# COWAL GOLD OPERATIONS ENVIRONMENTAL MANAGEMENT STRATEGY



# **Revision Status Register**

Section/Page/ Annexure	Revision Number	Amendment/Addition	Distribution	DPHI Approval Date
All	EMS – June 2025	EMS developed in accordance with Development Consent Condition D1 to reflect Development Consent SSD- 42917792 as approved on 10 December 2024.	DPHI	TBC

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# 1. INTRODUCTION

# 1.1 BACKGROUND

Cowal Gold Operations (CGO) is located approximately 38 kilometres (km) north-east of West Wyalong in New South Wales (NSW) (**Figure 1**). Evolution Mining (Cowal) Pty Limited (Evolution) is the owner and operator of CGO.

CGO was first approved in 1999 (under the former DA 14/98), and open pit mining operations commenced in 2005. Underground mining operations were approved in 2021 (under the former SSD-10367). Development Consent (DA 2011/64) for the operation of the Eastern Saline Borefield was granted by Bland Shire Council on 20 December 2010.

In 2024 CGO sought approval for the Open Pit Continuation (OPC) Project, 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 OPC Project involves:

- The continued operation of activities as approved under DA14/98 and SSD 10367, including:
  - o Extracting ore by open pit and underground (stope) mining methods.
  - Producing approximately 251 Million tonnes (Mt) of ore from the open cut and 27 Mt of ore from the underground over the life of the operation.
  - o Processing ore on-site at a rate of up to 9.8 million tonnes per annum (Mtpa).
  - o Producing approximately 9.5 million ounces (Moz) over the life of the mine.
  - Emplacing tailings and waste rock on site in an integrated waste landform (IWL) which includes the current northern and southern tailings storage facilities (TSFs), and waste rock emplacement (WRE) areas.
  - Operating a water supply pipeline to the Bland Creek Palaeochannel Borefield.
  - Operating ancillary mining infrastructure (such as pastefill plant, explosives magazines, workshops, laydown areas etc.).
  - o Progressively rehabilitating the site.
- 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 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 prestripping 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.

Development Consent SSD-42917792 for the OPC Project was granted by the Minister for Planning and Public Spaces under Section 4.38 of the *Environmental Planning and Assessment Act 1979* on 10 December 2024. The approval of SSD-42917792 required the surrender of DA 14/98 and SSD-10367.

Mining operations are carried out within Mining Lease (ML) 1535 and ML1791. A mining lease application (MLA 638) has also been submitted for an area to the south of the site, to support the OPC Project.

The general arrangement of the approved CGO OPC Project is provided in Figure 2.

# 1.2 SCOPE

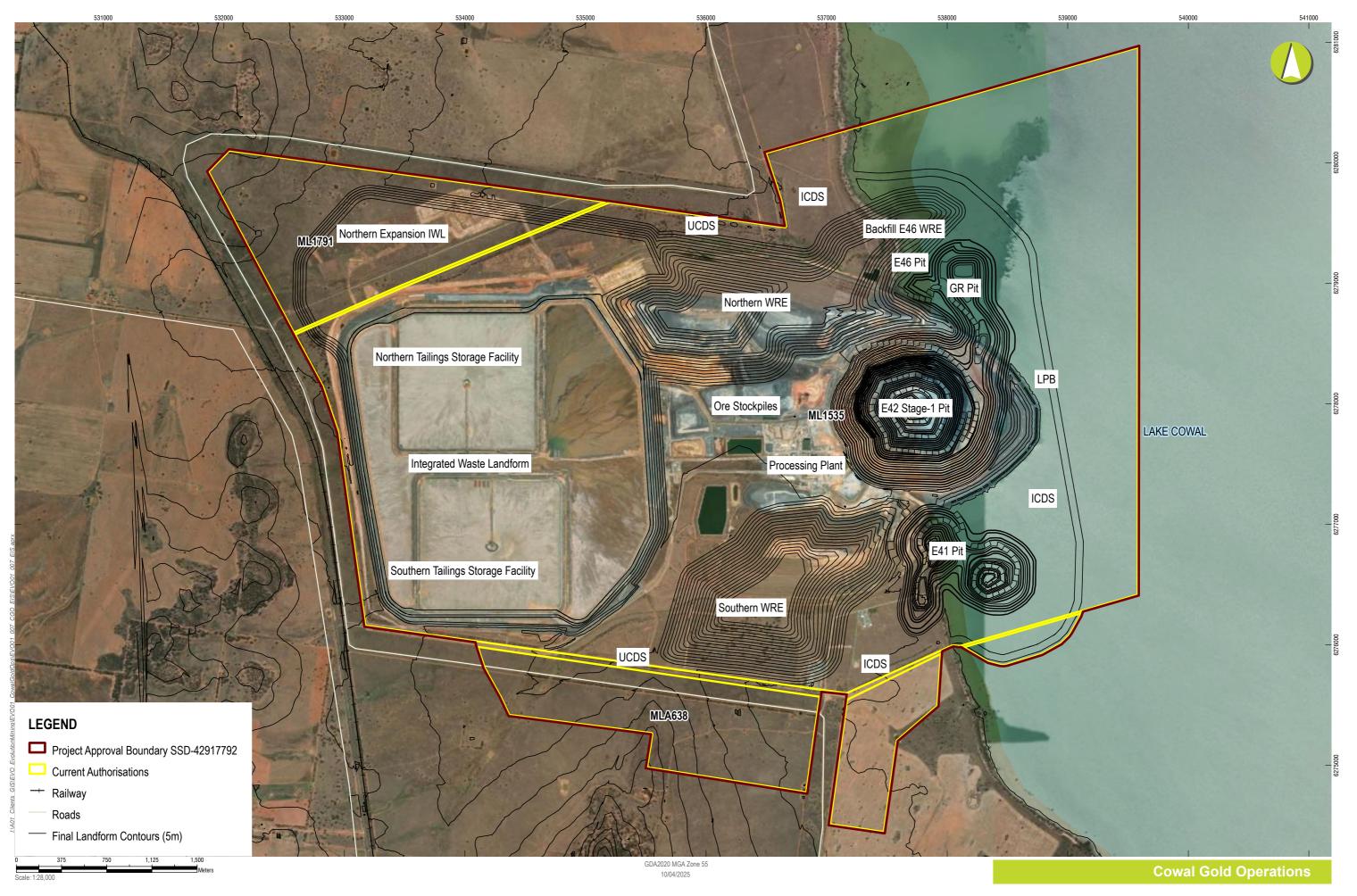
This EMS has been prepared in accordance with the requirements of Schedule 2, Condition D1 of SSD 42917792.

This EMS is relevant to all activities associated with operation of the CGO within the SSD-42917792 Project boundary, including operation of the Bland Creek Palaeochannel Borefield and the Eastern Saline Borefield and the water supply pipelines to the CGO.

The objective of this EMS is to provide a strategic framework for environmental management at the CGO guided by relevant conditions of approval and implemented through various environmental management plans (EMPs), strategies and programs. An overview and clear plan of the CGO's EMPs, strategies and programs required under SSD-42917792 are provided in **Section 5**.

3







Site Layout

# 2 STATUTORY REQUIREMENTS

Evolution's main statutory obligations for activities and facilities at the CGO are defined in:

- The conditions of SSD-42917792.
- The conditions of DA 2011/64 for the Eastern Saline Borefield (ESB) (herein referred to as the ESB Development Consent).
- Relevant licences and permits including Environment Protection Licence No. 11912.
- The Conditions of Authority for ML 1535 and ML 1791 (including the standard mining lease conditions in the *Mining Act 1992*).
- Water licences.
- Other relevant legislation.

Details of the statutory obligations directly relevant to this EMS are described below.

# 2.1 DEVELOPMENT CONSENT CONDITIONS

Condition D1 of SSD-42917792 includes specific requirements for the preparation of an EMS. These conditions, and where they are addressed in the document, are provided in **Table 1**.

