 50 cm long x 50 cm deep, in 5 cm spits, at 5 metre intervals along that part of the proposed pipeline trench that is within Sites LCB9 and LCB14 to determine the existence of sub-surface cultural materials; • If sub-surface cultural materials are identified an extended excavation shall be carried out along the length of the proposed pipeline trench within the relevant site to a maximum depth of 1 metre; • A representative sample of Aboriginal objects located during the test pit excavations and extended excavations (if any) shall be collected. Their position shall be recorded by a GPS and they shall be bagged and temporarily stored in accordance with the procedures described in Special Condition 12. • During the pipelaying activities, the trench and spoil shall be monitored for the incidence of sub-surface Aboriginal objects	Backplain	43-5-0061 (LCB9) 43-5-0060 (LCB14)	Y – Pardoe (2009a, b, c)	7. During the term of this Consent, Barrick Australia Limited shall furnish the National Parks and Wildlife Service with a report on the activities carried out under the Consent, if required by the Director General.	Y

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
during removal. A representative sample of any Aboriginal objects so located shall be collected and treated in the manner set out above. • At the completion of pipe laying activities, the Aboriginal objects shall be replaced as near as practicable to their original location. The Aboriginal community shall be notified of the programme and a representative/s shall be invited to observe and where appropriate participate in replacement works.					
8. The following five sites defined in Attachment S of the Application and situated on the land described in Schedule B of Consent #1467 shall have conservation works effected as follows: • Sites B, C, E and H shall be covered by geotextile blanket extending a minimum of two metres beyond all visible artefact defining their boundaries. A layer of loam or sand, a minimum of 200 mm thick, shall be hand spread over this blanket, working progressively over fill as it is placed. That is, traffic directly on the blanket shall be avoided. A secondary geo-textile blanket shall cover the loam and be pegged down at the edges. • Topsoil stockpiles may be placed over these protected sites. If so, removal of top soil from the stockpiles for rehabilitation works shall stop when the first (top layer) of geotextile is encountered. This blanket shall then be removed to facilitate hand scarifying of the loam for reconstruction and subsequent revegetation in accordance with the rehabilitation plan. • Site D lies on or very close to an existing drainage contour. A permit holder shall in consultation with design engineering staff determine if the contour can be shifted to avoid the site. The maximum area of the site that can reasonably be conserved shall be protected in the manner described for B, C, E and H. • After the completion of the above conservation works, the protected areas shall be sign-posted.	Backplain	#43-4-21 (B) #43-4-22 (C) #43-4-23 (D) #43-4-24 (E) #43-4-27 (H)	Y – Pardoe (2009a, b, c)	8. A copy of this consent and the Permit #1468 shall be available for inspection as per General Condition 6 (see below) at the Cowal Gold Project Office at all times during the period of the consent.	Y

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
• These measures shall be undertaken within 90 days of the period commencing 19th May 2003. • However, if the area of any of these sites is proposed to be utilised by Barrick Australia Limited for its activities, other than vehicular passage, within the area of MLA 45, the following shall occur: • A permit holder shall give 21 days written notice to the Director-General of their intention to undertake the archaeological works referred to below, together with evidence of Barrick Australia Limited's consultation with the Aboriginal community about the proposed archaeological works and any compensatory measures proposed to be undertaken by Barrick Australia Limited; and • A permit holder and/or his instructed delegates shall carry out inspection, salvage and collection works at each site in accordance with the procedure contained in Special Condition 6.					
9. Additional works on the Back Plain (as that term is described in the Research Design and Study Plain) – Areas outside of the sites on the Back Plain that are identified in the Application shall be inspected to identify, where possible, other concentrations of surface Aboriginal objects within the Permit Area. The Aboriginal Community shall be notified of the programme and a representative/s shall be invited to observe and where appropriate participate in inspection and recording works. • In relation to 15 concentrations of Aboriginal objects, artefact densities in those concentrations shall be measured across areas of approximately 10 x 10 m. Their position shall be recorded by a GPS and the concentration of Aboriginal objects shall be individually measures and described to provide supplementary detail for subsequent spatial and technological analysis.	Backplain	Various – see EMM's ACHA and ACHA addendum	Y – Pardoe (2009a, b, c)	9. Offset Conditions 9.1 The obligations contained in this condition are subject to the following: Subject to subparagraph (b) below, the details and scope of each of the matters referred to in this condition are to be agreed in writing with the registered native title claimants for the area of MLA45 and the West Wyalong Local Aboriginal Land Council (hereafter, the "Aboriginal Community"), unless such agreement is not reached before the commencement of construction, when they will be determined by the Director-General; If the Aboriginal Community advises Barrick Australia Limited and the Director-General in writing that they do not want Barrick Australia Limited to fund one of the obligations	Y?

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
• The Aboriginal objects shall be left where found to be collected with the soil during soil stripping operations and temporarily stored in stock piles before being replaced during rehabilitation activities.				referred to in paragraphs 9.2 to 9.5, the obligation contained in the relevant condition immediately ceases; The total amount of funds dedicated to complying with the obligations referred to in paragraphs 9.2 to 9.5 need not exceed $250,000; and The deadline for completion of any of the obligations referred to in paragraphs 9.2 to 9.5 may be extended by the Director-General if he considers that it is reasonable in the circumstances to do so. 9.2 Barrick Australia Limited must fund the design and construction of a keeping place for Aboriginal objects collected pursuant to permit #1468, at a location to be agreed with the Aboriginal community. The keeping place must be constructed within 12 months of the commencement of mining operations. 9.3 Barrick Australia Limited must fund a regional cultural heritage study and the associated research and publication of a booklet about Wiradjuri cultural heritage and associations with land. The study and booklet must be centred on Lake Cowal and the area between Lake Cowal and the Lachlan River. The scope and methodology of the study shall be agreed with the Director-General. The regional study shall identify areas of cultural significance to Aboriginal people including areas within Barrick Australia Limited's land holdings which may be considered for conservation. The study must be completed and the booklet published within 3 years of commencement of construction, subject to any requests for extensions of time by the Aboriginal Community to allow additional study to be carried out. 1000 copies of the booklet must be produced. The booklet must be distributed to the Wiradjuri Council of Elders, the West Wyalong Local Aboriginal Land Council, the Condobolin Local Aboriginal Land Council, the Mooka Traditional Owners Council, the Wiradjuri Regional	

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
				Aboriginal Land Council, the New South Wales Aboriginal Land Council, NPWS, The Australian Museum, NSW Heritage Office, local public libraries, local councils, local schools, the Mitchell Library and other bodies nominated by the Aboriginal Community. 9.4 Barrick Australia Limited must fund the creation of a transportable display consisting of information and material on the Wiradjuri people in the context of Lake Cowal and the region generally, to be available for educational purposed at schools, public libraries, council offices, public buildings and other places nominated by the Aboriginal Community. The display must be completed within 6 months of publication of the booklet referred to in paragraph 9.3 above. 9.5 Barrick Australia Limited must fund a survey to document the whereabouts of Aboriginal objects taken from Wiradjuri land and held in public and private collections around Australia, and support (by financial and other means) any submission by the Aboriginal Community for the return of that material to the Wiradjuri people. The survey must be completed within 12 months from the commencement of construction.	
10. Additional works generally – where the Research Design and Study Plan provides for the inspection of land and the collection of Aboriginal objects prior to construction earthworks other than referred to in Special Conditions 6,7,8 and 9, such inspection and collection shall be carried out in accordance with the procedure contained in Special Condition 6.	Where required throughout project area	N/A	Y – Pardoe (2009a, b, c)	10. This Consent authorises any destruction of Aboriginal objects which may occur at Sites B, C, D, E and H as a result of vehicular movements following completion of the conservation works required by special condition 8 of Permit #1468 at any such site.	Y

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
11. All areas where soil stripping occurs shall be further inspected following this operation in the event that datable materials might be revealed. Samples shall be obtained by a permit holder and/or his instructed delegates and be submitted for chronological analysis. Costs for such analysis shall be borne by Barrick Australia Limited.	Where required throughout project area	N/A	Y – Pardoe (2009a, b, c)	11. Wherever the word “destroy” is used in this consent it includes destroy, deface, damage or desecrate. Wherever the word “destruction” is used in this consent it includes destruction, defacement, damage or desecration.	N/A
12. All Aboriginal objects subject to salvage and collection shall be dealt with in accordance with this special condition. Sufficient data will be taken from each Aboriginal object including material type and size characteristics, to enable a technological analysis to be undertaken for report purposes provided always that numbers are large enough for meaningful analysis. This information shall form the basis of a master inventory which must be maintained at all times. After collected items have been closely examined and classified by a permit holder and/or his instructed delegates who must be qualified archaeologists, each collected item that has been classified as an Aboriginal object shall be separately bagged and labelled duplicating the above information and placed in a clearly labelled box detailing the specific area of collection. They shall be dealt with in accordance with Special Condition 13.	N/A	All sites	Y – Pardoe (2009a, b, c)		
13. All collected Aboriginal objects shall be retained in the existing temporary Keeping Place within the Barrick Cowal Gold Project Compound. Keys shall be held by the Cowal Gold Project Site Coordinator and access shall be limited to Aboriginal Community representatives, the permit holders and/or their instructed delegates, the Land, Environment and Wiradjuri Heritage Officer and for audit purposes, Department of Environment and Conservation, Cultural Heritage Branch staff. Note that these are temporary facilities and a more permanent on site Keeping Place may be required in the future for aboriginal objects removed from the mine footprint area in the event that this area remains a water filled void.	N/A	All sites	Y		

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
14. Unless otherwise directed by the special conditions, any Aboriginal objects recovered being the property of the Crown shall be deposited at the Australian Museum in accordance with the adopted procedures for the deposition of objects as prescribed by the Australian Museum, at or before a period of 2 years from the date of expiration of the permit or any renewal whichever occurs first. Information about deposition requirements can be obtained from the Aboriginal Collections Manager, Division of Anthropology, the Australian Museum.	N/A	-	N/A – later permits authorise curation on site		
15. The holder/s of the permit shall furnish the Department of Environment and Conservation, Cultural Heritage Branch with a final report detailing the results of the investigations within 9 months of the completion of the excavations and field investigations. Said report will be expected to address matters related to the spatial distribution of sites, technological and chronological considerations, and inferences of land use histories related to palaeo-environments. A separate plain English report shall also be produced for the Aboriginal Community within the same time frame.	N/A	N/A	Y – Pardoe (2009a, b, c)		
16. Where the archaeological works authorised by this permit for a particular area have been completed, a permit holder will certify that fact in writing to Barrick Australia Limited. Such certification may be given before the examination and classification of collected items pursuant to Special Condition 12. A copy of that certification shall be provided to the Director-General.	N/A	All sites	Y – Pardoe (2009a, b, c)		
17. Where the Research Design and Study Plan refers to the Land, Environmental and Wiradjuri Heritage Officer, it shall be read as referring to a cultural heritage officer retained by Barrick (and approved by the West Wyalong Local Aboriginal Land Council)	N/A	N/A	N/A		

Table E.1 Permit 1468 / Consent 1467

Permit 1468	Management zone	Associated Aboriginal sites	Completed (Y/N)	Consent 1467	Completed (Y/N)
18. Where the Research Design and Study Plan provides in relation to each zone that "*works will stop in the relevant location when Barrick become aware of Aboriginal objects not previously identified during earthworks, construction or operation of the project, individual Aboriginal objects will be collected. Necessary permits or consents already in place shall be complied with prior to recommencement of work in the relevant area*" the following shall occur instead: • A Cultural Heritage Officer retained by Barrick (and approved by West Wyalong Local Aboriginal Land Council) shall monitor construction earthworks; If an Aboriginal object (other than human skeletal remains) of a type that has not been previously identified during the archaeological works referred to in the Research Design and Study Plans and Special Conditions 3-10 of this permit is identified, the Aboriginal object shall be collected and its position recorded by GPS. The collected Aboriginal object shall then be bagged and temporarily stored in accordance with Special Condition 13 until it is dealt with in accordance with Special Condition 12.	Where required throughout project area	N/A	Y – Pardoe (2009a, b, c)		

Table E.2 Permit 1681 / Consent 1680

Permit 1681	Associated Aboriginal sites	Completed (Y/N)	Consent 1680	Completed (Y/N)
Special and Specific Conditions				
1. The permit does not cover human skeletal remains. Should human remains be uncovered all work at the particular location shall cease and the NPWS archaeologist at Dubbo shall be notified immediately.	N/A	Y – Pardoe (2009a, b, c)	1. The Consent does not cover human skeletal remains. Should human remains be discovered all work at the particular location shall cease and the NPWS archaeologist at Dubbo shall be notified immediately.	N – remains valid
2. All work shall be carried out in accordance with the Research Design and Study Plan that is Attachment 5 to the Application (the "Research Design and Study Plan") as modified by the Special and Specific Conditions applying to the permit.	N/A	Y – Pardoe (2009a, b, c)	2. The Consent covers only those objects described in the instrument of Consent and in any Schedules thereto.	N/A
3. Although no sites are known to occur in the Permit Area a permit holder and/or his instructed delegates shall inspect the land in the Permit Area which is proposed to be disturbed by construction work in connection with the development consent granted for the Cowal Gold Mine by the Minister for Urban Affairs and Planning on 26 February 1999 and the approval granted for the Cowal Gold Project Access Road Upgrade by the Bland Shire Council on 21 April 1999 pursuant to Part 5 of the *Environmental Planning and Assessment Act 1979*. Should surface Aboriginal objects be identified, a representative sample of Aboriginal objects shall be taken. Their position shall be recorded by GPS and they shall be bagged and temporarily stored according to Special Condition 5 until they are dealt with in accordance with the procedures outlined in Special Condition 4.	N/A	Y – Pardoe (2009a, b, c)	3. This Consent operates in respect of the land nominated above only for the period that the following approvals remain in force: • the development consent granted for the Cowal Gold Mine by the Minister for Urban Affairs and Planning on 26 February 1999 or a modification of the same or any new development consent which authorises the Cowal Gold Mine; or • the approval granted for the Cowal Gold Project Access Road Upgrade by the Bland Shire Council on 21 April 1999 pursuant to Part 5 of the *Environment Planning and Assessment Act 1979* (NSW), or a modification of the same or any new approval which authorises the Cowal Gold Project Access Road Upgrade.	Y?