Table 1 EMS Requirements of SSD-42917792

	Development	Consent SSD-42917792	<b>EMS Section</b>				
Environme	tal Management						
Environmen	al Management Strategy						
	onmental management stra gy must:	ategy must be prepared for the development. The	This EMS				
<ul><li>(b) be submitted to the Planning Secretary for approval prior to the commencement of development under this consent;</li></ul>							
(c)	provide the strategic fra development;	mework for environmental management of the	Section 4				
(d)	include clear plans of the d out for the development;	evelopment footprint and all monitoring to be carried	Figures 1, 2 and 4				
(e)	identify the statutory appro-	vals that apply to the development;	Section 2				
(f) set out the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the development;							
(g)							
	(i) comply with statuto and criteria;	ory requirements, limits, or performance measures	Appendix B				
	(ii) manage the predicte	ed impacts identified in the EIS; and					
		environmental risk or impact that has been identified ments were submitted;					
(h)	include an adaptive risk ma	anagement protocol for:	Section 13				
		onmental risk assessment and the effectiveness of anage the risks described in (f) above;					
	(ii) updating managemeffective; and	nent measures if the existing measures are not					
	(iii) identifying and man	aging new or unexpected environmental risks; and					
(i)	set out the procedures (inc	luding timeframes) to be implemented to:					
		nmunity and relevant agencies informed about the onmental performance of the development;	Section 9				
	(ii) receive, record, han	ndle and respond to complaints;	Section 10				

Development Consent SSD-42917792	EMS Section
(iii) resolve any disputes that may arise during the course of the	
development; (iv) respond to any non-compliance and any incident; and	Section 10
(v) respond to emergencies;	Section 11
(·) ·	Section 12.3
D2. Development under this consent must not commence until the environmental management strategy is approved by the Planning Secretary.	Appendix A
D3. The environmental management strategy, as approved by the Planning Secretary, must be implemented for the development.	Noted
Management Plan Requirements	
D5. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	
(a) quality control information including document version control details and the management plan author(s);	Revision Status Register (page ii)
(b) a summary of the environmental management context, including;	Section 1.1
(i) a brief project description, including visual representation of any project staging;	
(ii) the purpose and scope of the management plan	Section 1.2
(c) the relationship of the management plan with other environmental management documents or systems;	Section 5, Figure 3
(d) a site location plan identifying the project boundary, mine disturbance area and related environmental aspects;	Figures 1 and 2
(e) a brief summary of background or baseline data, where relevant;	Not applicable
Note: If detailed baseline data must be included in a management plan, it must be appended and summarised in the main text of the management plan.	to EMS
(f) a summary of consultation undertaken during the preparation of the management plan that includes when and how consultation was undertaken and the outcomes of the consultation;	Not applicable to EMS
(g) details of the statutory requirements, limits or performance measures and any specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Not applicable to EMS
(h) an environmental risk assessment and a description of the measures that will be implemented to:	Section 6 Appendix B
(i) comply with statutory requirements, limits, or performance measures and criteria;	
(ii) manage the predicted impacts identified in the EIS; and	
(iii) manage any other environmental risk or impact which has been subsequently identified after the EIS documents were submitted;	
Note: Environmental risk assessment cannot be used to identify and assess changes to the project that are not described and assessed in the approved EIA. These may be project modifications and may need to be referred to the department.	
(i) a monitoring and evaluation protocol for the measures identified in the environmental risk assessment that supports the analysis and evaluation of the identified measures with results and records that are reliable, reproducible and traceable;	Not applicable to EMS – refer individual management plans

Development Consent SSD-42917792	EMS Section
(j) a process to review the environmental risk assessment to:	Section 6
<ul> <li>(i) analyse and evaluate the implementation of the identified measures and determine whether any changes to the environmental risk assessment or identified measures is required; and</li> </ul>	
(ii) identify any additional unexpected environmental risks and the measures that will be implemented to manage them.	
(k) a protocol for periodic review of the plan.	Section 7.2
Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.	

# 2.2 CONSENTS, LEASES, LICENCES AND PERMITS

In addition to the development consent, all activities at the CGO are conducted in accordance with a number of licences, permits and leases for the CGO. Details are provided in **Table 2** below.

Table 2 Key Consents, Leases, Licences and Permits

Instrument	Relevant Authority	Date of Grant	Duration of Approval
Environment Protection and Biodiversity Conservation Act 1999 (EPBC) Approval EPBC 2017/7989	DCCEEW	25/01/2019	This approval is in effect until 31/12/2032.
Development Consent SSD-42917792	DPHI	10/12/2024	Mining operations may be carried out within the mine disturbance area until 31 December 2042.
Development Consent DA 2011/64	FSC	22/12/2010	Valid for the construction and operation of the Eastern Saline Borefield.
ML 1535	RR	13/06/2003	Expires 12 June 2045.
ML 1791	RR	20/06/2019	Expires 20 June 2040.
MLA638	RR	-	MLA over southern stockpile area. Pending approval.
EPL No. 11912	EPA	23/12/2003	Until the licence is surrendered, suspended or revoked. The licence is subject to review every five years, and was last varied on 12 June 2024.
Permit #1361 under section 87(1) of the National Parks and Wildlife Act 1974 (NPW Act)	OEH	23/05/2002	Valid for period of exploration drilling on the lots covered by the permit.
Consent #1467 under section 90 of the NPW Act	OEH	27/11/2002	The approval lapses when the Minister for Resources and Energy acknowledges that satisfactory rehabilitation work has been completed under ML1535 or 18 years after completion of constructions works, whichever occurs first (i.e. 2022).
Permit #1468 under section 87(1) of the NPW Act	OEH	27/10/2003	Same as Consent #1467.
Consent #1680 under section 90 of the NPW Act	OEH	28/07/2003	The approval lapses when the Minister for Resources and Energy acknowledges that satisfactory rehabilitation work has been completed under ML1535 or 18 years after completion of construction works, whichever occurs first (i.e. 2022).
Permit #1681 under section 87(1) of the NPW Act	OEH	28/07/2003	Same as Consent #1680.
AHIP C0004570	OEH	27/06/2019	Approved for a period of 14 years from the date of grant.
Care Agreement C0004976	OEH	27/06/2019	Approved for a period of 14 years from the date of grant.
Production bore licence (Bland Creek Palaeochannel Borefield) WAL 31864	NSW DCCEEW	14/09/2012	13 September 2025.
Production bore licence (Eastern Saline Borefield) WAL 36569	NSW DCCEEW	10/06/2011	9 June 2026.
Production bore and pit dewatering licence (saline groundwater supply bores within ML 1535 and pit dewatering [including pit inflows]) WAL 36615	NSW DCCEEW	21/03/2014	13 September 2025. Upper 10 percent (%) (366 units. Lachlan Alluvial Zone 7). Valid for the operation of three lake floor saline production bores when not inundated by Lake Cowal.

Instrument	Relevant Authority	Date of Grant	Duration of Approval					
Pit dewatering licence WAL 36617	NSW DCCEEW	21/03/2014	13 September 2025.					
Monitoring and test bore licences	NSW DCCEEW	Various	Various.					
High Security WAL 13749	NSW DCCEEW	21/12/2006	Title for allocation from Regulated River Source.					
High Security WAL 14981	NSW DCCEEW	15/9/2011	Title for allocation from Lachlan Regulated River Source – Water Sharing Plan.					
General Security WAL 13748	NSW DCCEEW	21/12/2006	Title for allocation from Regulated River Source.					
Supply Work Approval 70WA614805	NSW DCCEEW	12/01/2010	13 September 2025. Surface licence for TIB-LPB and buried borefield pipeline under Lake Cowal.					

AHIP: Aboriginal Heritage Impact Permit.

DPHI: Department of Planning, Housing and Infrastructure.

RR: NSW Resources Regulator.

NSW DCCEEW: NSW Department of Climate Change, Energy, the Environment and Water.

DCCEEW: Department of Climate Change, Energy, the Environment and Water.

EPA: Environment Protection Authority.

EPL: Environment Protection Licence.

FSC: Forbes Shire Council.

NPW Act: NSW National Parks and Wildlife Act 1974.

OEH: Office of Environment and Heritage.

WAL: Water Access Licence.

# 2.3 LEGISLATION AND GUIDELINES

Evolution will conduct activities at the CGO consistent with the relevant development consents, leases, licences and permits and any other legislation applicable to the CGO. The key NSW and Commonwealth legislation applicable to the CGO include (but not necessarily limited to):

- Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
- National Greenhouse and Energy Reporting Act 2007 (Commonwealth)
- Environmental Planning and Assessments Act 1979
- State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries),
   2007
- Bland Local Environmental Plan 2011
- Forbes Local Environmental Plan 2013
- Mining Act 1992
- Protection of the Environment Operations Act 1997
- National Parks and Wildlife Act 1974
- Biodiversity Conservation Act 2016
- Contaminated Land Management Act 1997
- Biosecurity Act 2015
- Dangerous Goods (Road and Rail Transport) Act 2008
- Water Act 1912
- Water Management Act 2000
- Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth).
- National Greenhouse and Energy Reporting Act 2007 (Commonwealth).

# 3 ROLES AND RESPONSIBILITIES

**Table 3** presents the roles and responsibilities of key members of the site environmental management team, and other key CGO personnel.

Table 3 Site Environmental Management - Roles and Responsibilities

Environmental Management Role	Responsibility
Sustainability	Act as the appointed "Environmental Officer" on behalf of the operation.
Manager	Oversees the development and implementation of Environment and management systems and governance programs to ensure the operation maintains compliance with applicable environmental and social obligations (internal and external).
	Works with relevant government agencies and consultants to ensure necessary project approvals are achieved.
	<ul> <li>Oversees the implementation of organisational policies, standards, plans and procedures.</li> </ul>
	<ul> <li>Oversees the environmental monitoring program to meet the environmental obligations.</li> </ul>
	Oversees the development and management of Sustainability risks.
	Coordinates cultural heritage matters ensuring compliance with relevant NSW legislation and the Aboriginal Heritage Management Plan.
	<ul> <li>Leads, coaches and mentors a dynamic team to provide high quality Sustainability service and support to the CGO.</li> </ul>
	<ul> <li>Establishes training and awareness programs for employees, contractors and visitors to site in relation to the Sustainability management plans developed to comply with Sustainability obligations and Evolution's policies in relation to Sustainability management and performance.</li> </ul>
	<ul> <li>Oversees the governance program to monitor compliance and performance of department managers, supervisors, employees, and contractors against the Sustainability management programs.</li> </ul>
	Oversees the establishment of environmental monitoring objectives to meet the requirements of environmental obligations and stakeholder expectations.
	Acts as the spokesperson for all Sustainability matters related to the operations.
	<ul> <li>Oversees the preparation and delivery of internal and external reports as per Sustainability obligations.</li> </ul>
	Promotes Evolution's Sustainability strategy by educating staff and contractors.
	<ul> <li>Oversees the development and implementation of cultural heritage and European heritage awareness program for all employees, contractors and visitors to the operation.</li> </ul>
	<ul> <li>Responsible for the development of the rehabilitation, biodiversity offsets, mine closure and land strategies, and oversees the implementation of associated programs and activities.</li> </ul>
	Responsible for the annual strategic planning for the environmental function, facilitating the development and implementation of performance metrics, work programs, and operating and capital budgets.
Sustainability Superintendent	Maintains project approvals, ensuring approval obligations are suitable for the continued operation of the CGO.
	<ul> <li>Ensures all CGO approval documents are submitted as required by licences, development consent and mining lease conditions and other permits.</li> </ul>
	Manages consultants involved in CGO approvals processes.
	Works with relevant government agencies and consultants to ensure necessary project approvals are achieved.
	Promotes and enhances Evolution's reputation and relationship with the Government regulators, local landholders and other stakeholders.

Environmental Management Role	Responsibility
	Maintains the implementation of the environment management system and governance programs to ensure the CGO maintains compliance with applicable environmental obligations and minimises environmental harm and risk.
	Oversees the environmental monitoring and reporting program.
	Coordinates external environmental audits and site visits, acting as primary contact on environmental matters.
	Supports Sustainability Manager's responsibilities.
	Responsible for site environmental monitoring, including external consultant monitoring and reporting.
	Implementation and compliance with EMPs, environmental approvals, licensing and permits.
	Responsible for annual internal auditing and reporting (e.g. CGO Annual Review).
	Public monthly reporting of environmental monitoring data.
	Closure rehabilitation.
	ChemAlert updating and chemical approvals.
	Pest and weed control works coordination.
	Equipment management.
	Environmental Management System implementation and optimisation.
	Scheduling of corrective and preventative actions.
	Significant environmental aspects, formal risk assessments and Management of Change program supervision.
	Objectives, targets and action tracking.
	Workplace interactions, planned general inspections and internal audit scheduling.
	Pre-starts, awareness packs and training days input.
General Manager	Provides adequate resourcing to support site environmental management and implementation of the Forward Program and approved management plans.
	Provide strategic direction.
	Responsible for management of Evolution staff and all contractors.
Operations Manager	Responsible for ensuring all mining works are carried out in accordance with the Forward Program and other relevant approvals and legislation.
	Provide strategic direction.
People & Culture Manager	<ul> <li>Promotes and enhances Evolution's reputation and relationship with the broader community and stakeholders through positive consultation, proactive engagement and compliance with relevant legislation and permitting conditions.</li> </ul>
	Manages stakeholder engagement for the CGO through community meetings, media, publications and site visits.
	Oversees the implementation of organisational policies, standards, plans and procedures.
	Manages the ongoing implementation and compliance of the Wiradjuri Native Title Agreement.
	Coordinates cultural heritage matters ensuring compliance with relevant NSW legislation and the Aboriginal Heritage Management Plan.
	Oversees the development and implementation of cultural heritage and European heritage awareness program for all employees, contractors and visitors to the operation.
	Maintenance of the community complaints register.

Environmental Management Role	Responsibility
General Staff and Contractors	All general staff members trained in environmental procedures and protocols as part of the induction process and regular site meetings.
	All general staff members responsible for immediately reporting environmental incidents.
	All general staff members responsible for undertaking works in an environmentally sound manner and in accordance with EMPs and site commitments.

# 4 SUSTAINABILITY POLICY

Evolution's Sustainability & Strategic Planning Policy states that:

#### **OBJECTIVE**

The objective of our sustainability and strategic planning efforts is to deliver long-term stakeholder value through safe, low-cost gold production in an environmentally and socially responsible way.

By enabling innovative thinking, setting the strategic direction and goals for the business to drive value creation and establishing clear direction, authority and accountability to act to those at the source of the risk through our devolved leadership model will build a culture of operational excellence.

# **SCOPE**

The requirements of this company-wide policy and its supporting Sustainability and Strategic Planning Standards applies to all directors, employees, business partners and their subsidiaries.

In the Evolution Mining context, Sustainability refers to health, safety, environment, operational risk, security and social responsibility whilst Strategic Planning incorporates enterprise risk management, the planning cycle, from long-term strategic planning to short-term tactical, Mineral Resource and Ore Reserves (MROR) and project development and execution.

#### **COMMITMENTS**

Sustainability and Strategic Planning is embedded in our decision making at all levels of the organisation.

Evolution Mining will achieve the objectives of this Policy by ensuring we:

- Define and demonstrate robust risk management and environmental stewardship where threats are mitigated, whilst exploiting opportunities to create value for the business and our stakeholders
- Cultivate an innovative culture relentlessly driving operational excellence
- Provide a healthy, safe and inclusive workplace through collective leadership, encouraging our people to report unsafe situations and have positive interactions and conversations
- Foster an engaged, diverse, fit and capable workforce, providing appropriate information, instruction, training and supervision to deliver on our plan and sustainably achieve our targets
- Communicate, support and consult with our employees, contractors and stakeholders at all levels
- Provide clear accountability and understanding in developing and reporting of the MROR for Evolution Mining's assets
- Foster an agile and robust project planning process that maximises value to the business
- Contribute positively to local, regional and national sustainability efforts, providing sustainable outcomes for our communities
- Protect and enhance our reputation as a trusted partner whilst respecting the human rights of our stakeholders
- Advance outcomes for Indigenous peoples and protecting cultural heritage and respect the human rights of all our stakeholders
- Are transparent at all levels of corporate governance and comply with applicable laws and regulations
- Conduct regular reviews and share learnings across the business to drive continuous improvement.

Sustainability & Strategic Planning Policy Issued: 12/12/2021

Owner: Fiona Murfitt – Vice President Sustainability

Approver: Jake Klein – Executive Chairman

Evolution will honour its environmental responsibilities through good engineering practice, fulfilment of statutory responsibilities, regular community consultation and consideration of those impacted by operations. The CGO rehabilitation philosophy is to operate as a non-intrusive land user and to create stable rehabilitated landforms that increase the areas of endemic vegetation in the mine area and the status of land-lake habitats. This philosophy has guided the development of the rehabilitation principles and objectives that are provided in the Rehabilitation Management Plan (RMP).