Table E.2 Permit 1681 / Consent 1680

Permit 1681	Associated Aboriginal sites	Completed (Y/N)	Consent 1680	Completed (Y/N)
4. All Aboriginal objects subject to salvage and collection shall be dealt with in accordance with this Special Condition. Sufficient data will be taken from each Aboriginal object, including material type and size characteristics, to enable a technological analysis to be undertaken for report purposes provided always that numbers are large enough for meaningful analysis. This information shall form the basis of a master inventory which must be maintained at all times. After collected items have been closely examined and classified by a permit holder and/or his instructed delegates who must be qualified archaeologists, each collected item that has been classified as an Aboriginal object shall be separately bagged and labelled duplicating the above information and placed in a clearly labelled box detailing the specific area of collection. Examination and classification shall follow collection as expediently as possible so that development of the master inventory does not significantly lag behind collection works.	N/A	Y – Pardoe (2009a, b, c)	4. This Consent operates as follows: 4.1 Subject to paragraph 4.3 below, this Consent does not operate in relation to a specific area until it has been certified in writing, in accordance with Special Condition 8 of Permit #1681, that the archaeological works authorised by Special Condition 3 of Permit #1681 for that specific area have been completed; 4.2 Subject to the Special and Specific Conditions of this Instrument of Consent and the obligation to comply with Special Condition 11 of Permit #1681, once that certification had been given in relation to a specific area, this Consent authorises the destruction of Aboriginal objects in the area specified in the certification by Barrick Australia Limited, its employees and contractors and the employees and contractors of its parent company Barrick Gold of Australia Limited in the course of their lawful activities in that area. In particular, where Permit #1681 authorises the collection of a representative sample of Aboriginal objects from the surface of the land, this Consent authorises the destruction of surface and sub-surface Aboriginal objects that remain after the representative sample (as determined by the permit holder and/or his instructed delegates) has been collected. 4.3 Nothing in this Consent or Permit #1681 should be interpreted to meant that all surface and/or sub-surface Aboriginal objects must be collected from anu specific area before it may be certified pursuant to Permit # 1681 that the collection activities for that specific area have been completed and this Consent may operate in relation to the relevant area.	Y

Table E.2 Permit 1681 / Consent 1680

Permit 1681	Associated Aboriginal sites	Completed (Y/N)	Consent 1680	Completed (Y/N)
5. All collected Aboriginal objects shall be retained in the existing temporary Keeping Place within the Barrick Cowal Gold Project Compound. Keys shall be held by the General Manager Cowal Gold Project or his delegate, the Cowal Gold Project Site Coordinator, and access shall be limited to Aboriginal Community representatives, the permit holders and/or their instructed delegates, a cultural heritage officer retained by Barrick and for audit purposes, NPWS staff. Note that these are temporary facilities and a more permanent Keeping Place is required as a condition of Consent # 1467 for Aboriginal objects removed from the mine footprint area in the event that this area remains a water filled void.	N/A	Y – Pardoe (2009a, b, c)	5. This consent shall lapse when the Minister for Mineral Resources acknowledges that satisfactory rehabilitation work has been completed under Mining Lease 1535 or eighteen (18) years after the completion of construction works, which ever occurs first. For the purpose of this condition, construction works are the earthworks, engineering and building works which are required to be completed before mining operations commence.	Y
6. Unless otherwise directed by the special conditions, any Aboriginal objects recovered, being the property of the Crown shall be deposited at the Australian Museum, in accordance with the adopted procedures for the deposition of objects as prescribed by The Australian Museum, at or before a period of 2 years from the date of expiration of the permit or any renewal whichever occurs first. Information about the deposition requirements can be obtained from the Aboriginal Collections Manager, Division of Anthropology, the Australian Museum.	N/A	N/A – later agreement allows curation on site	6. Should any Aboriginal objects listed in Schedule 'A' above remain in existence/in situ at the date of the lapse of this Consent, any destruction of the Aboriginal objects will be unlawful unless authorised by a new consent granted under section 90 of the *National Parks and Wildlife Act* 1974.	N?
7. The holder/s of the permit shall furnish the National Parks and Wildlife Service with a final report detailing the results of investigations within 9 months of the completion of the excavations and field investigations. Said report will be expected to address matters relating to the spatial distribution of sites, technological and chronological considerations, and inferences of land use histories related to palaeo-environments. A separate plain English report shall also be produced for the Aboriginal community within the same time frame.	N/A	Y – Pardoe (2009a, b, c)	7. During the term of this Consent, Barrick Australia Limited shall furnish the National Parks and Wildlife Service with a report on the activities carried out under the Consent, if required by the Director General.	Y
8. When the archaeological works authorised by this permit for a particular area have been completed, a permit holder or his delegate, emeritus Professor Fredrick James Allen, will certify that fact in writing to Barrick Australia Limited. Such certification may be given before the examination and classification of collected items pursuant to Special Condition 4. A copy of that certification shall be provided to the Director-General.	N/A	Y – Pardoe (2009a, b, c)	8. A copy of this consent and the Permit #1681 shall be available for inspection as per General Condition 6 (see below) at the Cowal Gold Project Office at all times during the period of the consent.	Y

Table E.2 Permit 1681 / Consent 1680

Permit 1681	Associated Aboriginal sites	Completed (Y/N)	Consent 1680	Completed (Y/N)
9. The inspecting, measuring and recording activities (for concentrations of surface Aboriginal objects) proposed in the Research Design and Study plan for the back plain zone shall not be read as applying to the Permit Area.	N/A	Y – Pardoe (2009a, b, c)	9. Whenever the word "destroy" is used in this consent it includes destroy, deface, damage or desecrate. Wherever the word "destruction" is used in this consent it includes destruction, defacement, damage or desecration.	N/A
10. Where the Research Design and Study Plan refers to the "*Land, Environment and Wiradjuri Heritage Officer*" in relation to the back plain zone, for the purposes of this permit, it shall instead be read as referring to a cultural heritage officer retained by Barrick (and approved by West Wyalong Local Aboriginal Land Council).	N/A	Y – Pardoe (2009a, b, c)		
11. Where the Research Design and Study Plan provides in relation to the back plain zone that "*works will stop in the relevant location when Barrick become aware of Aboriginal relics not previously identified during earthworks, construction or operation of the project. Individual Aboriginal objects will be collected. Necessary permits or consents already in place shall be complied with prior to the recommencement of work in the relevant area*" the following shall occur in the Permit Area instead: • A cultural heritage officer retained by Barrick (and approved by the West Wyalong Local Aboriginal Land Council) shall monitor construction earthworks; If an Aboriginal object (other than human skeletal remains) of a type that has not been previously identified during the archaeological works referred to in Special Condition 3 of this permit, is identified, the Aboriginal object shall be collected and its position recorded by GPS. The collected Aboriginal object shall then be bagged and temporarily stored in accordance with Special Condition 5 until it is dealt with in accordance with Special Condition 4.	N/A	Y – Pardoe (2009a, b, c)		

Table E.3 AHIP C0004570

AHIP: C0004570	Completed (Y/N)
Administrative Conditions	
Responsibility for compliance with conditions of the AHIP	
1. The AHIP holder must ensure that all persons involved in actions or works covered by this AHIP (whether employees, contractors, sub-contractors, agents or invitees) are made aware of and comply with the conditions of this AHIP	N-remains valid
2. The Indigenous Archaeology and Cultural Heritage Management Plan, for Lake Cowal Gold Operations is to be updated reflecting the contents of this consent and any related instruments (i.e. s85 Care Agreement).	Y but never implemented
Project manager to oversee the actions relating to this AHIP	
3. A suitably qualified and experienced individual must be appointed as a project manager who is responsible for overseeing, for and on behalf of the AHIP holder, all the actions relating to this AHIP.	N-remains valid
4. The individual appointed as project manager must be the project manager nominated in the application form.	N-remains valid
5. If an alternative to the nominated project manager is appointed, OEH must be notified of their contact details within 14 days of appointment.	N/A
Actions must be in accordance with AHIP application	
6. All actions on the land must be carried out in accordance with the application except as otherwise expressly provided by a condition of this AHIP.	N/A
Operational Conditions	
Certain Aboriginal objects must not be harmed	
7. All human remain in, on or under the land must not be harmed.	N-remains valid
8. The Aboriginal objects described in Schedule A must not be harmed.	N-remains valid

Table E.3 AHIP C0004570

AHIP: C0004570	Completed (Y/N)
9. To ensure that the Aboriginal objects described in Schedule A are not harmed, the following measures must be implemented as soon as practicable and complied with: a) Visual markers must be installed to clearly indicate the location of the Aboriginal objects and 'no-harm area' described in Schedule A, to any person on foot or in a vehicle in the vicinity, b) Persons entering the land such as employees, contractors, sub-contractors, agents and invitees must be provided with an Aboriginal Cultural Heritage awareness and site module as part of site induction, c) Appropriate sediment control measures must be installed, operated and maintained to prevent harm to the Aboriginal objects and 'no-harm areas' as described in Schedule A, d) Vehicles must not be driven on or in the immediate vicinity of an Aboriginal object as described in Schedule A, e) Vehicles must not be driven on any part of a 'no-harm area' described in Schedule A, f) Plant, equipment or any materials including fill, must not be stored on any part of a 'no-harm area' described in Schedule A.	Y?
10. To ensure that the Aboriginal objects described in Schedule A are not harmed, the Evolution. 2019. 'Cowal Gold Operations Indigenous Archaeology and Cultural Heritage Management Plan' Evolution Mining, Lake Cowal, NSW, provided as part of the application, must be updated to reflect this permit and also the care agreement, and implemented as soon as practicable and complied with.	Y but never implemented
Certain Aboriginal objects may be moved	
11. The Aboriginal objects described in Schedule B1 may only be moved.	N-remains valid
12. The movement of these Aboriginal objects must be carried out in accordance with Reeves, J. 2019. 'Aboriginal Cultural Heritage Assessment: Cowal Gold Operations – processing rate modification'. Report produced by Niche Environment and Heritage on behalf of Evolution Mining (Cowal) Pty Ltd, West Wyalong, NSW that was provided with the application.	N-remains valid
Salvage excavations	
13. Salvage excavations may be carried out in, on or under each salvage excavation area described in Schedule B2.	N-remains valid
14. Aboriginal objects that are recovered during the excavations may be analyses on-site and/or may be taken off-site for further analysis.	N-remains ongoing

Table E.3 AHIP C0004570

AHIP: C0004570	Completed (Y/N)
15. The excavations and analysis of Aboriginal objects, must be carried out in accordance with Reeves, J. 2019. 'Aboriginal Cultural Heritage Assessment: Cowal Gold Operations – processing rate modification'. Report produced by Niche Environment and Heritage on behalf of Evolution Mining (Cowal) Pty Ltd, West Wyalong, NSW that was provided with the application, with the following modifications: a) Sample sieving of spoil from grader scrapes in windrows b) Dating of any *in situ* middens and ovens/hearths if viable samples are present	N-remains ongoing
16. The excavations must be completed in an area before any harm of Aboriginal objects described in Schedule C can commence in that same area.	N-remains valid
Community collection	
17. The Registered Aboriginal Parties must be provided with an opportunity to collect Aboriginal objects within the 'community collection area' described in Schedule B3.	N-remains valid
18. The opportunity for community collection must be provided: a) in accordance with Reeves, J. 2019. 'Aboriginal Cultural Heritage Assessment: Cowal Gold Operations – processing rate modification'. Report produced by Niche Environment and Heritage on behalf of Evolution Mining (Cowal) Pty Ltd, West Wyalong, NSW that was provided with the application, and b) before any harm of Aboriginal objects described in Schedule C can commence in the area.	N-remains valid
19. Aboriginal objects that are recovered during the community collection may be analysed on-site and/or may be taken off-site for further analysis as decided by the Registered Aboriginal Parties.	N-remains ongoing
20. If an opportunity for community collection has been provided and this collection does not occur, the AHIP holder may proceed with any actions to harm Aboriginal objects described in Schedule C, in accordance with the conditions of this AHIP.	N-remains valid
Harm of certain Aboriginal objects through the proposed works	
21. The Aboriginal objects described in Schedule C may be harmed. Nothing in this condition authorised harm to Aboriginal objects described in Schedule A (whether human remains, Aboriginal objects or 'no-harm' areas).	N-remains valid
22. Aboriginal objects described in Schedule C must not be harmed unless: a) all movement of Aboriginal objects described in Schedule B1 has occurred in the area, b) all excavations described in Schedule B2 have been completed in the area, and c) all opportunities for community collection of Aboriginal objects described in Schedule B3 have been provided in the area.	N-remains valid

Table E.3 AHIP C0004570

AHIP: C0004570	Completed (Y/N)
Long term management of certain Aboriginal objects	
23. Long term management arrangements for any of the Aboriginal objects collected as part of this AHIP will be managed in accordance with Care Agreement C0004976.	N-remains valid
24. Requirement 26 "Stone artefact deposition and storage" in the Code of Practice for Archaeological Investigation of Aboriginal objects in NSW (24 September 2010, available online at: http://wwww.environment.nsw.gov.au/licences/archinvestigations.htm) must be complied with.	N-remains valid
Access routes	
25. Where practicable, existing access routes to parts of the land where actions relating to this AHIP are to be carried out must be used.	N-remains valid
Notification and Reporting Conditions	
Notification of commencement and completion of actions	
26. Written notice must be provided to the OEH office at least 7 days prior to the commencement of actions authorised by this AHIP.	Y?
27. Written notice must be provided to the OEH office within 7 days of the completion of actions authorised by this AHIP.	N-remains valid
Copy of this AHIP and notices to be provided to Registered Aboriginal Parties	
28. A copy of this AHIP must be provided to each Registered Aboriginal Party, within 14 days of receipt of the AHIP from OEH.	Y
29. Where this AHIP is varied or transferred, a copy of the AHIP variation or transfer notice must be provided to each Registered Aboriginal Party, within 14 days of receipt of the notice.	N-remains valid
Human remains	
30. If any human remains are discovered and/or harmed in , on or under the land, the AHIP holder must: a) not further harm these remains b) immediately cease all work at the particular location c) secure the area so as to avoid further harm to the remains d) notify the local police and OEH's Environment Line on 131 555 as soon as practicable and provide any available details of the remains and their location, and e) not recommence any work at the particular location unless authorised in writing by OEH.	N-remains valid

Table E.3 AHIP C0004570

AHIP: C0004570	Completed (Y/N)
Incidents which may breach the Act or AHIP	
31. The AHIP holder must notify the OEH office in writing as soon as practicable after becoming aware of: a) any contravention of s.86 of the Act not authorised by an AHIP, and/or any contravention of the conditions of this AHIP.	N-remains valid
Reports about incidents which may breach the Act or AHIP	
32. Where OEH suspects that an incident has occurred which may have breached the Act or AHIP, OEH may request a written incident report, which includes the following: a) the nature of the incident b) the actual or likely impact of the incident on Aboriginal objects and/or Aboriginal places c) the nature and location of these Aboriginal objects and/or Aboriginal places, referring to and providing maps and photos where appropriate d) any conditions of an AHIP which may have been breached, and e) the measures which have been taken or will be taken to prevent a recurrence of the incident.	N-remains valid
33. The incident report must be provided to OEH office within the timeframe specified in the request.	N-remains valid
Provision of Aboriginal Site Impact Recording Form	
34. An Aboriginal Site Impact Recording Form must be completed and submitted to the AHIMS Register, for each AHIMS site identified in Schedules B and C, within 6 months of the completion of the actions authorised by this AHIP.	N-remains ongoing
Report about harm to Aboriginal objects Salvage Report	

Table E.3 AHIP C0004570

AHIP: C0004570	Completed (Y/N)
35. A Salvage Report must be prepared about the actions relating to the harm of Aboriginal objects (as permitted by this AHIP). The report must: a) include a short summary of the report b) describe any ongoing consultation with or involvement of representatives of Registered Aboriginal Parties in relation to this AHIP c) describe how any Aboriginal objects or 'no-harm areas' described in Schedule A were managed during the period covered by the AHIP d) provide details of the Aboriginal objects which were fully or partially harmed in the course of undertaking the actions e) if any salvage excavations were authorised by this AHIP, provide a description of the methods and results of the salvage excavation f) detail any community collection of Aboriginal objects undertaken by the Registered Aboriginal Parties g) comment on the effectiveness of any mitigation measures that were implemented h) comment on the effectiveness of any management plan which was in place i) if any Aboriginal objects were moved to a temporary storage location, a description of the nature and types of Aboriginal objects which are now at that location j) detail the results of any analysis of Aboriginal objects k) detail the long term management arrangements for any Aboriginal objects, and l) include a statement confirming that all Aboriginal Site Impact Recording Forms have been completed and submitted to the AHIMS Registrar.	N-remains valid
36. The Salvage Report must be submitted to the OEH office within 6 months of the completion of the actions authorised by this AHIP.	N-remains valid
37. A copy of the Salvage Report, including a summary of the report in plain English, must be sent by registered post to each Registered Aboriginal Party within 14 days of the report being submitted to OEH.	N-remains valid

Appendix F
Variation to AHIP C0004173 (AHIMS 1467)

EMM
creating opportunities

Your reference: AHIP No. C0004173 (AHIMS 1467) Variation - Evolution Mining Cowal Gold Project
Our reference: C0004173 (AHIMS 1467) / EF22/2265
Notice number: DOC22/261676
Contact: heritagemailbox@environment.nsw.gov.au

Evolution Mining (Cowal) Pty Limited
ACN: 75007857598
24/175 Liverpool Street
SYDNEY NSW 2000

cc: Simon.Coats@evolutionmining.com

NOTICE OF VARIATION OF ABORIGINAL HERITAGE IMPACT PERMIT NO. C0004173 (AHIMS 1467)

Issued pursuant to section 90D(5) *National Parks and Wildlife Act 1974* (NPW Act)

BACKGROUND

A. Heritage NSW issued Aboriginal Heritage Impact Permit (AHIP) No. C0004173 (AHIMS 1467) to Barrick Australia Pty Ltd on 27 November 2002. This was varied on 19 April 2018, to allow a mechanism for the s90 Consent to be transferred to Evolution Mining (Cowal) Pty Limited (the AHIP holder) on 20 September 2018 to facilitate mining operation at Lake Cowal (MLA 45) under SSD-10367).