# 5 ENVIRONMENTAL MANAGEMENT PLANS, STRATEGIES AND MONITORING PROGRAMS

The following plans, strategies and programs required under SSD-4297792 are used to guide environmental management at the CGO:

- this EMS (Condition D1).
- Air Quality and Greenhouse Gas Management Plan (including an air quality monitoring program) (Condition B29).
- Biodiversity Management Plan (including management of offset areas) (Condition B48).
- Hazardous Materials Management Plan (including Cyanide management) (Condition B84).
- Noise and Blast Management Plan (including a noise and blast monitoring program) (Condition B9).
- Rehabilitation Management Plan (no SSD-4297792 condition, however required under the *Mining Act* 1992);
- Rehabilitation Strategy (Condition B89);
- Subsidence Monitoring Program (in development) (Condition B71);
- Traffic Management Plan (Condition B94);
- Water Management Plan (including a site water balance, Surface Water Management Plan, Surface Water Monitoring Program, Surface Water TARP, Groundwater Management Plan, Groundwater Monitoring Program, Groundwater TARP, and a LPB Design and Verification Plan) (Condition B39);
- Aboriginal Heritage Management Plan (Condition B62);
- Aboriginal Heritage Research Program (Condition B65); and
- Final Void Management Plan (Condition B92).

A copy of each of these plans, strategies and programs is available on Evolution's website: <a href="https://evolutionmining.com.au/compliance/#cowalpart">https://evolutionmining.com.au/compliance/#cowalpart</a>

In addition to the above EMPs, a Pollution Incident Response Management Plan has been developed in accordance with the provisions of the NSW *Protection of the Environment Operations Act, 1997* and is available on the CGO website.

**Section 7.2** of this EMS outlines the review and revision process for these plans, strategies and programs. Finalisation of the individual plans, strategies and programs is subject to consultation with relevant regulatory authorities and approval by the DPHI (as required).

The CGO's environmental monitoring programs are comprehensive and addressed within the management plans. They have been developed to address each key environmental aspect (e.g. surface water, groundwater, air quality) relevant to the CGO. In keeping with these plans and as required by SSD-42917792 condition A25, Evolution is committed to ensuring that all plant and equipment used on site, or to monitor the performance of the development is maintained and operated in a proper and efficient manner.

A clear plan showing the CGO's environmental management system of management plans, monitoring programs and strategies is provided in **Figure 3**.

The location of environmental monitoring locations required under the various management plans, is provided as **Figure 4**.

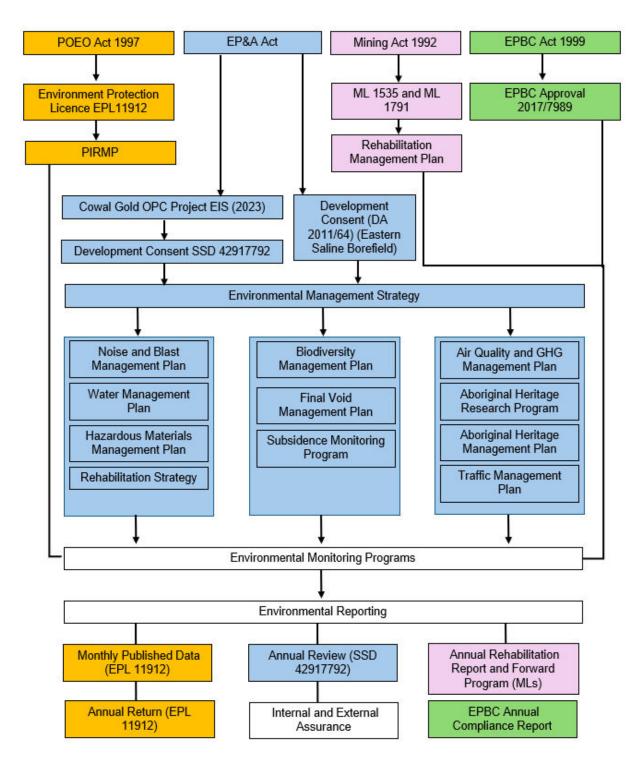
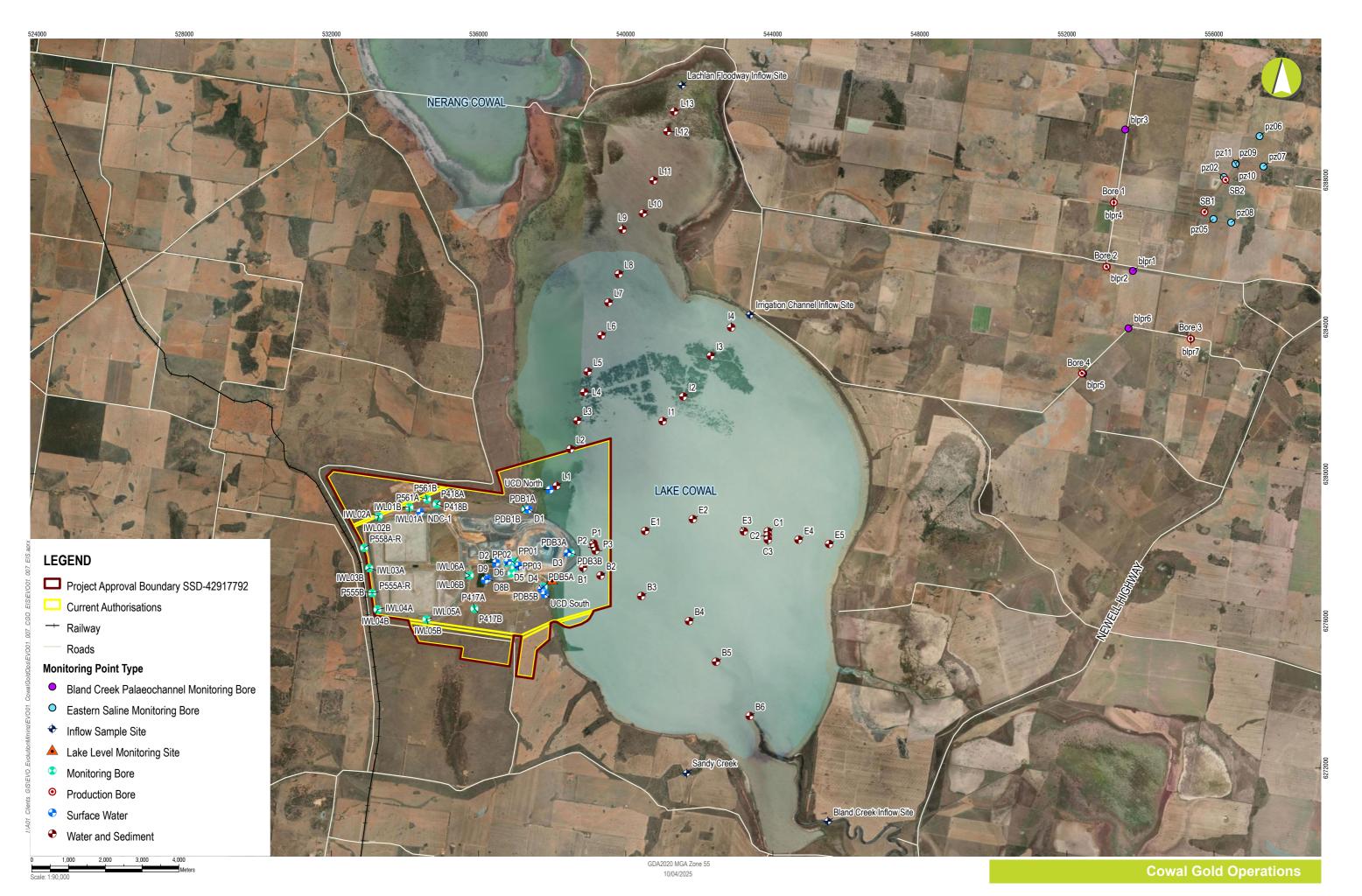


FIGURE 3 CGO Environmental Management System





# **6 ENVIRONMENTAL RISK MANAGEMENT**

An environmental Broad Brush Risk Assessment (BBRA) was completed for the OPC Project on in April 2025. The purpose was to assess the risks associated with the operation and document the controls put in place to:

- comply with statutory requirements/limits/ performance measures and criteria; and
- manage the predicted impacts identified in the EIS.

The risks and controls identified in the BBRA have been incorporated into each respective Management Plan. A copy of the BBRA has been provided as **Appendix B**. The BBRA will be reviewed and if necessary revised on a regular basis, to manage any other environmental risks or impacts identified.