B. The AHIP was issued for 18 years from completion of construction activities and beginning of mining operations (April 2005), or until mine rehabilitation had been completed to the satisfaction of the Minister – whichever comes first.

C. The AHIP holder has extended the mine life under a current approval (DA 14/98) to 2032. Evolution Mining is seeking approval under SSD-10367 (MOD 16) to further extend MLA 45 operations to 2040.

D. The AHIP holder applied to Heritage NSW for an AHIP variation on 30 September 2022. The variation was to extend the expiry of the permit to 31 December 2040 to bring the consent time coverage in line with SSD-10367 approvals for MOD 16.

E. Heritage NSW has considered the matters set out in section 90K of the NPW Act.

VARIATION OF ABORIGINAL HERITAGE IMPACT PERMIT

1. By this notice Heritage NSW varies AHIP No. C0004173 (AHIMS 1467) in the following manner:

Variation 1

Schedule B: Condition 5, AHIP 1467 on page 25 of 33 (combined AHIPs), which states that:

> *"This consent shall lapse when the Minister for Mineral Resources acknowledges that satisfactory rehabilitation works has been completed under a mining lease granted in respect*

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Email: heritagemailbox@environment.nsw.gov.au | www.heritage.nsw.gov.au

of MLA 45 or eighteen (18) years after the completion of construction works, which ever occurs first. For the purpose of this condition, construction works are the earthworks, engineering and building works which are required to be completed before mining operations commence."

is replaced by:

"*This AHIP commences on the date it is signed unless otherwise provided by this AHIP.*

Unless otherwise revoked in writing, this AHIP remains in force for:

(i) *The period to 31 December 2040; or*
(i) *the Minister for Mineral Resources acknowledges that satisfactory rehabilitation works has been completed under a mining lease granted in respect of MLA 45.*"

2. This variation takes affect from 31 March 2022.

3. You must provide a copy of this AHIP variation notice to each Registered Aboriginal Party referenced in AHIP No. C0004173 (AHIMS 1467), within 14 days.

Kym McNamara

Senior Assessments Officer

Heritage NSW

Department of Premier and Cabinet

(by Delegation)

Date: 31 March 2022

INFORMATION ABOUT THIS VARIATION NOTICE

- Details provided in this notice will be available on Heritage NSW's Public Register in accordance with section 188F of the NPW Act.
- You should read this Variation Notice carefully and ensure that you continue to comply with **all** conditions of the original AHIP No. C0004173 (AHIMS 1467) issued on 27 November 2002, and **as amended** by this Variation Notice. The format of this Variation Notice requires that it must be read in conjunction with the original AHIP.

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When this notice begins to operate

- The variations to the AHIP specified in this notice begin to operate immediately from the date of this Variation Notice, unless another date is specified in this notice.

Variation of this notice

- This Variation Notice may only be varied by subsequent notices issued by Heritage NSW DPC.

Appeals against this decision

- You can appeal against this decision to the Land and Environment Court. The deadline for lodging the appeal is 21 days after the date that this notice was issued.

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CONSENT : 1467
(HO use only)

NATIONAL PARKS AND WILDLIFE ACT 1974
SECTION 90

CONSENT

CONSENT TO CARRY OUT THE DESTRUCTION OF AN ABORIGINAL OBJECT/PLACE

WHEREAS the Aboriginal objects described in Schedule "A" are situated upon the land described in Schedule "B", and which constitute Aboriginal objects within the meaning of Sections 5(1) and 90 of the National Parks and Wildlife Act 1974 ("Aboriginal objects"), and WHEREAS application has been made by:

Barrick Australia Limited
10th Floor, 2 Mill Street,
Perth. WA. 6000

Postal Address:
Locked Bag 12
Cloisters Square
Perth WA 6850

FOR CONSENT to destroy those objects identified in Schedule A and situated in the lands described in Schedule B of the proposed new open cut gold mine at Lake Cowal.

NOW I, Brian Gilligan, Director-General of National Parks and Wildlife, in pursuance of Section 90 of the said Act, and subject to the Conditions hereunder set out DO HEREBY CONSENT to the destruction of the said objects by the said applicant.

TERMS AND CONDITIONS OF THIS CONSENT

This Consent is issued subject to General Terms and Conditions covering all archaeological Permits and Consents, as well as the Special and Specific Terms and Conditions pertaining to Consents to Destroy Aboriginal objects all of which conditions are detailed in the attached pages.

DATED at Orange this 27 day of November 2002

Terry Kerr

for Director-General of
National Parks and Wildlife

SCHEDULE A:
All Aboriginal objects situated within the boundaries of the lands described in schedule B, unless excluded in the Special and Specific conditions.

SCHEDULE B:

- The area of Mining Lease Application 45 under the *Mining Act* 1992 (NSW) lodged by Barrick Australia Limited ("MLA 45") (as shown on the map in Schedule C to this Consent);
- The area of the following proposed bores (as shown on the map in Schedule D of this Consent) as follows:
  - the proposed bore within the road reserve to the west of Portion 69, Parish of Gibrigal, County of Gipps;
  - the proposed bore within Travelling Stock Reserve 84719 to the south of Portion 19, Parish of Gibrigal, County of Gipps;
  - the proposed bore within the road reserve to the north of Portion 105, Parish of Cadalgulee, County of Gipps; and
  - the proposed bore within the road reserve to the west of Portion 104, Parish of Cadalgulee, County of Gipps.
- The area of the proposed water pipeline (and its 40 metre wide corridor) which runs from the borefield to MLA45 within the following land (as shown on the map in Schedule C, D and E of this Consent):
  - the road reserve that runs to the west of Portions 69 and 19, Parish of Gibrigal, County of Gipps;
  - the road reserve (part of Butcher Road) and part of Travelling Stock Reserve 84719 that runs to the south of Portion 19, Parish of Gibrigal, County of Gipps;
  - the road reserve that runs to the east of Portion 66, Parish of Cadalgulee, County of Gipps;
  - the road reserve that runs to the north of Portion 105, Parish of Cadalgulee, County of Gipps, until it reaches the proposed bore;
  - the road reserve (part of Webster's Road) that runs in a south westerly direction adjacent to Portions 104 and 102, Parish of Cadalgulee, County of Gipps until it reaches the north west corner of Portion 93, Parish of Cadalgulee, County of Gipps;
  - the road reserve that runs to the west of Portion 93, Parish of Cadalgulee, County of Gipps for approximately 1 kilometre;
  - Lots 44, 45 and 46 on DP42918 - in an east/west direction parallel to, and approximately 175 metres from, the northern boundary of Lots 44, 45 and 46, for approximately 2 kilometres; and
  - Lots 46 and 47 on DP 42918 and Lots 18, 23 and 24 on DP753097 - in a south westerly direction for approximately 7 kilometres until it reaches MLA 45.

SPECIAL and SPECIFIC CONDITIONS

1. The Consent does not cover human skeletal remains. Should human remains be discovered all work at the particular location shall cease and the NPWS archaeologist at Dubbo shall be notified immediately.

2. The Consent covers only those objects described in the instrument of Consent and in any Schedules thereto.

3. This Consent operates in respect of the land covered by MLA 45 only for the period that the following approvals remain in force:
   - Exploration Licence 2864 and Exploration Licence 4510 or any renewals of the same; or
   - the development consent granted for the Cowal Gold Mine by the Minister for Urban Affairs and Planning on 26 February 1999 or a modification of the same or any new development consent which authorises the Cowal Gold Mine.

4. This Consent operates as follows:
   4.1 Subject to paragraph 4.3, 4.4 and 4.5 below, this Consent does not operate in relation to a specific area until a holder of Permit # 1468 has certified in writing, in accordance with Special Condition 16 of that permit, that the archaeological works authorised by Permit # 1468 for that specific area have been completed;
   4.2 Subject to the Special and Specific Conditions of this Instrument of Consent, once that certification has been given in relation to a specific area, this Consent authorises the destruction of Aboriginal objects in the area specified in the certification by Barrick Australia Limited, its employees and contractors and the employees and contractors of its parent company Barrick Gold of Australia Limited in the course of their lawful activities in that area. In particular:
   - Where Permit # 1468 authorises the collection of a representative sample of Aboriginal objects from the surface of land, this Consent authorises the destruction of surface and sub-surface Aboriginal objects that remain after the representative sample (as determined by the permit holder and/or his instructed delegates) has been collected;
   - where Permit # 1468 authorises the collection of a representative sample of Aboriginal objects after excavation, this Consent authorises the destruction of Aboriginal objects that remain after excavated Aboriginal objects identified by the permit holder and/or his instructed delegates have been collected;
   - where Special Condition 9 of Permit # 1468 authorises the identification of concentrations of Aboriginal objects on the back plain, this Consent authorises the destruction of Aboriginal objects on the back plain after the permit holder and/or his instructed delegates have undertaken the measuring and recording activities authorised by Special Condition 9.

   4.3 If Permit # 1468 does not authorise any archaeological works within a specific area, this Consent authorises the destruction of all Aboriginal objects within that specific area.
   4.4 This Consent may operate within the footprint of the proposed open cut pit and site P1 (NPWS#43-4-7) before the test pit excavations and extended excavations authorised by Special Condition 3 of Permit # 1468 have been carried out, provided that a permit holder has certified pursuant to Special Condition 16 of Permit # 1468 that the salvage and collection activities in relation to surface Aboriginal objects in that area have been completed.
   4.5 Nothing in this Consent or Permit # 1468 should be interpreted to mean that all surface and/or sub-surface Aboriginal objects must be collected from any specific area before a holder of Permit # 1468 may certify that the collection activities for that specific area have been completed and this Consent may operate in relation to the relevant area.

5. This consent shall lapse when the Minister for Mineral Resources acknowledges that satisfactory rehabilitation work has been completed under a mining lease granted in respect of MLA 45 or eighteen (18) years after the completion of construction works, which ever occurs first. For the purpose of this condition, construction works are the earthworks, engineering and building works which are required to be completed before mining operations commence.

6. Should any Aboriginal objects listed in Schedule 'A' above remain in existence/insitu at the date of the lapse of this Consent, any destruction of the Aboriginal objects will be unlawful unless authorised by a new consent granted under section 90 of the *National Parks and Wildlife Act* 1974.

7. During the term of this Consent, Barrick Australia Limited shall furnish the National Parks and Wildlife Service with a report on the activities carried out under the Consent, if required by the Director General.

8. A copy of this consent and the Permit # 1468 shall be available for inspection as per General Condition 6 (see below) at the Cowal Gold Project Office at all times during the period of the consent.

9. Offset Conditions

9.1 The obligations contained in this condition are subject to the following:

(a) subject to subparagraph (b) below, the details and scope of each of the matters referred to in this condition are to be agreed in writing with the registered native title claimants for the area of MLA45 and the West Wyalong Local Aboriginal Land Council (hereafter, the "Aboriginal Community") , unless such agreement is not reached before the commencement of construction, when they will be determined by the Director-General;

(b) if the Aboriginal Community advises Barrick Australia Limited and the Director-General in writing that they do not want Barrick Australia Limited to fund one of the obligations referred to in paragraphs 9.2 to 9.5, the obligation contained in the relevant condition immediately ceases;

(c) the total amount of funds dedicated to complying with the obligations referred to in paragraphs 9.2 to 9.5 need not exceed $250,000; and

(d) the deadline for completion of any of the obligations referred to in paragraphs 9.2 to 9.5 may be extended by the Director-General if he considers that it is reasonable in the circumstances to do so.

9.2 Barrick Australia Limited must fund the design and construction of a keeping place for Aboriginal objects collected pursuant to Permit # 1468, at a location to be agreed with the Aboriginal Community . The keeping place must be constructed within 12 months of the commencement of mining operations.

9.3 Barrick Australia Limited must fund a regional cultural heritage study and the associated research and publication of a booklet about Wiradjuri cultural heritage and associations with land. The study and booklet must be centred on Lake Cowal and the area between Lake Cowal and the Lachlan River. The scope and methodology of the study shall be agreed with the Director-General. The regional study shall identify areas of cultural significance to Aboriginal people including areas within Barrick Australia Limited's land holdings which may be considered for future conservation. The study must be completed and the booklet published within 3 years of the commencement of construction, subject to any requests for extensions of time by the Aboriginal Community to allow additional study to be carried out. 1000 copies of the booklet must be produced. The booklet must be distributed to the Wiradjuri Council of Elders, the West Wyalong Local Aboriginal Land Council, the Condobolin Local Aboriginal Land Council, the Mooka Traditional Owners Council, the Wiradjuri Regional Aboriginal Land Council, the New South Wales Aboriginal Land Council, NPWS, the Australian Museum, NSW Heritage Office, local public libraries, local councils, local schools, the Mitchell Library and other bodies nominated by the Aboriginal Community

9.4 Barrick Australia Limited must fund the creation of a transportable display consisting of information and material on the Wiradjuri people in the context of Lake Cowal and the region generally, to be available for educational purposes at schools, public libraries, council offices, public buildings and other places nominated by the Aboriginal Community. The display must be completed within 6 months of publication of the booklet referred to in paragraph 9.3 above.