# 7 REVIEW AND IMPROVEMENT OF ENVIRONMENTAL PERFORMANCE

# 7.1 ANNUAL REVIEW

In accordance with SSD-4297792, condition D11, Evolution will prepare an Annual Review to report on the environmental performance of the site. The Annual Review will be made publicly available on Evolution's website (**Section 9.2**), in accordance with SSD-4297792, condition D15.

D11. An annual report reviewing the environmental performance of the development must:

- (a) be submitted:
  - (i) to the department by the end of March each year after the commencement of development under this consent, or other timeframe agreed by the Planning Secretary;
  - (ii) to BSC and made available to the CCC.
- (b) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;
- (c) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, including a comparison of these results against the:
  - (i) relevant statutory requirements, limits or performance measures/criteria;
  - (ii) requirements of any plan or program required under this consent;
  - (iii) monitoring results of previous years; and
  - (iv) relevant predictions in the EIS;
- (d) identify any non-compliance or incident which occurred in the previous calendar year, and describe what actions were (or are being) taken to rectify the non-compliance and avoid reoccurrence;
- (e) evaluate and report on:
  - (i) the effectiveness of the noise and air quality management systems; and
  - (ii) compliance with the performance measures, limits and operating conditions of this consent;
- (f) identify any trends in the monitoring data over the life of the development;
- (g) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
- (h) describe what measures will be implemented over the next calendar year to improve the environmental performance of the development.

# 7.2 EMS REVIEW AND UPDATE

This EMS (and any strategy, plan or program required under the development consent) will be reviewed in accordance with SSD-4297792 Condition D6 and D7:

D6. Within three months of:

- (a) the annual review of the environmental risk assessment under Condition D1.
- (b) the submission of an incident report under condition D8
- (c) the submission of an annual review under condition D11
- (d) the submission of an independent environmental audit under condition D12
- (e) the approval of any modification of the conditions of this consent (unless the conditions require otherwise); or
- (f) notification of a change in development phase under condition A11

D7 If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.

**Note:** This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.

# 7.3 AUDITING AND REVIEW

An Independent Environmental Audit of the CGO will be conducted in accordance with SSD-42917792, condition D12.

D12. An independent environmental audit of the development, carried out in accordance with the Independent Audit Post Approval Requirements, must be conducted by 31 December 2025 and every three years thereafter.

All Independent Environmental Audits and Evolution's response to the recommendations of the audit are made publicly available on Evolution's website (**Section 9**) in accordance with SSD-42917792, condition D15.

As described in **Section 7.2**, within three months of the submission of an Independent Environmental Audit, Evolution will also review this EMS (and any strategy, plan or program required under the Development consent) to confirm whether any revision to the EMS (or any other document) is required.

# 9 INFORMATION DISSEMINATION

Evolution is committed to a policy of regular liaison with the local community and regulatory agencies and strives to maintain positive relationships with stakeholders.

Dissemination of information to the local community and relevant agencies regarding operation of the CGO and its environmental management performance will be achieved via the following key communication and reporting mechanisms.

# 9.1 COMMUNITY CONSULTATIVE COMMITTEE

The Community Consultative Committee (CCC) previously referred to as the Community Environmental Monitoring and Consultative Committee (CEMCC) was established prior to the commencement of construction of the CGO. SSD-42917792, condition A15 requires:

A15. The CCC must be continued for the life of the development, unless otherwise agreed by the Planning Secretary. The CCC must be operated in accordance with the department's Community Consultative Committee Guidelines: State Significant Projects (2023).

As per the Department's Community Consultative Committee Guidelines: State Significant Projects (2023), the CCC will comprise of:

- An independent chairperson.
- Up to 7 (in total) community and stakeholder group representatives.
- A representative from each relevant Council.
- Up to 3 representatives appointed by the proponent, including the person responsible for environmental management of the project.

The CCC meets quarterly and the minutes from CCC meetings are provided on Evolution's website (www.evolutionmining.com.au).

# 9.2 EVOLUTION'S WEBSITE

As required by SSD-42917792, condition,D15 and D16, and until the completion of all rehabilitation under SSD-42917792, the following information and documents will be publicly available on Evolution's website (<a href="https://www.evolutionmining.com.au">www.evolutionmining.com.au</a>):

- D15. Until the completion of all rehabilitation required under this consent, the following information and documents must be:
- (a) publicly available on the development website as they are obtained, approved or as otherwise stipulated within the conditions of this consent:
  - (i) the EIS;
  - (ii) all current statutory approvals for the development;
  - (iii) all strategies, plans, programs and reports required under the conditions of this consent;
  - (iv) the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged;
  - (v) minutes of CCC meetings;
  - (vi) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;
  - (vii) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
  - (viii) a summary of the current phase and progress of the development;
  - (ix) contact details to enquire about the development or to make a complaint;
  - (x) a complaints register, updated monthly;
  - (xi) the annual reviews of the development;
  - (xii) audit reports prepared as part of any independent environmental audit of the development and the applicant's response to the recommendations in any audit report;
  - (xiii) any other matter required by the Planning Secretary; and
- D16. The information and documents listed in condition D15 must be kept up to date to the satisfaction of the Planning Secretary

# 9.3 COMMUNITY INITIATIVES AND INVOLVEMENT

Evolution has established a number of community initiatives and consultation programs which are ongoing at the CGO and are described below. Evolution's ongoing community involvement is documented each year in the Annual Review and shared as part of the CEMCC quarterly meetings.

# 9.3.1 CGO Site Visits and Community Open Days

Evolution regularly extends invitations to the following (and other) stakeholders to visit the CGO:

- neighbouring landholders;
- representatives from relevant regulatory agencies and local shire councils;
- interested Aboriginal stakeholders;
- representatives from local water user groups and farmers;
- · various community and charity groups; and
- · various primary and secondary schools.

Community open days and family visit days will continue to be conducted on an annual basis.

# 9.3.2 Wiradjuri Condobolin Corporation

The Wiradjuri people are recognised as the Traditional Owners of the Lake Cowal area. Evolution has worked collaboratively with the Wiradjuri Council of Elders and the Registered Native Title applicants to negotiate an equitable Native Title Agreement (the Agreement) and the CGO's IACHMP.

Under the terms of the Agreement, signed in 2004, Evolution has agreed to support the Wiradjuri community in the areas of environmental and cultural heritage, employment, training and education and business development. This includes annual contributions to the Wiradjuri Study Centre located in Condobolin.

As a result of the Agreement, the Wiradjuri Condobolin Corporation (WCC) was established to facilitate business, education and employment opportunities for the Wiradjuri people. The WCC, operated by the Wiradjuri people themselves, was created as the legal entity to support the development and implementation of the provisions within the Agreement. It also established the Wiradjuri Condobolin Cultural Heritage Company (WCCHC) that Evolution has engaged to manage Wiradjuri heritage protection activities during the mine's development and ongoing operation. Evolution will continue to facilitate the Agreement and support the WCC and WCCHC.

#### 9.3.3 Lake Cowal Foundation

The Lake Cowal Foundation (LCF) was established as a non-profit, independent Environmental Trust in June 2000 and continues to be supported both financially and in-kind by the CGO. The Lake Cowal Conservation Centre (LCCC) was established in 2006 and operates under a licence agreement between the LCF, the NSW Department of Education, the Central West Local Land Services and Evolution.

The LCCC is located on an Evolution-owned property immediately south of ML 1535 and provides a community learning centre for school students, landholders and community members to learn about and experience issues associated with landscape management.

# 9.3.4 Media

Media releases will continue to be regularly provided to local media outlets through local newspapers including the "West Wyalong Advocate".

# 10 COMPLAINTS AND DISPUTE RESOLUTION

# 10.1 COMPLAINTS MANAGEMENT

The CGO's People, Culture and Community department are responsible for maintaining a system for recording and reporting complaints.

As required by EPL Condition M6.1, Evolution operates a Community Complaints Line 24 hours per day, seven days a week on which complaints regarding CGO activities can be made. Complaints and/or concerns can be made by dialling (02) 6975 3454 where an operator advises the caller that they have reached the CGO Complaints Line. The operator requests the caller's name, the nature of their complaint/concern, and a return phone number. The information is logged along with the date and time that the call was made. Complaints may also be made using the following email address: <a href="mailto:community.cowal@evolutionmining.com.au">community.cowal@evolutionmining.com.au</a>. A record of each call/email is entered into the electronic incident management system INX InControl. Following this, the appropriate personnel within CGO are informed.

For immediate notification of complaints logged outside of regular business hours, the appropriate Superintendent/ Manager is notified. Upon receiving an enquiry, the appropriate Superintendent/ Manager conducts necessary investigations and prepares a response. The complainant is contacted within 24 hours of the complaint and notified of any action taken or proposed by Evolution.

Evolution will maintain public advertising of the Community Complaints Line telephone number in the local Telstra Directory, White Pages online, West Wyalong Visitors Directory, Forbes Visitors Directory and the Condobolin Business Directory.

Complaints do not have to be received via the Community Complaints Line and may be received in any other form. Any complaint or enquiry relating to environmental management or performance is to be relayed to the Superintendent - Environment as soon as practicable. All employees are responsible for ensuring the prompt relaying of complaints.

In accordance with EPL Condition M5.1, Evolution maintains a complaints register (or complaints record) for the CGO.

For each complaint, the following information will be recorded in the complaints register:

- date and time of complaint:
- method by which the complaint was made;
- any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that fact;
- nature of the complaint;
- the action(s) taken by Evolution in relation to the complaint, including any follow-up contact with the complainant; and
- if no action was taken by Evolution, the reasons why no action was taken.

In accordance with SSD-42917792, Condition D15 (refer **Section 9.2**), the complaints register is made publicly available on Evolution's website (www.evolutionmining.com.au) and is updated on a monthly basis.

A report of the complaints received during the previous calendar year will be included in the Annual Review (refer **Section 7.1**). Details of complaints received and Evolution's response will be provided to the CCC and recorded within CCC meeting minutes, which will be published on Evolution's website in accordance with SSD-42917792, condition D15.

# 10.2 DISPUTE RESOLUTION

As provided by various conditions of SSD-42917792, the Secretary of the DPHI can provide dispute resolution in the following situations:

# Blasting (Property Inspections)

B17. If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the applicant or the landowner disagrees with the findings of the property inspection report, either party may refer the matter to the Planning Secretary for resolution.

#### Blasting (Property Investigations)

B20. If there is a dispute over the selection of the suitably qualified, experienced and independent person, or the applicant or the landowner disagrees with the findings of the independent property investigation, then either party may refer the matter to the Planning Secretary for resolution.

# Compensatory Water Supply

B36. If the Applicant and the landowner cannot agree on whether the loss of water is attributed to the Cowal Gold Operations or there is a dispute about the compensatory measures offered under conditions B35, then either party may refer the matter to the Planning Secretary for resolution.

#### Visual (Visual Amenity and Lighting)

B75. Upon receiving a written request from the owner of any residence on privately-owned land which has, or would have, significant direct views of the mining operations and infrastructure on-site during the development, the applicant must implement additional visual impact mitigation measures (such as landscaping treatments or vegetation screens) to reduce the visibility of the mining operations and infrastructure from the residences on the privately-owned land.

These mitigation measures must be reasonable and feasible and must be implemented within a reasonable timeframe. If the owner of the residence and the applicant cannot agree whether there are significant direct views from the residence, then either party may refer the matter to the Planning Secretary for resolution. If within 3 months of receiving this request, the applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Planning Secretary for resolution.

# Additional Mitigation Upon Request

C3. If within 3 months of receiving a request for additional mitigation from the owner, the applicant and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Planning Secretary for resolution.

#### Land Acquisition

C16. However, if either party disputes the independent valuer's determination, then within 14 days of receiving the independent valuer's report, either party may refer the matter to the Planning Secretary for review. Any request for a review must be accompanied by a detailed report setting out the reasons why the party disputes the independent valuer's determination. Following consultation with the independent valuer and both parties, the Planning Secretary will determine a fair and reasonable acquisition price for the land, having regard to the matters referred to in condition C12, the independent valuer's report, the detailed report of the party that disputes the independent valuer's determination and any other relevant submissions.

# 11 NON-COMPLIANCE NOTIFICATION AND REPORTING

SSD-42917792 defines a non-compliance as:

An occurrence, set of circumstances, or development, that is a breach of this Consent.

Evolution will notify the DPHI of any non-compliance in accordance with SSD-42917792:

D10. Within seven days of becoming aware of a non-compliance, the applicant must notify the department of the non-compliance. The notification must be in writing and must be submitted via the NSW planning portal (Major Projects). The notification must identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply, the reasons for the non-compliance (if known), and what actions have been undertaken, or will be undertaken, and when, to address the non-compliance.

Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

Evolution will also undertake additional notifications as required, in accordance with conditions C7 and C8:

- C7. As soon as practicable and no longer than 7 days after obtaining monitoring results showing an exceedance of any noise, blasting or air quality criterion in PART B of this consent, the applicant must provide the details of the exceedance to any affected landowners, tenants and the CCC.
- C8. For any exceedance of any air quality criterion in PART B of this consent, the applicant must also provide to any affected land owners and/or tenants a copy of the fact sheet entitled "Mine Dust and You" (NSW Health).

# 12 EMERGENCY AND INCIDENT NOTIFICATION AND REPORTING

# 12.1 SSD 42917792 INCIDENT NOTIFICATION AND REPORTING

An incident is defined in SSD-42917792 as:

An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.

#### Material harm is defined in SSD-42917792 as:

#### Is harm that:

- involves actual harm to the environment that may include (but not be limited to) a leak, spill, emission other escape or deposit of a substance, and as a consequence of that environmental harm (pollution), may cause harm to the health or safety of people; or
- results in actual loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)

#### Notes:

- This definition excludes "harm" that is either authorised under this consent or any other statutory approval
- For the purposes of this definition, material harm excludes incidents captured by Work Health and Safety reporting requirements

# CGO will notify DPHI of any incident in accordance with SSD 42917792, conditions D8 and D9:

D8. CGO will notify the department within 24 hours of becoming aware of an incident. The notification will be made via the NSW planning portal (Major Projects) and address details of the incident including:

- (a) date, time and location;
- (b) a brief description of what occurred and why it has been classified as an incident;
- (c) a description of what immediate steps were taken in relation to the incident; and
- (d) identifying a contact person for further communication regarding the incident.

D9. CGO will provide the department with a subsequent incident report in accordance with appendix 8 of SSD 42917792.

Incident notifications and reports will be submitted in accordance with Appendix 8 of SSD 42917792:

- 1. All incident notifications and reports will be submitted via the NSW planning portal (Major Projects).
- CGO will provide notification as required under these requirements, even if CGO fails to give the notification required under condition D8 or, having given such notification, subsequently forms the view that an incident has not occurred.
- 3. Within 7 days (or as otherwise agreed by the Planning Secretary) of CGO making the immediate incident notification (in accordance with condition D8), CGO is required to submit a subsequent incident report that:
  - (a) identifies how the incident was detected;
  - (b) identifies when CGO became aware of the incident;
  - (c) identifies any actual or potential non-compliance with conditions of consent;
  - (d) identifies further action(s) that will be taken in relation to the incident; and
  - (e) a summary of the incident;
  - (f) outcomes of an incident investigation, including identification of the cause of the incident;
  - (g) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence, including the period for implementing any corrective and/or preventative actions; and
  - (h) details of any communication with other stakeholders regarding the incident.
- 4. CGO will submit any further reports as directed by the Planning Secretary.

# 12.2 EPL 11912 INCIDENT NOTIFICATION AND REPORTING

Any incident that triggers the PIRMP will be reported in accordance with EPL 11912, condition R2,

R2.1 Notifications will be made by telephoning the Environment Line service on 131 555.

R2.2 Evolution will provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident.

Note: Evolution or its employees will notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

The relevant authorities that will be notified immediately as per the *EPA Guideline: Pollution Incident Response Management Plans* are:

The EPA

- the Ministry of Health (via the appropriate Local Health District Public Health Unit)
- Fire and Rescue NSW
- SafeWork NSW
- the relevant local council.

# 12.3 EMERGENCY PROCEDURES

An emergency or incident will be addressed through the Hazardous Materials Management Plan as required by SSD 42917792, condition B84. The Hazardous Materials Management Plan describes, at a high level, the appropriate emergency response actions should an emergency situation or incident occur at the CGO. Emergencies or incidents will be classified into one of three levels depending on the severity of the emergency or the potential of the incident to become more serious.