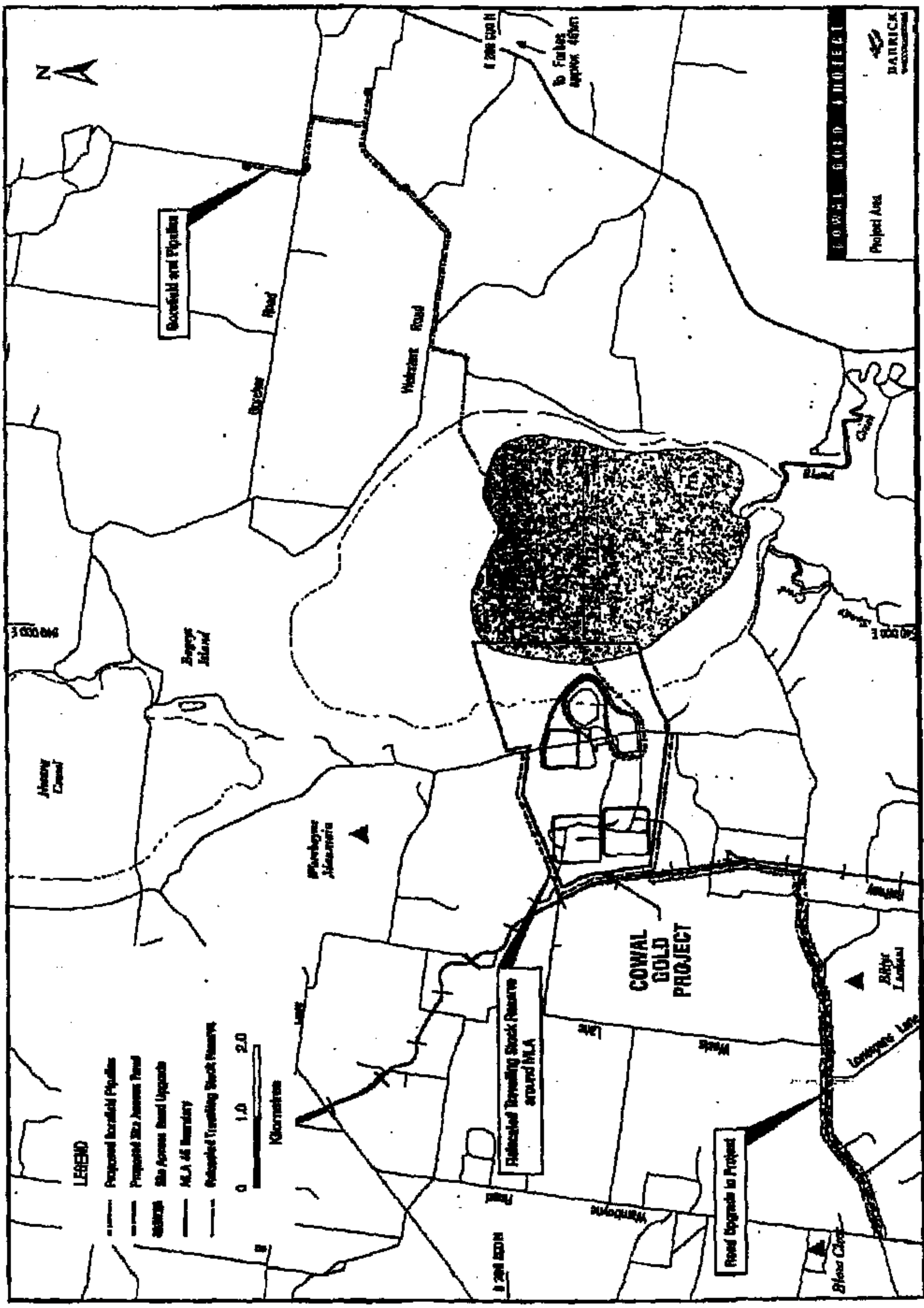
9.5 Barrick Australia Limited must fund a survey to document the whereabouts of Aboriginal objects taken from Wiradjuri land and held in public and private collections around Australia, and support (by financial and other means) any submission by the Aboriginal Community for the return of that material to the Wiradjuri people. The survey must be completed within 12 months from the commencement of construction.

10. This Consent authorises any destruction of Aboriginal objects which may occur at Sites B, C, D, E and H as a result of vehicular movements following completion of the conservation works required by special condition 8 of Permit # 1468 at any such site.

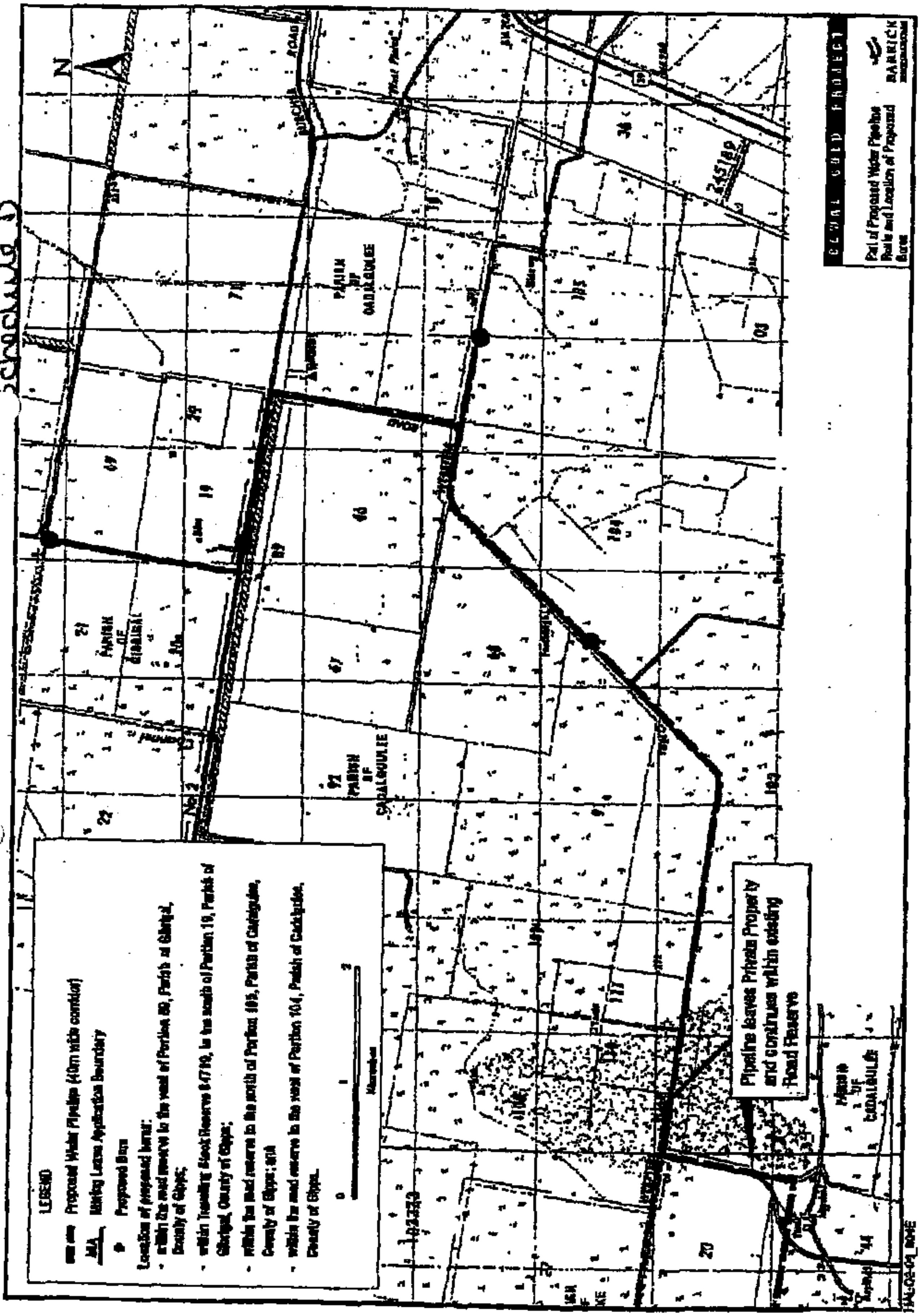
11. Wherever the word "destroy" is used in this consent it includes destroy, deface, damage or desecrate. Wherever the word "destruction" is used in this consent it includes destruction, defacement, damage or desecration.

C

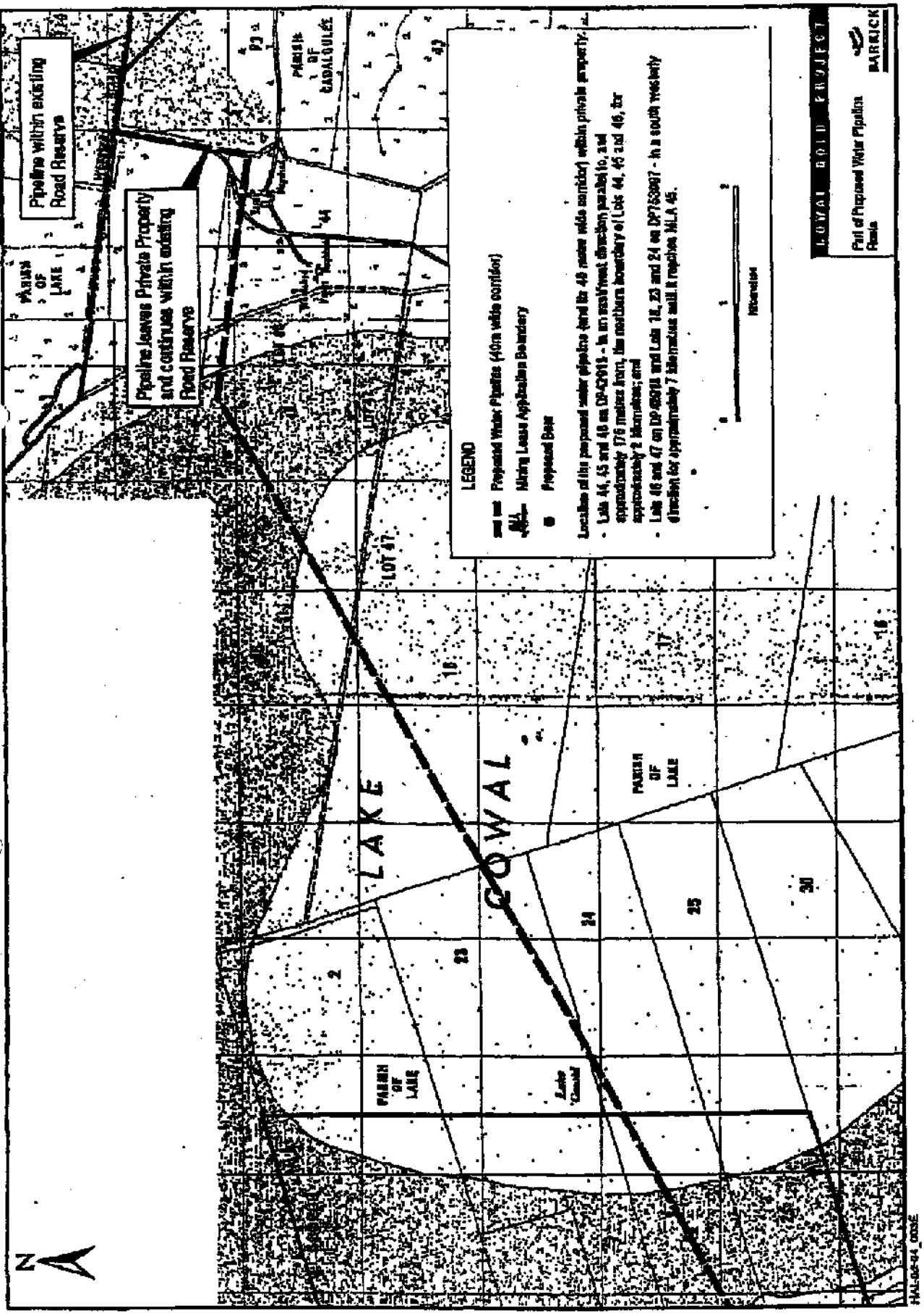
Schedule C


COWAL GOLD PROJECT
LEGEND
Kilometres
BARRICK
Project Area

Schedule D


LEGEND
Proposed Water Pipeline (40m wide corridor)
Mining Lease Application Boundary
Proposed Bore
Location of proposed bores:
- within the road reserve to the west of Portion 89, Parish of Gibrigal, County of Gipps;
- within Travelling Stock Reserve 64710, to the south of Portion 19, Parish of Gibrigal, County of Gipps;
- within the road reserve to the north of Portion 105, Parish of Cadalgulee, County of Gipps; and
- within the road reserve to the west of Portion 104, Parish of Cadalgulee, County of Gipps.
0 1 2
Kilometres
Pipeline leaves Private Property and continues within existing Road Reserve
PARISH OF CADALGULEE
PARISH OF GIBRIGAL
Part of Proposed Water Pipeline Route and Location of Proposed Bore
BARRICK

Schedule E


Pipeline within existing Road Reserve
Pipeline leaves Private Property and continues within existing Road Reserve
PARISH OF LAKE
PARISH OF CABALGULEE
LOT 47
LAKE COWAL
PARISH OF LAKE
Lake Cowal
LEGEND
Proposed Water Pipeline (40m wide corridor)
Mining Lease Application Boundary
Proposed Base
Location of the proposed water pipeline (and its 40 metre wide corridor) within private property:
• Lots 44, 43 and 48 on DP42913 - in an east/west direction parallel to, and approximately 170 metres from, the northern boundary of Lots 44, 45 and 46, for approximately 2 kilometres; and
• Lots 46 and 47 on DP45918 and Lots 18, 23 and 24 on DP753907 - in a south westerly direction for approximately 7 kilometres until it reaches MLA 46.
Kilometres
COWAL GOLD PROJECT
Port of Proposed Water Pipeline Route
BARRICK
N

GENERAL TERMS AND CONDITIONS

1. Permits and Consents are not transferable.

2. A Permit covers only that area stated in the Permit.

3. A Consent covers only that area stated in the instrument of Consent and in any Schedules thereto.

4. Terms and conditions of Permits may be varied at any time at the discretion of the Director-General.

5. The Person to whom the Permit is issued or the Consent granted shall be responsible for the manner in which the work covered by the Permit or Consent is performed.

6. An officer of the National Parks and Wildlife Service, acting on the authority of the Director-General, may at any time examine work done or any objects recovered under any Permit or Consent.

7. Permits and Consents are necessary for all activities for which they are issued or granted, but do not in themselves give authority to enter or work on freehold land or leased Crown Land. Permission must be sought from the owner or occupier and arrangements made with him/her.

8. The holder of the Permit or Consent shall furnish, when required to do so, an undertaking to indemnify the National Parks and Wildlife Service against all actions, suits, claims and demands of whatsoever nature and all costs, charges and expenses in respect of any accident or injury to any person or property which may arise solely out of the existence of any works associated with the Permit or Consent.

9. All reports received in connection with work carried out under a Permit or Consent shall be treated as confidential but the National Parks and Wildlife Service shall have the right to copy all such reports, to allow consideration thereof by qualified referees.