- Level 1 Operational Management Response A site-based response to minor emergency events which generally does not require external assistance. E.g., Small manageable fires, accidents, or security threats.
- Level 2 Incident Management Team (IMT) Is a site-based response for emergency events
  where support from the management level is required. Depending on the emergency, either part
  or all the IMT will be activated, and external emergency services may be engaged. E.g., bushfire
  encroaching on explosives magazine or uncontrolled release of concentrated cyanide outside
  of primary bunded area.
- Level 3 Crisis Management Team (CMT) The CMT will be initiated if an incident is of major impact, high severity and require a level of Group support. Relevant Emergency Services shall be contacted in response to an incident in alignment with Threat and Mitigation guides in the EPRP. The CMT consists of executive and senior management members at Evolution Group Office who support the incident response through the IMT. E.g., situations where a significant hazard to the public and surrounding communities exists, such as off-site pollution threatening to impact Lake Cowal.

All site personnel will receive an appropriate level of emergency preparedness and response training, with regular updates through toolbox sessions. Any changes to these emergency procedures will be documented and communicated to all personnel. All site visitors and contractors will also receive emergency response procedure information during the induction process for the CGO.

The CGO's Pollution Incident Response Management Plan also details the CGO's procedures for responding to pollution incidents in accordance with the requirements of the *Protection of the Environment Operations Act*, 1997.

# 13 ADAPTIVE MANAGEMENT

As required, some EMPs have been developed with Trigger Action Response Plans (TARPs) to allow Site to respond in real-time to circumstances that may result in a potential incident or non-compliance under the consent or applicable approval. Where included, each TARP contains trigger levels developed in accordance with the requirements of the consent, EPL or relevant legislation. When a trigger level is met, corrective actions detailed in the TARP will be implemented at the earliest opportunity to ensure the exceedance or incident ceases to occur and does not reoccur. Reasonable and feasible remediation measure options will be considered and a report will be submitted to the department describing those options and any preferred remediation measures or other course of action. Reasonable remediation measures will then be implemented as directed by the Planning Secretary.

In the event that an incident, exceedance or non-compliance not covered by a TARP is identified, the matter will be investigated to determine the likely cause. The investigation will seek to determine:

- whether the incident or exceedance of the criteria was directly related to a source associated with the Site or if other factors contributed to the exceedance
- the primary cause of the incident or exceedance
- any contributing factors which led to the incident or exceedance
- whether appropriate controls were implemented to prevent the incident or exceedance, and
- corrective and preventative measures that may be implemented to prevent a recurrence of the incident.

This process will review whether any further reasonable and feasible engineering solutions are required to be implemented and the optimal implementation of the measures.

Actions will be communicated internally through planning meetings and toolbox talks and outstanding actions will be monitored for their effectiveness upon completion.

Potential environmental risks relevant to the Site's operations have been identified through the EIS process, environmental monitoring, and learnings from previous operations at CGO. Risk mitigations have been incorporated into management practices in each EMP. Unpredicted impacts are addressed as far as practicable through TARPs in the EMPs (as applicable). Any potential environmental risks that are identified during the operation of the Site will be addressed in future updates of the relevant EMP.

# 14 REFERENCES

Department of Planning and Environment (2023) *Community Consultative Committee Guidelines, State Significant Projects*.

EMM (2023) Cowal Gold Operations Open Pit Continuation Project Environmental Impact Statement

EMM (2024) Cowal Gold Operations Open Pit Continuation Project Submissions Report.

NSW Department of Planning, Housing and Infrastructure (2024) Cowal Gold Operations Open Pit Continuation (SSD-42917792).

# APPENDIX A

**EMS** Approval

To be included following approval

# Department of Planning, Housing and Infrastructure



Pierre Miquel
Project Director
Cowal Gold Operations

19/06/2025

# Subject: Cowal Gold Open Cut Continuation (SSD-42917792) - Environmental Management Strategy

Dear Mr. Miquel,

I refer to your request for review and approval of the Environmental Management Strategy for Cowal Gold Open Cut Continuation (SSD-42917792). I also acknowledge your response to the Department's review comments and request for additional information.

The Department has carefully reviewed the document and is satisfied that it generally meets the requirements of the relevant conditions of consent (SSD-42917792). Accordingly, as nominee of the Planning Secretary, I approve the Environmental Management Strategy (17 June 2025) under Schedule 2, Condition D1.

You are reminded that if there are any inconsistencies between the Environmental Management Strategy and the conditions of consent, the conditions prevail. Please ensure you make the document publicly available on the project website at the earliest convenience. If you wish to discuss the matter further, please contact Scotney Moore, on 02 9274 6342.

Yours sincerely

Stephen O'Donoghue

Director

Resource Assessments

As nominee of the Planning Secretary

# APPENDIX B

**Environmental BBRA** 

# Work Risk Assessment and Control



Risk Assessment Title/Topic

			1						$\overline{-}$		Cowal
N	Hazard or Activity	Mining areas contributing to potential impact	What are the unwanted events (Causal Factors)		nitigated R			Control Measures			siting Risk
R01	Impacts to air quality through mining operations and	Generation of dust in excess of approval conditions (including mine, construction works, tailing facilities, WRE, paste plant, soil material handling, processing crushing circuit, blasting, LV/HV travel) Degraded Air Quality, Neighbour disturbance, complaints, reputation loss		Type  Environment	Minor	4	Risk	* Air Quality Management Plan (AQMP)  * Scheduled and ad hoc inspections  * Air quality monitoring network (depositional dust, total suspended solids, PM10, PM2.5)  * Site located remote from near neighbours  * Complaints register and investigation process  * General Environmental Awareness training (Induction)  * Use of water carts and polymer dust suppression chemical on roads.  * Approved access tracks and minimising additional disturbance  * Straw bales on TSFs that act as wind breaks  * Ripping of tailings surface to break wind tension	Minor	3	Risk Moderate
	ancillary activites	All onsite areas, offiste	Non-compliance. Fines and legal consequences Significant lift-off of dust from tailings dam surfaces. Reputation loss, community complaint, exceedance of Consent criteria. Compliance and Community Degraded air quality, inefficient use of resources, poor performance in comparison to industry peers, poor community perception, depletion of resources. Climate-related risks.	Reputational (Legal & LTO)	Major	4	Very High	* Targeted tailings depostion to provide moisture to tailings  * Polymer application on tailings surface to bind particles together  * Landform deign to intercept potential offsite dust (WRE's)  * Electricity monitoring and annual public reporting (NPI/NGERS)  * Company-wide commitment to reduce emissions by 30% by FY30 and net zero by FY50.  * Emissions Reduction Management Plan (ERMP), including emissions reduction roadmap  * Maintenance and servicing of plant and equipment (OEM)  * LOM planning, optimised mine design (i.e. haul circuits)  * Material movement and rehandling tracking system (Minestar)  * Trained and competent operators.	Major	2	Moderate
	Impacts to biodiversity through mining operations and	Areas within the mining lease and	Unauthorised or uncontrolled ground disturbance leading to disturbance of flora, fauna, exclusion areas or endangered habitat. Habitat degradation Reputation loss, financial penalties and/or legal consequences Non-compliance with operating conditoins of Development consent and/or EPBC approval.	* Monitoring and reporting cyanide levels with alarm (daily WAD measurements and live cyanoprobe readings)  * Operational testing of cyanide prior to discharge  * Environmental monitoring, including fauna activity, autopsy, groundwater and surface water  * Methods for monitoring and minimising potential impacts to fauna outlined in Biodiversity Management Plan (BMP)	Extreme	3	Very High				
R0		biodiversity stewardship areas	Exceedance of cyanide criteria leading to fauna deaths and/or non compliance with licence conditons.  Terrestrial fauna entering IWL  Infestation of nuisance or noxious pest and weed species Impact to native species  Failure to comply with biosecurity requirements.  Impact to flora/fauna from vehicle movements (on and off designated roads)	Reputational (Legal & LTO)	Major	3	High	* Trained and competent workforce  * 24 hour coverage.  * Fauna proof fencing around IWL  * Monthly IWL perimeter fence inspection  *Twice daily inspections of operational TSF, including fauna identification and reporting by trained  *External QA/QC of wildlife monitoring regime conducted, including assessments by qualified Ecologist.  **Biodiversity Management Plan  * Inspections of external properties  * Annual weed survey conducted by third party.  * Pest inspections and regular pest control programs conducted.  *Licenced and trained operators. Chemical handling certification required.  *Specific baiting/ trapping procedures maintained for different species.  * Reporting protocols for fauna injuries and deaths  * Speed limits_signage_deterrents_email notifications and general awareness		3	High