10. For a period of five years from the date of issue of the Permit or Consent, the holder of the Permit or Consent may refuse to allow the National Parks and Wildlife Service and The Australian Museum, if such information is held by those institutions, to make public any information contained in any report referred to in Condition 9 above, except where it is deemed necessary for management, protection or research reasons. After this period of five years from the date of issue of the Permit or Consent, the Service and The Australian Museum shall have the right to use and authorise the use of information contained in all reports submitted under the Permit or Consent, except where specifically requested by the holder of the Permit or Consent.

11. Upon publication of any information relating to work done under a Permit or Consent, a copy of such publication(s) shall be forwarded to the National Parks and Wildlife Service, The Australian Museum, Sydney, and the Australian Institute of Aboriginal and Torres Strait Islander Studies, Canberra, unless permission to do otherwise has been obtained from the Service.

12. The holder of the Permit or Consent shall consult with the local Aboriginal community regarding the work covered by the Permit or Consent and shall respond to any reasonable request to involve the Aboriginal community in the work.

13. The National Parks and Wildlife Service and The Australian Museum may supply copies of relevant reports as furnished by the holder of the permit or Consent to local Aboriginal communities. Upon request by the Service, the holder of the Permit or Consent shall supply a

summary of his/her findings with photographs, diagrams, etc., as required, to local Aboriginal communities or other interest local groups.

14. The holder of the Permit or Consent shall keep field records and a copy of all such records shall be lodged with the National Parks and Wildlife Service at the termination of each field work period. A copy of all field records shall be lodged with The Australian Museum at the time the archaeological materials are deposited with the Museum.

15. The holder of the Permit or Consent shall notify the Dubbo office of the National Parks and Wildlife Service at the commencement and completion of fieldwork, and shall supply to District officers details of field work programs and results if requested.

Appendix G
Biodiversity credit reports

EMM
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BAM Biodiversity Credit Report (Like for like)

Proposal Details

Assessment Id
00046529/BAAS19000/24/00046530

Proposal Name
Cowal Gold Operations Open Pit Continuation Project - Scattered Tree Module

BAM data last updated *
22/06/2023

Assessor Name
Hayden John Beck

Assessor Number
BAAS19000

BAM Data version *
61

Proponent Names

Report Created
05/03/2024

Date Finalised
05/03/2024

Assessment Revision
0

Assessment Type
Scattered Trees

BAM Case Status
Finalised

BOS entry trigger
Major Project

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Nil

Additional Information for Approval

PCTs With Customized Benchmarks

No Changes

BAM Biodiversity Credit Report (Like for like)

Ecosystem Credit Summary

PCT	TEC	HBT Cr	No HBT Cr	Credits
55-Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.	Not a TEC	10	38	48

Credit classes for 55

Like-for-like options

Class	Trading group	HBT	Credits	IBRA region
North-west Floodplain Woodlands	North-west Floodplain Woodlands >=70% and <90%	Yes	10	Lower Slopes, Bogan-Macquarie, Inland Slopes, Lachlan Plains, Murray Fans, Murrumbidgee and Nymagee. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
North-west Floodplain Woodlands	North-west Floodplain Woodlands >=70% and <90%	No	38	Lower Slopes, Bogan-Macquarie, Inland Slopes, Lachlan Plains, Murray Fans, Murrumbidgee and Nymagee. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Biodiversity Credit Report (Variations)

Proposal Details

Assessment Id
00046529/BAAS19000/24/00046530

Proposal Name
Cowal Gold Operations Open Pit Continuation Project - Scattered Tree Module

BAM data last updated *
22/06/2023

Assessor Name
Hayden John Beck

Assessor Number
BAAS19000

BAM Data version *
61

Proponent Name(s)

Report Created
05/03/2024

Assessment Type
Scattered Trees

Date Finalised
05/03/2024

Assessment Revision
0

BAM Case Status
Finalised

BOS entry trigger
Major Project

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Potential Serious and Irreversible Impacts

Nil

Additional Information for Approval

PCTs With Customized Benchmarks
No Changes

Ecosystem Credit Summary

PCT	TEC	HBT Cr	No HBT Cr	Credits
55-Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.	Not a TEC	10	38	48

BAM Biodiversity Credit Report (Variations)

Credit classes for 55

Like-for-like options

Class	Trading group	HBT	Credits	IBRA region
North-west Floodplain Woodlands	North-west Floodplain Woodlands >=70% and <90%	Yes	10	Lower Slopes, Bogan-Macquarie, Inland Slopes, Lachlan Plains, Murray Fans, Murrumbidgee and Nymagee. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.
North-west Floodplain Woodlands	North-west Floodplain Woodlands >=70% and <90%	No	38	Lower Slopes, Bogan-Macquarie, Inland Slopes, Lachlan Plains, Murray Fans, Murrumbidgee and Nymagee. or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

Variation options

Formation	Trading group	HBT	IBRA region
Semi-arid Woodlands (Grassy sub-formation)	Tier 2	Yes (including artificial)	IBRA Region: NSW South Western Slopes, or Any IBRA subregion that is within 100 kilometers of the outer edge of the impacted site.

BAM Credit Summary Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00046529/BAAS19000/24/00046530	Cowal Gold Operations Open Pit Continuation Project - Scattered Tree Module	22/06/2023
Assessor Name	**Report Created**	**BAM Data version ***
Hayden John Beck	05/03/2024	61
Assessor Number	**BAM Case Status**	**Date Finalised**
BAAS19000	Finalised	05/03/2024
Assessment Revision	**Assessment Type**	**BOS entry trigger**
0	Scattered Trees	Major Project

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Scattered Trees Credit Requirement

Class	Contains hollows	Number of trees	Ecosystem credits
55-Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.			
3	False	7.0	5
3	False	30.0	23
3	True	2.0	2
3	False	12.0	9
3	True	8.0	8
3	False	1.0	1
			48
			48

Species credits for threatened species

The scattered tree module is not applicable. This species much be assessed using chapter 5 of the BAM and BAM-C development module

Lathamus discolor Swift Parrot

BAM Predicted Species Report

Proposal Details

Assessment Id	Proposal Name	BAM data last updated *
00046529/BAAS19000/24/00046530	Cowal Gold Operations Open Pit Continuation Project - Scattered Tree Module	22/06/2023
Assessor Name	**Report Created**	**BAM Data version ***
Hayden John Beck	05/03/2024	61
Assessor Number	**BAM Case Status**	**Date Finalised**
BAAS19000	Finalised	05/03/2024
Assessment Revision	**Assessment Type**	**BOS entry trigger**
0	Scattered Trees	Major Project

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Threatened species reliably predicted to utilise the site. No surveys are required for these species. Ecosystem credits apply to these species.

Common Name	Scientific Name
Barking Owl	Ninox connivens
Black Falcon	Falco subniger
Black-breasted Buzzard	Hamirostra melanosternon
Dusky Woodswallow	Artamus cyanopterus cyanopterus
Glossy Black-Cockatoo	Calyptorhynchus lathami
Grey Falcon	Falco hypoleucos
Grey-crowned Babbler (eastern subspecies)	Pomatostomus temporalis temporalis
Hooded Robin (south-eastern form)	Melanodryas cucullata cucullata
Little Eagle	Hieraaetus morphnoides
Little Pied Bat	Chalinolobus picatus
Major Mitchell's Cockatoo	Lophochroa leadbeateri
Masked Owl	Tyto novaehollandiae
Speckled Warbler	Chthonicola sagittata
Spotted Harrier	Circus assimilis
Superb Parrot	Polytelis swainsonii
Swift Parrot	Lathamus discolor

Varied Sittella	Daphoenositta chrysoptera
White-bellied Sea-Eagle	Haliaeetus leucogaster
White-throated Needletail	Hirundapus caudacutus
Yellow-bellied Sheathtail-bat	Saccolaimus flaviventris

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Common Name	Scientific Name	Plant Community Type(s)
Painted Honeyeater	Grantiella picta	55-Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.

Threatened species assessed as not within the vegetation zone(s) for the PCT(s)

Refer to BAR for detailed justification

Common Name	Scientific Name	Justification in the BAM-C
Painted Honeyeater	Grantiella picta	Habitat constraints

Scattered Tree Report

Proposal Details

Assessment Id
00046529/BAAS19000/24/00046530

Assessment name
Cowal Gold Operations Open Pit Continuation Project - Scattered Tree Module

BAM data last updated *
22/06/2023

Assessor Name
Hayden John Beck

Report Created
05/03/2024

BAM Data version *
61

Assessor Number
BAAS19000

BAM Case Status
Finalised

Date Finalised
05/03/2024

Assessment Revision
0

Assessment Type
Scattered Trees

BOS entry trigger
Major Project

* Disclaimer: BAM data last updated may indicate either complete or partial update of the BAM calculator database. BAM calculator database may not be completely aligned with Bionet.

Scattered Trees

PCT code	PCT name	No. of trees	Species	DBHOB Category	Contain hollows	Class	Assessment required
55	Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.	7	Acacia pendula	>= 30cm	False	3	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species

Scattered Tree Report

55	Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.	30	Alectryon oleifolius	>= 30cm	False	3	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species
55	Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.	2	Alectryon oleifolius	>= 30cm	True	3	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species
55	Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.	12	Casuarina cristata	>= 30cm	False	3	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species
55	Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.	8	Casuarina cristata	>= 30cm	True	3	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species
55	Belah woodland on alluvial plains and low rises in the central NSW wheatbelt to Pilliga and Liverpool Plains regions.	1	Casuarina cristata	>= 30cm	False	3	Visual assessment for hollows, presence of important habitat features and habitat suitability for threatened species

Appendix H
Open pit erosion assessment

EMM
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SLR Consulting Australia
Level 16, 175 Eagle Street, Brisbane QLD 4000, Australia

22 April 2024

Version v0.4

From: Greg Maddocks and Mark Heap (SLR Consulting)

Attention: Janet Krick and James Wearne, EMM Consulting

SLR Project No.: 620.040524: Technical Memorandum: Cowal Open Pit Erosion Assessment

1.0 Introduction

SLR Consulting (SLR) provided an Erosion Assessment Report to EMM and Evolution Mining that was subsequently provided to the New South Wales (NSW) Department of Planning, Housing, and Infrastructure (DPHI) to document the factors that contribute to erosion on the weathered zone of the pit walls associated with the Cowal Gold Operations (CGO) Open Pit Continuation Project (the Project). The SLR report also included a management "framework" that could be applied at CGO to understand the risk and opportunities and move towards a viable closure strategy.

2.0 Request for information

On 5 April 2024, the DPHI provided a request for further information – relating to erosion modelling:

- Provide further information (such as a risk screening assessment) to identify the level of risk associated with erosion, particularly on the eastern pit walls, with a focus on the areas of the pit located closest to the bund wall and lake.
- Include an analysis of how any identified risks can be appropriately managed with consideration given to mitigation measures, including provision of a suitable buffer area with minimum setbacks and/or laybacks from the lake and bund wall, and/or other measures to demonstrate sufficient safeguards from erosion impacts to the bund wall and lake.

The technical memorandum herein addresses this request for information.

3.0 Risk and opportunity assessment

To comply with the DPHI request for information, SLR has undertaken a risk assessment that builds on three previously identified primary project risks referred to in Appendix D (Proposed Environmental Management Framework Risk Assessment) to the Submissions Report that relate to erosion and sediment control, rehabilitation material resources and interaction with Interaction between Lake Cowal and CGO (**Table 3-1**).

For each of the three primary project risks in **Table 3-1** SLR has undertaken a supplementary qualitative risk assessment of the aspects, impacts, causes, and risks associated with erosion and instability of the extremely weathered zone of the open pit walls.

The ten supplementary qualitative risks associated with erosion, material availability and interaction between the operational pit wall and the Lake Protection Bund (LPB) are in **Table 3-2**.

The highest potential risk identified in the supplementary qualitative risk assessment is the potential for interaction of the pit wall(s) with Lake Cowal.

Figure 3-1 provides a conceptual drawing that depicts the proposed site layout, and cross sections in the E41, E42 and GR open pits.

The cross sections verify the following.

- GR Pit the Operational slope may be in the order of 20.8º and there is the potential for a Conceptual closure slope of 13.3º. There is also the potential for a Conceptual contingency closure slope of 11.3º that could be achieved if considered necessary.
- E42 Pit the Operational slope would be in the order of 25.2º with a Conceptual closure slope of 24.6º. A Conceptual contingency closure slope of 16.5º could also be achieved if considered necessary.
- E41 Pit the Operational slope could be in the order of 23º with a Conceptual closure slope of 18.8º. There is also the potential for a Conceptual contingency closure slope of 13.5º that could be achieved if considered necessary.

It is not the intent of these conceptual drawings to infer these lower slope angles are required, rather to verify that there is in the order of ~100m of land available to achieve lower slopes as a closure contingency (if they are required).

Please contact Greg Maddocks (gmaddocks@slrconsulting.com) at SLR or Janet Krick and James Wearne at EMM if you require additional information.

Table 3-1: Extract from Appendix D - Proposed Environmental Management Framework Risk Assessment

Mine area	Aspect	Impact	Description	Cause and Risk	Key existing and/or proposed mitigation measures
APPENDIX D Risk 1 Construction and operations	**Technical**	Erosion and sediment control	Poor erosion and sediment control practices or failure to recognise and mitigate erosion leading to erosion of key landforms.	Erosion of key landforms leading to instability of landforms or impacts on receiving environment.	**SL01 -** Erosion and sediment controls will be designed, installed and maintained in accordance with the best management practice guidance series Managing Urban Stormwater: Soils and Construction – Volume 1 (Landform, 2004) and 2E Mines and Quarries (DECC, 2008). **SL06 -** To mitigate potential erosion impacts, the following mitigation measures should be adopted: •minimise the area disturbed and restrict access to non-disturbed areas •rehabilitate roads and hardstand areas no longer required for operations •avoid soil stripping operations during particularly wet or dry periods, to minimise compaction during soil excavation and use ameliorants where required (e.g. gypsum application to dispersive soils) •use of silt fences and temporary sediment traps to minimise sediment movement •use of diversion banks, channels and rip-rap structures to divert surface water around disturbed areas and control runoff velocity •use of spoon drains, table drains and concrete culverts to control surface runoff from access roads •leave more saline and dispersive soil horizons in-situ beneath mine landforms, where possible. **RE05** - Identified erosion hazard areas will be reshaped where possible. In instances where reshaping is not possible, as well as addressing any related groundwater and additional land surface protection, beyond the CGO soil-rock matrix cover system will be implemented to include one or more of the following: •chemical treatment (e.g. using lime / gypsum) •revegetation using species such as vetiver grass Chrysopogon zizanioides •use of geofabric coverings •rock armouring. **RE06** - Any legacy landform features such as berms and bullnoses, identified by erosion and landform evolution modelling to increase erosion beyond acceptable rates will be removed or modified where possible. If not, Evolution will consider increasing the proportion of rock to soil in the rock/soil matrix. **RE04** - A staged open pit closure strategy will be detailed in the DPHI approved Rehabilitation Strategy which outlines a staged work program that will ensure a viable, stable final landform is developed for the open pits prior to mine closure. The staged work program will be actively progressed over the mine life using data and knowledge gathered in RE02 and RE03. There is an expectation that there would be regular inspections of erosion and sediment controls to assess effectiveness and maintenance or repair requirements, especially prior to and after forecasted /actual weathered events.
APPENDIX D Risk 2 Rehabilitation and mine closure	**Technical**	Rehabilitation resources	Insufficient suitable soil and waste rock materials for mine rehabilitation.	Rehabilitation does not meet SSD or ML approval conditions including rehabilitation objectives/completion criteria for final land use.	**SL01 -** The existing general strategy of soil resource management at the CGO will be continued for the Project. This strategy involves stripping suitable soil resources from the proposed disturbance areas within the ML areas and directly replacing on rehabilitation areas or storing in dedicated stockpiles for re-use during progressive rehabilitation works. Management measures for soil stripping and stockpiling for the different soil units within the additional disturbance area will be documented in the Project's EMS as per the recommendations in the Project's Land and Soil Assessment (Appendix T of the EIS). **RE01 -**The rehabilitation objectives and closure criteria will be refined over the life of the Project in response to advances in rehabilitation techniques, outcomes of rehabilitation trials or changes to the agreed final land uses. **RE02 -** Ongoing rehabilitation trials and research will be an extension of the trials undertaken to date and will include: •Material Amelioration – Continued investigation into the chemical and physical properties of soil resources and the optimum rates of gypsum application to improve suitability for plant growth and use on rehabilitation areas •Rehabilitation Media – Continued monitoring of the effectiveness of various applications associated with the rock mulch, topsoil and hay cover materials stabilising landform slopes (i.e. controlling erosion) and providing a suitable medium for revegetation. •Revegetation – Ongoing trials and research to determine the most appropriate revegetation species suited to substrate materials of the CGO's final landforms including: –Implementation of new vegetation growth trials to investigate revegetation species suited to the top surface rehabilitation materials of CGO final landforms, including the IWL and WREs, open pit crests to refine revegetation objectives; –Investigations and implementation of a trial to determine the most effective methods for direct seeding rehabilitation areas following the establishment of the initial Wimmera Ryegrass cover crop; and •Implementation of research and a revegetation trial to investigate revegetation methods and species suited to the final slopes and rehabilitation media of the IWL embankments. •Soil/rock matrix application and mixing – trialling the soil/rock matrix application and mixing techniques detailed in section 5.2.4ii to determine which methods provides the greatest level of erosion protection and vegetation establishment.
APPENDIX D Risk 3 LPB	**Environmental**	Interaction between Lake Cowal and CGO	Breach of lake protection bund. Flood event and/or extreme weather.	Inrush to CGO from Lake Cowal. Habitat degradation, contamination of lake.	There is an expectation that there would be regular inspections of erosion and sediment controls to assess effectiveness and maintenance or repair requirements.

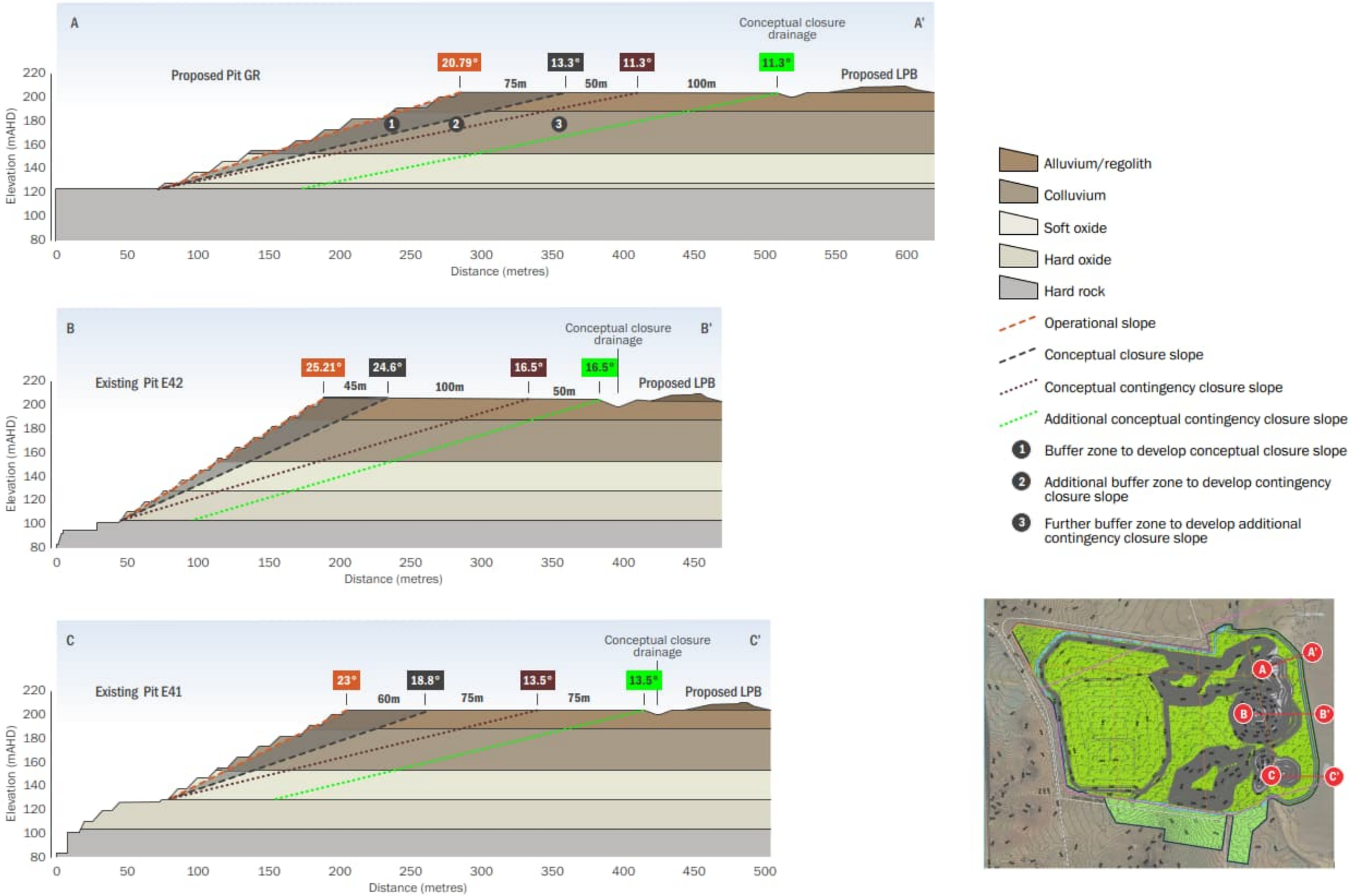


Figure 3-1: Landform design opportunities for the proposed pit walls

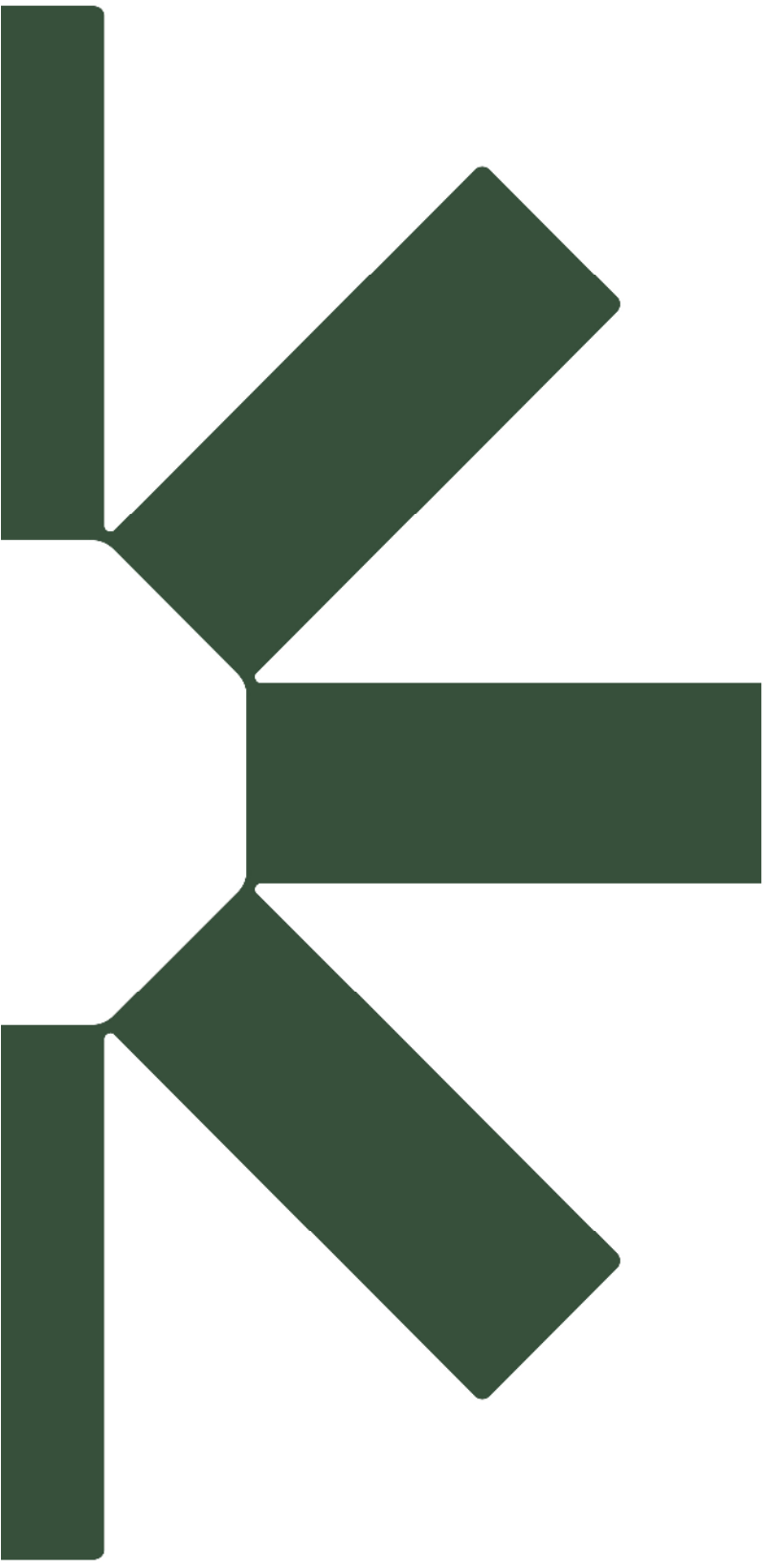
Table 3-2: Supplementary qualitative risk and opportunity assessment

Line #	Mine area	Aspect	Impact	Description	Cause and Risk	Risk Ranking Consequence - Likelihood - Risk			Key existing and/or proposed mitigation measures	Opportunities Consequence - Likelihood - Risk		
7	**Open Pits**	**Stake holder engagement**	Erosion and sediment control during operations	Open pit walls comprise extremely weathered vertosol soil units grading to extremely weathered saprolite to a sharp transition to fresh rock at the base of weathering (herein referred to as extremely weathered oxide zone (EWOZ)	There may be an *invalid perception from some stakeholders* that all zones of the EWOZ on all of the pit walls are the same *leading to an over-simplified interpretation of risk*	3	5	15	Ensure that the chemical and physical properties of the proposed pit shells are characterised and classified at macro scale (e.g. bench or pit wall face defined by its aspect, exposure and geometry). Within the open pit: this may include undertaking additional sampling and analysis of the exposed materials on as-built operational slopes of the new pit walls to quantify key parameters that would be used to determine erodibility. The analyses could include (i) moisture content and soil water characteristics (ii) electrical conductivity, (iii) cation exchange capacity and exchangeable sodium percentage (iv) Emerson Aggregate Stability (v) clay mineralogy (vi) particle size distribution and hydrometer analysis (vii) degradation and durability analysis. Retain the measured data and use this to map out high, moderate and low risk areas as the relate to chemical and physical instability on the as built pit walls. Convey this information in a management plan to the stakeholders.	3	1	3
8	**Open Pits**	**Technical**	Erosion and sediment control during operations	The open pit walls may be considered as one major lithological unit, but are more likely to contain a wide range of chemical and physical properties within localised zones of the pit wall.	*Variability, heterogeneity and uncertainty in the chemical and physical properties and their performance in the EWOZ* are not currently defined at a level of certainty *leading to an inability to develop detailed designs for post closure* safety in design and safe and stable post mine management	4	4	16	Use the information from the mitigation measures in [I19] to undertake reliable numerical assessment using measured data to inform viable landform designs.	4	1	4
9	**Open Pits**	**Technical**	Erosion and sediment control during operations	There are surface water management drains around the perimeter of the pits that are designed to collect and divert surface runoff away from the pit walls to optimise pit water stability.	*Run-on. of surface water from the perimeter bunds around the pit occurs due to inadequate maintenance* during the operation of the mine l*eading to the perimeter bunds becoming concentrated point sources for erosion* from the crest of the pit wall	3	4	12	The perimeter drains around the crest of the pit wall should be appropriately constructed and managed such that water is not retained in the drains thereby minimising the potential for percolation into the underlying strata.. 'The perimeter drains around the crest of the pit wall may be inappropriately managed and breaches of these drains as surface water run-on would provide point sources for concentrated surface flow during storm events and increased potential for erosion. Ensuring the perimeter drains are constructed to minimise run-n to the pit walls would remove this risk.	3	1	3

10	**Open Pits**	**Technical**	Erosion and sediment control during operations	Open pit walls comprise extremely weathered vertosol soil units grading to extremely weathered saprolite to a sharp transition to fresh rock at the base of weathering (herein referred to as extremely weathered oxide zone (EWOZone)	*Inadequate capping and diversion of water from the operational horizontal dewatering bores* in the EWOZone of the pit walls with pipelines fails, *leading to the bore becoming point sources for gully erosion.*	3	5	15	Horizontal dewatering bores are required to remove porewater from the operational pit walls to minimise geotechnical risks associated with slope slumping or slope failure. Dewatering of the pit wall is anticipated to be required into perpetuity. The horizontal, or near horizontal, dewatering bores include connected external pipelines that are designed to direct seepage past the EWOZ to the fresh rock to reduce the potential for erosion. It the external pipelines fail, then these seeps can become point sources for surface runoff and erosion. Improved designs, changes to designs or better maintenance would reduce this risk. Verification of the post closure management requirements for dewatering the EWOZone will be undertaken before the cessation of operations.	3	4	12
11	**Open Pits**	**Technical**	Erosion and sediment control during operations	*Inadequate capping and diversion of water from the operational horizontal dewatering bores* in the EWOZone of the pit walls with pipelines fails, *leading to the bore becoming point sources for gully erosion.*	Localised slumps may damage horizontal dewatering bores or the pipelines leading to additional surface run-on and erosion	3	4	12	Horizontal dewatering bores are required to remove porewater from the operational pit walls to minimise geotechnical risks associated with slope slumping or slope failure. Dewatering of the pit wall is anticipated to be required into perpetuity. The horizontal, or near horizontal, dewatering bores include connected external pipelines that are designed to direct seepage past the EWOZone to the fresh rock to reduce the potential for erosion. Optimised dewatering designs and ongoing maintenance will reduce these risks during operations.	3	3	9
13	**Open Pits**	**Environmental**	Erosion and sediment control post closure	In the absence of adequate designs and management plans localised slumps lead to exposed surfaces and sediment deposition in the non-operational mined void	Erosion and slumping of the pit wall to the final void / evolving pit lake changes the bathymetry and ultimate storage capacity in the final void affecting projections on final void fill rate and point of equilibrium	2	5	10	From a post closure perspective uncontrolled erosion in environments with large annual rainfall or locations with intense rainfall events can lead to the movement of large amounts of the unconsolidated regolith and rock into a mined void. This has an effect on the long-term storage capacity of the mined void. The erodible nature of the EWOZone provides a mechanism for this to occur, if no management controls were put in place. Site observations, application of aerial data including LiDAR data could be used to verify erosion rates from zones within the pit wall.	2	1	2

14	Mine area	Aspect	Impact	Description	Cause and Risk	Risk Ranking Consequence - Likelihood - Risk			Key existing and/or proposed mitigation measures	Opportunities Consequence - Likelihood - Risk		
17	**Open Pits**	**Technical**	Rehabilitation resources	Vegetation cover	The slope geometry, chemical and physical properties of the EWOZone of the pit walls and the effect of rain, wind and sun exposure could lead to an adverse effect on maintaining vegetative cover.	4	3	12	Large pot trials and field trials with a range of vegetation types could be used to verify the suitability of a range of species to persist within the geometric parameters that will be developed for the final landform design. Vegetation types would be utilised to accommodate, aspects, exposure and geometry.	4	2	8
18	**Open Pits**	**Technical**	Rehabilitation resources	Rock armour	Ability to source competent rock from run of mine sources to armour erodible slopes may lead to exclusion of rock armour as a viable construction option.	4	4	16	Competent rock could be recovered from the CGO waste rock emplacements if necessary	4	2	8
19	**Open Pits**	**Technical**	Rehabilitation resources	Geosynthetic options	Geo-synthetics may need to be applied to linear (near linear) slope angles leading to changes to changes to the pit wall geometry.	5	3	15	There is sufficient room between the Operational Pit Wall and Conceptual Closure Pit Wall to accommodate changes is design to include geosynthetics if this is considered necessary.	5	2	10

20	Mine area	Aspect	Impact	Description	Cause and Risk	Risk Ranking Consequence - Likelihood - Risk			Key existing and/or proposed mitigation measures	Opportunities Consequence - Likelihood - Risk		
23	**Open Pits**	**Technical**	Interaction between Lake Cowal and CGO LPB	An inadequate landform design for what will become the final void pit walls may lead to a breach of lake protection bund.	The pit wall within the extremely weathered and erodible zone cannot be changed (to repair or amend instability) because there is no buffer between the proposed pit wall and the LPB and this leads to ongoing localised slumping, slope failure and breaching of the LPB.	5	4	20	The as-constructed and proposed pit walls **do NOT represent the maximum extent of the land that is accessible** to undertake mitigation work on the pit walls to develop a safe, stable self-sustaining final landform. Geotechnical stability analyses are proposed to be undertaken during development of the FVRMP to document the Factor of Safety for a range of viable slope angles and geometric configurations e.g. (i) berms and batters (ii) linear slopes (iii) geomorphic design principles Observations from the operation of the E42 open pit over the past 10 years verify the extent of sheet, rill, inter-rill and gully erosion that has occurred, and the (limited and isolated) extent of localised slumping associated with erosion. The site observations and management plans also verify that access to slumps can be undertaken to implement corrective actions (if required). 'SLR has developed a **conceptual** site model for the proposed pit shells that depicts the following. - Proposed Operational Slope e.g. 25º with an offset of 100 m to the LPB - Conceptual Closure Slope e.g. 22º with an offset of 100 m to the LPB - Conceptual Contingency Closure Slope e.g. 14º with an offset of 50 m to the LPB The intention of the conceptual site model is to document that the proposed Operational Pit Slopes are in the order of 100 m from the LPB and that there is a substantial area of land to work within to achieve a safe, stable, self-sustaining Final Void Landform Design, and there is sufficient time to undertake required work to document that the potential risks can be mitigated.	5	1	5



Making Sustainability Happen

Appendix I
Geotechnical update

EMM
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Monday, 15 April 2024

Attn: Pierre Miquel **3203_M / 1843**
Study Principal Open Pit Continuation
Cowal Operations – Evolution mining
Lake Cowal NSW 2671

Dear Pierre

RE: OPEN PIT CONTINUATION EIS SUBMISSION – GEOTECHNICAL UPDATE

During 2022 financial year, Mining One completed a pre-feasibility study (PFS) for Cowal Gold Operation (CGO) Open Pit Continuation (OPC) project (the project). The PFS established an economic basis to pursue an expansion of the CGO with the introduction of three new open pit mining areas (E41, E46 and GR pits) as well as an additional cut back on the existing E42 pit. This work was delivered to a PFS level of detail with the final report recommending further geotechnical investigation of the E42 pit to validate the open pit design criteria.

The OPC PFS adopted the E42 Stage-H geotechnical design criteria for all OPC pit designs, since completion of the PFS, FS the CGO mine has experienced several unfavourable geotechnical conditions that have put the underlying OPC geotechnical assumptions adopted into question.

The OPC PFS was used as the basis for the OPC EIS, which was submitted to the Resource Regulator (RR) on the 13th of June 2023, since that time the RR has reviewed the EIS submission and has requested further information on slope stability analysis.

Concurrent to the EIS submission, Cowal Gold operations awarded Mining One further technical scope to undertake a feasibility level study (FS) for the OPC project. This involved further geological mapping and geotechnical interpretation to advance the recommendations and findings from the 2022 PFS. Detailed analysis of the E42 geology has provided the opportunity to introduce a more targeted approach to geotechnical design criteria by recognising the rock characteristics associated with eight different lithologies (sectors A-F) . As a result of this work 4 new geotechnical design criteria were developed with all but one of those criteria delivering a flatter Inter Ramp Angle (IRA) than the current Stage H pit design angles, Table i.

Table i - Stage H (Current) IRA vs FS IRA

PIT	E42				
SECTOR	A/C/G	B/D	E/H	F	Cowal SZ
IRA by Source					
CGO Current Stage H	61.3 °	61.3 °	61.3 °	61.3 °	61.3 °
CGO_OPC_FS	63.3 °	59.4 °	60.0 °	57.8 °	48.4 °
CGO StgH vs FS	-2.0 °	1.9 °	1.3 °	3.5 °	12.9 °

The FS study, through 3D finite element modelling established that the updated design criteria achieves an acceptable factor of safety with regional geology remaining stable over the life of

the operation. The OPC FS study was endorsed by Evolution Mining upon completion of appropriate peer review.

The mine has a robust safety and health management system that has enabled the mine to continue operating through the adoption of proactive controls to manage the geotechnical conditions. These controls are based on the most up to date understanding of the geotechnical conditions at site. As a result of the mines ongoing review of site safety, many of the findings from the FS geotechnical study have been incorporated into the safe design and management of the current and proposed mining areas at CGO.

An overview of the technical elements incorporated in the FS study, specifically the geotechnical work undertaken on the existing E42 pit that was completed during the FS phase of study is provided below.

FS GEOTECHNICAL STUDY OVERVIEW

The FS study incorporated a drill program which included geotechnical drill holes targeting the OPC assets and specifically targeting geotechnical domains within the E42 pit to enable a more thorough understanding of the geotechnical conditions prevalent within the E42 mining area and to better understand the complex structures associated with this pit.

The initial phase of the FS study undertook a detailed analysis of CGO's comprehensive rockfall database, this analysis included understanding key drivers for each rockfall event that had occurred during the excavation of the E42 pit with the primary objective of understanding the following:

- Rockfall triggers
- Rockfall weight
- Rockfall runout and fall distances
- Rockfall frequency; and
- Design implications.

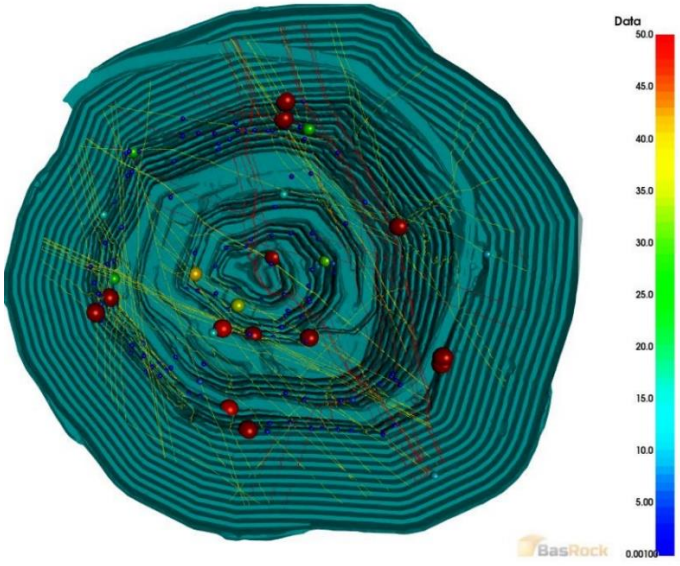

Figure i: E42 Stage H failure events with structure overlay.

The assessment reviewed the location of rockfalls in relation to the geological structures to assist in the determination of event triggers, Figure i. A cumulative rockfall register was developed that illustrated the cumulative number of rockfall events across site since the commencement of the rockfall database, Figure ii.

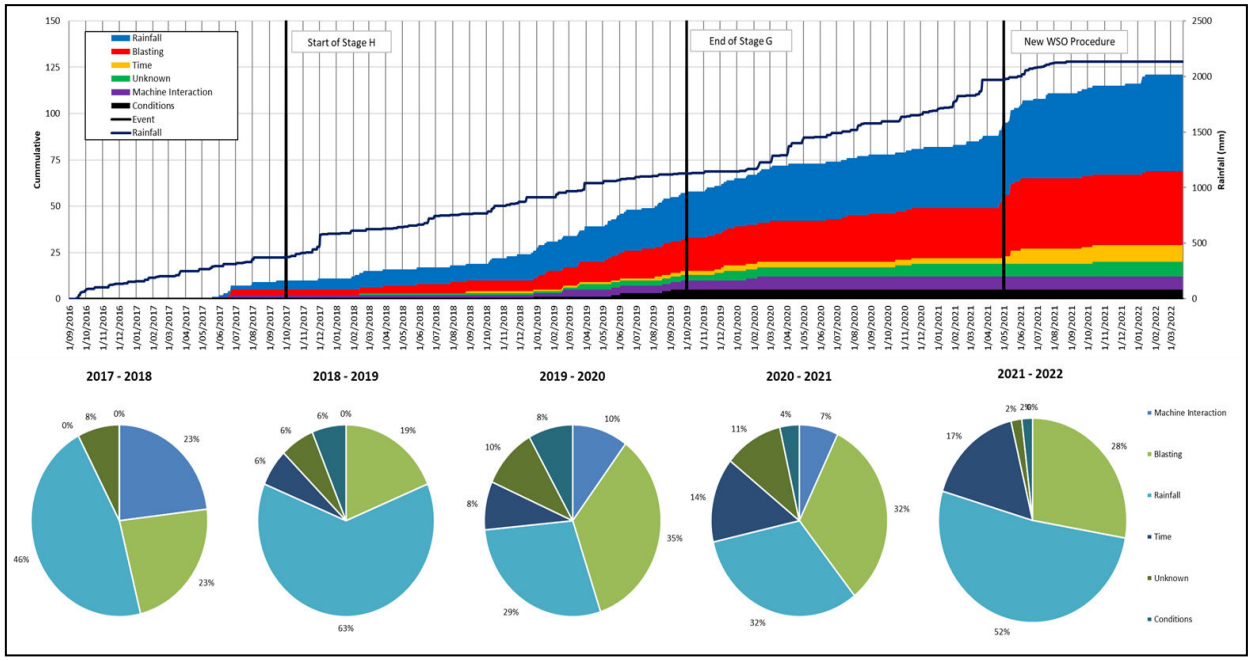

Figure ii: CGO rockfall register output by event type.

Key observations of rockfall events at the time of the study indicated that:

- 40% of material was caught on catch berms.
- Of the remaining 60% of material reaching the pit floor:
    - 95% of material reaching the pit floor was contained within 10m of the wall,
    - The maximum distance of rockfall material from the wall was 15m,
    - The maximum size of rock fall was 32 tonnes (caught by the berm)

On the back of the analysis a berm width assessment was undertaken to determine the berm retention based on historical data, Figure iii, observations from this work established that:

- Blasting is the major contributor to edge loss as well as toe flare.

- Crest loss varied by lithological zone.

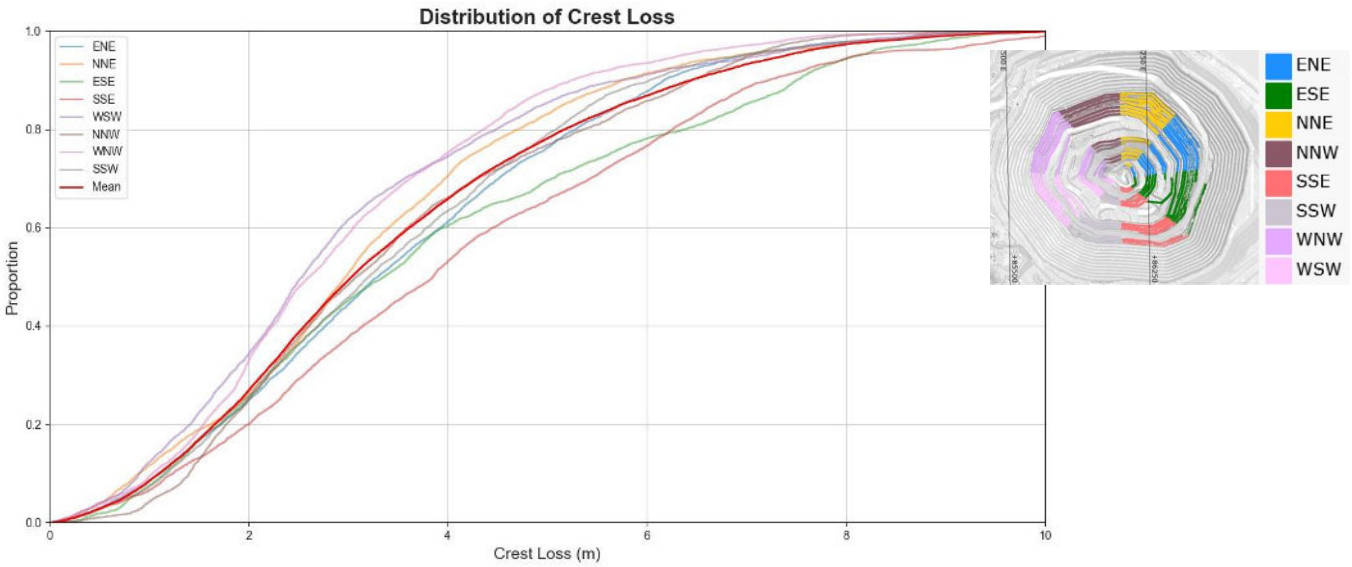

Figure iii: Crest Loss history by E42 pit face orientation

Historically E42 pit adopted two geotechnical zones for the purpose of pit design, this included the oxide zone which adopted an inter ramp angle approximating 25 degrees and the primary rock which had an inter ramp angle approximating 60.9 degrees. The face configuration in the E42 consists of a 27m face, with a 10.0m catch berm every 27m to arrest rockfalls, Figure iv.

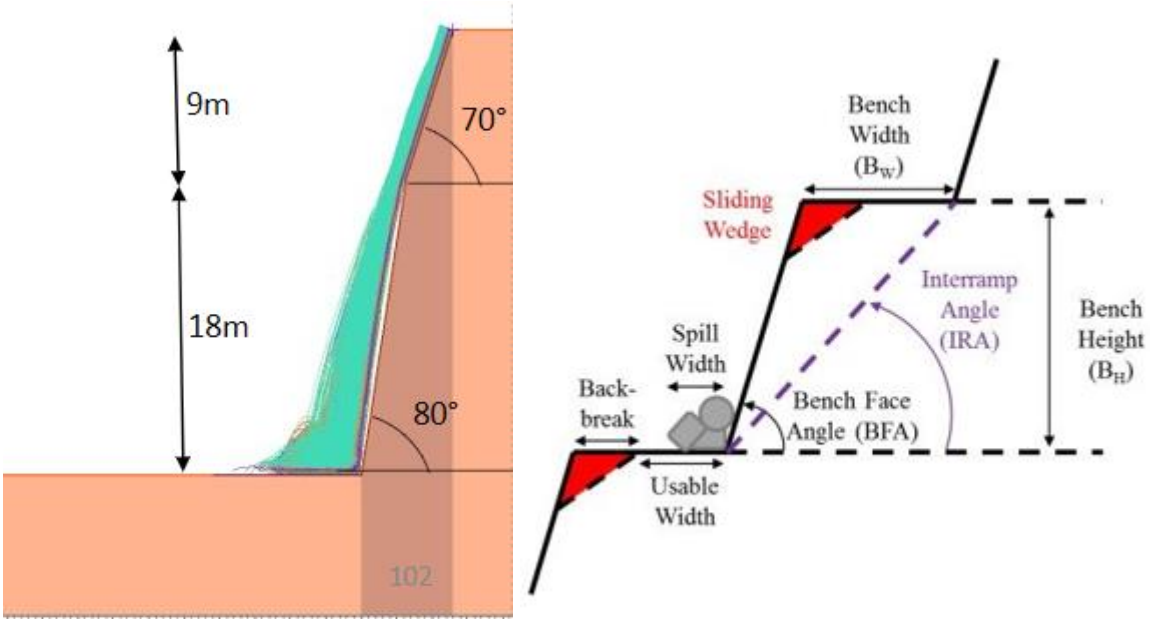

Figure iv: Rock fall Assessment and bench Geometry

It was determined that a more detailed geotechnical model driven by lithological zones be adopted for the CGO pit designs to better capture the changing rock characteristics associated with each lithology. A total of 8 lithology sectors were modelled (Figure v), which culminated in 4 different design criteria (Table ii) across the different lithologies, resulting in flatter geotechnical design criteria to be adopted in less competent areas of the pit.

Three-dimensional finite element analysis modelling established that the regional stability of the E42 pit is robust with preliminary design criteria exceeding the targeted 1.2 factor of safety (FoS) for mining operations. Refinement in drill and blast practices was determined to have potential to deliver a 50% reduction in the crest loss being experienced within the E42, through a review of historical blasting trials, which supported this hypothesis with many observed controlled blasts demonstrating edge loss volumes within the target range. Edge loss reductions were adopted, and berm width adjusted accordingly to optimise the pit slope angle.

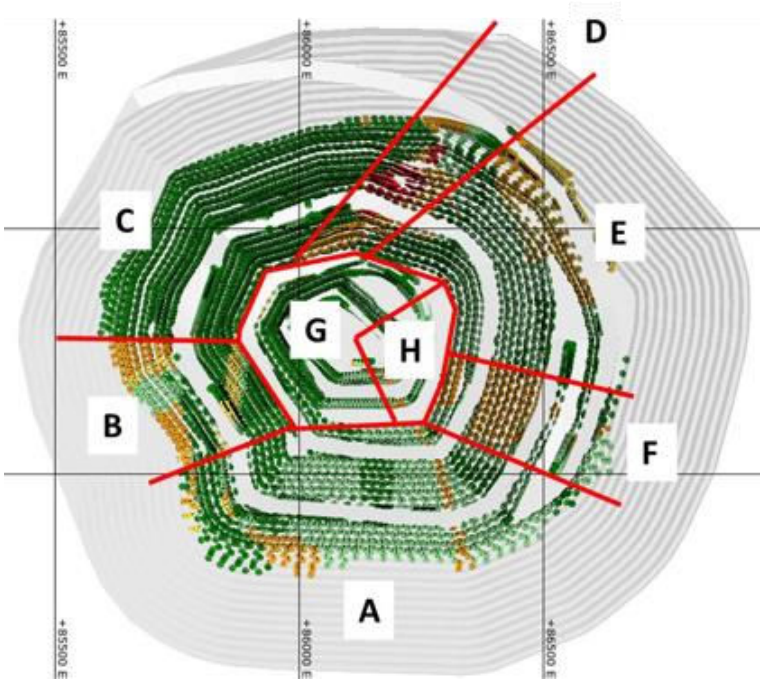

Figure v: E42 Feasibility Study Geotechnical Zones

The resulting inter ramp angles for the updated geotechnical design criteria indicates that most of the lithological zones will have inter ramp angles that are flatter than the previous E42 stage H design criteria. The west to northern face of the E42 pit will not be cut back and will remain insitu. The new cutback will occur from the one o'clock through to the 9 o'clock face positions, providing the opportunity to implement these improved lithological zones during the development of the E42 stage-I cut back.

Table ii: E42 Feasibility Study Geotechnical Zone Design Criteria

PIT	E42				
SECTOR	A/C/G	B/D	E/H	F	Cowal SZ
OXIDE ZONE					
Bench Height	9.0 m	9.0 m	9.0 m	9.0 m	9.0 m
Batter Angle	45.0 °	45.0 °	45.0 °	45.0 °	45.0 °
Berm Width	10.3 m	10.3 m	10.3 m	10.3 m	10.3 m
Horizontal Distance	19.3 m	19.3 m	19.3 m	19.3 m	19.3 m
OXIDE - IRA	**25.0 °**	**25.0 °**	**25.0 °**	**25.0 °**	**25.0 °**
PRIMARY ZONE					
HORIZON A (Series 100)					
Bench Height	9.0 m	9.0 m	9.0 m	9.0 m	9.0 m
Batter Angle	70.0 °	75.0 °	65.0 °	75.0 °	65.0 °
Step Width	1.5 m	1.5 m	1.5 m	1.5 m	1.5 m
HORIZON B (Series 200 and Series 300					
Bench Height	18.0 m	18.0 m	18.0 m	18.0 m	18.0 m
Batter angle	90.0 °	80.0 °	90.0 °	80.0 °	65.0 °
Berm Width	8.8 m	8.9 m	9.9 m	9.9 m	9.9 m
Overall Height	27.0 m	27.0 m	27.0 m	27.0 m	27.0 m
Overall - Horizontal distance	13.6 m	16.0 m	15.6 m	17.0 m	24.0 m
Overall IRA	**63.3 °**	**59.4 °**	**60.0 °**	**57.8 °**	**48.4 °**

PIT	E42				
SECTOR	**A/C/G**	**B/D**	**E/H**	**F**	**Cowal SZ**
IRA by Source					
CGO Current Stage H	61.3 °	61.3 °	61.3 °	61.3 °	61.3 °
CGO_OPC_FS	63.3 °	59.4 °	60.0 °	57.8 °	48.4 °
CGO StgH vs FS	-2.0 °	1.9 °	1.3 °	3.5 °	12.9 °

Three dimensional analysis was revisited on the pit design with the updated inter ramp angles and continued to support the observation that regional stability of the E42 void remained fundamentally robust, subject to localised redesign and/or support for the Speyburn fault area which demonstrated an unfavourable intercept with the base of the FS pit design

Action is underway to revise this design however the current design criteria will continue to be adopted. Ongoing drilling and blasting trials are also underway to support blasting assumptions and will be factored into future design criteria modelling.

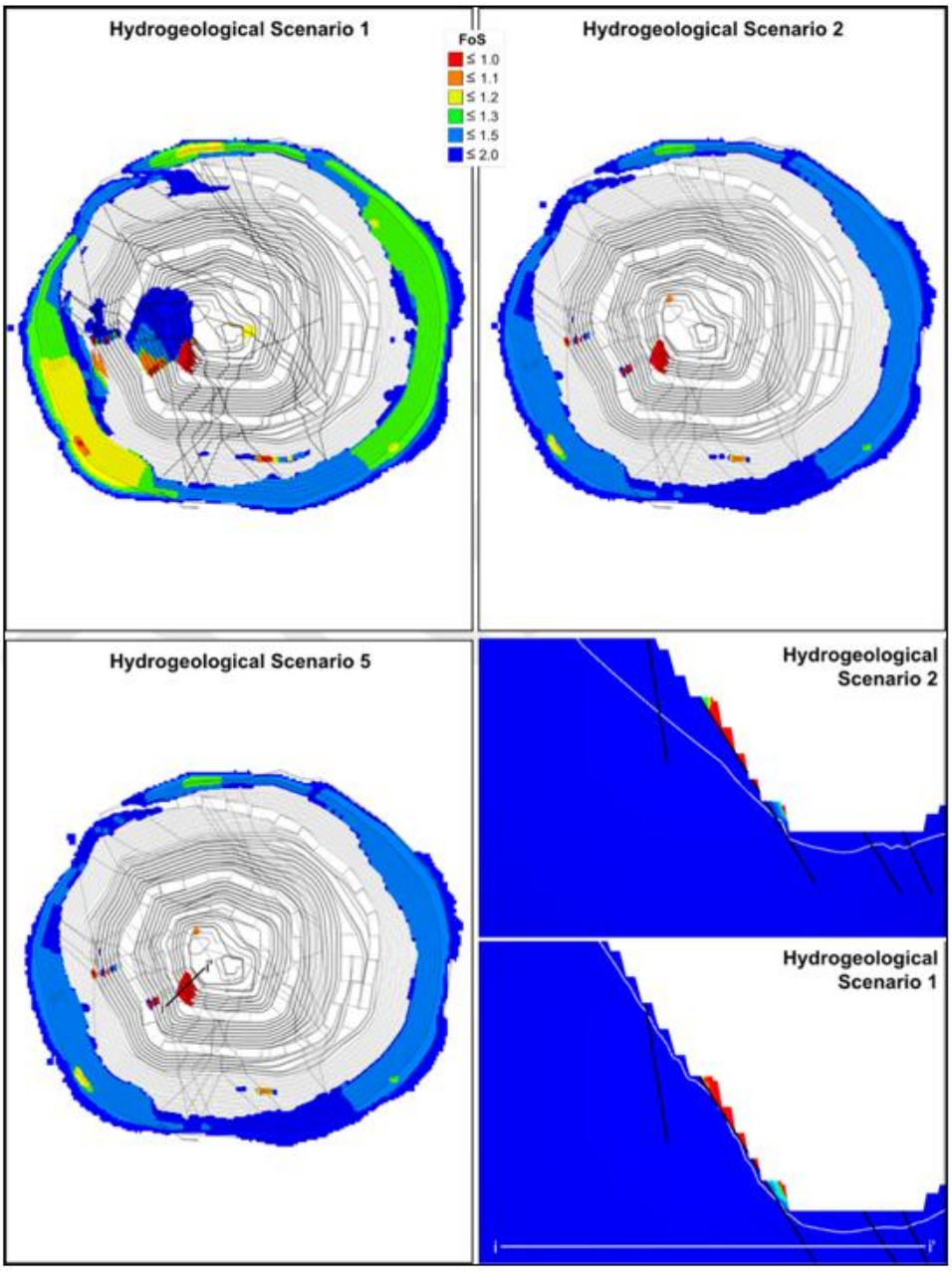

Figure vi: 3D Finite Element Heat Mab showing Risk Zones

Yours sincerely

Cameron Farrington
Principal Mining Engineer
MINING ONE PTY LTD

DOCUMENT INFORMATION

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Version	Description of changes/amendments	Recipient	Author (s)	Date
1.0	Initial Draft	JF	CF	08/04/2024
1.1	Geotechnical Review Update	EMM	CF	08/04/2024
1.2	Final Draft	CGO	CF	12/04/2024

Appendix J
Letter from the NSW Minister of Water

EMM
creating opportunities

The Hon Rose Jackson MLC
Minister for Water, Minister for Housing,
Minister for Homelessness
Minister for Mental Health, Minister for Youth
Minister for the North Coast

NSW GOVERNMENT

MF23/3134

Mr Joe Mammen
General Manager – Cowal Gold Operation
Evolution Mining
Level 24
175 Liverpool Street
SYDNEY NSW 2000

By email: Joe.Mammen@evolutionmining.com

Dear Mr Mammen

Evolution Mining Cowal Gold Operations NSW Open Pit Continuation Project Water Licensing Constraint – Request for an Approval Pathway

Thank you for your email of 30 October 2023 and I apologise for the delay in responding to your enquiry. I understand that you are concerned about the water licensing issues Evolution Mining's proposed expanded gold mining operations at Lake Cowal face and the need to find a solution that provides regulatory certainty for the development consent process.

I have been briefed by the Department of Climate Change, Energy, the Environment and Water (formerly Department of Planning and Environment - Water) on these water licensing issues and the discussions Evolution Mining's representatives have had with them to date.

I understand that several possible solutions have been discussed with you, including:

- not treating the pumping of water from one side of the bund to the other (i.e. surface water dewatering) as a take of water.
- creating a licence exemption for surface water dewatering generally.
- creating a new type of specific purpose access licence for surface water dewatering generally.

The option to not treat surface water dewatering as a take of water has been confirmed as requiring amendment of the *Water Management Act 2000,* which even if supported could not be sufficiently progressed within the timeframe required for development consent.

I do not support establishing a new type of specific purpose access licence specifically for Evolution Mining and am also not likely to support the creation of a new category of licence for surface water dewatering where the dewatering does not consume water or cause water loss.

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An exemption for surface water dewatering generally or a set of surface water return flow rules for surface water dewatering may be options that I would consider. I am advised by the department that considerable work would be required to ensure that such an exemption or such surface water return flow rules could be developed without resulting in unintended consequences for the management of surface water sources across the state.

Whilst I have now asked the department to prioritise this work, it is not possible for it to be completed within the timeframe required for development consent, which I understand to be around May-June 2024. The department will remain in contact with the Department of Planning, Housing and Infrastructure regarding progress in this regard.

I note that should the bund be constructed during a period where Lake Cowal is drying out, then the need for dewatering may not actually eventuate. I encourage you to keep the department abreast of conditions in this regard.

If you would like more information, please contact Beth Overton, Director Water Policy, DCCEEW Water, on 0419 116 771 as your first point of contact, or Kaia Hodge, Executive Director Strategy and Policy on 0447 472 855.

Yours sincerely

Apologises for the delay. I was carefully considering options before replying.
R.

Rose Jackson MLC
Minister for Water, Minister for Housing, Minister for Homelessness,
Minister for Mental Health, Minister for Youth, Minister for the North Coast

Date: 12/4/24

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