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R03	Mining operations impacted on by climate events  All areas	Uncontrolled fire (either natural or caused by mine activities), impacting on habitat and fauna, mine activities and local infrastructure  Drought conditions leading to insufficent water supply	Environment	Major	3	High	* Refuelling Procedures  * Hot works procedure  * Water carts readily available onsite  * Storage integrity of flammable and combustable liquids, solids and gases  * Dedicated training area, fire suppression equipment available  * Fire break maintenance and inspections  * Weekly boundary Inspections  * ERT vehicles and trained response team.  * Emergency Preparedness And Response Plan (EPRP)	Major	2	Moderate	
INUS	willing operations impacted on by climate events	All aleas	and/or securrity  Extreme Weather Conditions - Drought, Loss of the Pumping Station for more than 30 days, Seismic Event	Reputational (Legal & LTO)	Major	3	High	* Slashing of high fuel load areas  * Long Range Weather Forecast  * Water Balance Model (GoldSim) used to manage water storage  * Availability of additional for surface water sources for purchase  * Internal Catchment Drainage System  * IWL Water Recovery System for process water  * Structural inspections and preventative maintenance regime established for Pumping Station  * Water Access Licences	Major	2	Moderate
R04	Operations advertently and inadvertently interact with community causing visual amentiy concerns	All areas	Use of unapproved site access routes for employees and contractors.  Non-compliance with licence conditons. Community complaints, Reputation loss Lighting from mine associated activities (processing plant, mobile lighting plants, exploration drilling etc) causing visual impact off site.  Community complaints, damage to reputation Final closure landforms are indentifiable in the landscape	Reputational (Legal & LTO)	Major	3	High	* Designated access routes to site  * Complaints hotline and CEMCC  * Workers required to travel to work by using a bus  * Fenced mining lease and gates secured  * Site access routes written into relevant major contracts for site deliveries. Contracts and performance reviewed by relevant contract owners.  * Commute and journey management training required for all employees and contractors  * InForm or InControl used to track interactions with landholders  * Construction workforce accomodation plan  * Employees and contractors made aware of lighting requirements  * Site lighting plant procedure  * Rehabilitation Strategy  * Rehabilitation Management Plan  * Landforms deisgned to be consistent with surrounding landscape	Major	2	Moderate
R05	Mining activities result in impacts to energy resources		Excessive consumption of energy in excess of targets and acceptable limits.  Depletion of natural resources.  Inappropriate/ insufficient emission control measures or targets.  Faulty equipment, inefficient or old equipment, excessive emissions and excessive energy usage (power/diesel/LPG/ etc.)  Failure to adequately manage operational parameters within the Processing Plant, increasing power consumption	Asset (Financial / Production)	Moderate	4	High	* Company-wide commitment to reduce emissions by 30% by FY30 and net zero by FY50.  * Emissions Reduction Management Plan (ERMP), including emissions reduction roadmap  * Electricity monitoring and reporting (monthly)  * Equipment maintenance as per OEM  * NPI/ NGERs reporting process for electricity consumption  * Trained and competent operators.  * Change management process  * Operational monitoring and measuring of key parameters for Processing (pH, cyanide, etc.)  and Mining Operations (cycle times, haul distances, etc.)  * Mine planning and design by suitably qualified personnel  * EVN registered to the Electric Mine Consortium (EMC)	Moderate	2	Moderate
R06	impacts to known and linknown cliffical peritage	Land clearing and exploration activities of previously undisturbed land	Unauthorised or uncontrolled ground disturbance leading to uncontrolled disturbance of artefacts, flora, fauna, exclusion areas or endangered habitat. Habitat degradation Fauna impact Damage to cultural artefacts Reputation loss, financial penalties and/or legal consequences Development consent or supplementary approval breach	Reputational (Legal & LTO)	Major	4	Very High	* Ground disturbance permit (GDP), procedure and vegetation clearance protocol (VCP)  * Aborignial Cultural Heritage Management Plan (ACHMP)  * Soil Stripping Management Plan  * Some environmentally and culturally sensitive sites on the mining lease have been isolated with fencing and signage  * Spatial database maintained of indigenous and european heritage survey areas, artefacts and sensitive areas  * Demarcation of area by survey prior to disturbance  * AHIP and Care agreements/ permits for areas within the ML  * AHIMS searches and due diligence surveys for areas outside the lease  * Supervision of works. Trained and competent operators.  * General Environmental Awareness training (Induction).  * Cultural heritage training provided by local knowledge holder	Major	2	Moderate
D07	Noise from mining activities impacting on surrounding	All areas	Operating outside of scheduled work hours, meteorological conditions leading to carrying of noise. Equipment operating outside of OEM specifications Equipment operating near sensitive receivers (community	Environment	Extreme	3	Very High	* Blast Management Plan  * Noise Management Plan  * Biodiversity Management Plan  * Environmental monitoring, including quarterly attended noise monitoring at sensitive receptors  * Open pit, waste rock emplacements and Evolution property buffer isolates noise from the environment that occurs within the mining lease  * Mitigation measures implemented at sensitive receptors, including property acquisitions	Extreme	2	High

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INU	environment and community	Inii aicas	and environment) Poor blasting scheduling or changes to blast configuration and/or product.	Reputational (Legal & LTO)	Moderate	3		installing insultation and air conditioning as required.  * Blast design and execution conducted by professionals and in accordance with Australian standards, law, and blast management plan  * Fixed blast monitors and external reviews conducted for each blast event.  * Strategic scheduling for noisy activities during daytime  * Equipment operated and maintained as per OEM guidelines  * General Environmental Awareness training (Induction)	Moderate	2	Moderate
R0	Ineffective design, planning and execution of rehabilitation activities to meet internal and external obligations	All areas	Minimal soil resources available. Inadequate soil stripping and stockpiling methods. Waste rock deficit available for rock mulching. Poor time management. Rehab contractor availbility. Land formation procedure not followed. Failure of tube stock due to drought conditions. Failure due to poor soil management and inappropriate growth medium. Inadequate drainage established around WRE's. Inadequate rock mulch covers applied causing extensive erosion and rilling. Poor soil and growth medium quality. Failure of stabilising cover crops causing additional erosion risk. Inaccurate landform design and inappropriate ripping contours.	Asset (Financial / Production)	Major	4		* Rehabilitation Strategy  * Soil Stripping and Stockpile Management Plan  * Rehabilitation Management Plan  * Rehabilitation trials to determine appropriate soil depths  * Soil stockpile management, including soil balance, topsoil depths, application rate  * Subsoil amelioration/farming strategies as required  * Materials balance (stockpile register)  * LOM planning and allocation of appropriate rock mulch material  * Trained and competent operators  * Rehabilitation Cost Estimation and LOM planning  * Rehabilitation activities scheduled annually in three-year Forward Program, ensuring progressive delivery of rehabilitation  *Equipment procurement and maintenance strategies.  * Annual assessment of rehabilitation progress by independent consultant against completion criteria	Major	3	High
Pos	Mine affected water or hazardous products being	All grage	Uncontrolled release from pipelines (tailings or return water). Pipeline breach, equipment wear, extreme event. Uncontrolled release through total tank failure or crack. Potential for high pressure sprays to reach outside of bund and impact lake (significant incident). Loss of containment from height (elevated pipes). Release of wastewater and runoff. Poor mining planning. Inadequate ground control and backfill practices. Improper storage securing processes during transport,	Environment	Extreme	2		* Flow Meters and leak detection systems/ alarms.  * Bunded tanks  * Site operational area sloping back to pit  * Water Management Plan  * UCDS to divert upstream water  * Inspections and preventative maintenance  * Water balance modelling, monitoring and reporting  * Engineered pipelines and storage dams with appropriate capacity  * Interlock - from saline bore, must also run with fresh water bore flow (reduction in salinity of transported water)  * Dig permit process and mapping of known services. Pipeline marked at the surface where required.  * Trained and competent operators  * Community complaints and response process	Extreme	1	Moderate
R0	release to surrounding environment	All areas	vehicle accident involving transport vehicle leading to spill, improper onloading/offloading of chemical containers.  Transport of hazardous materials to/from site using an unapproved transport route or company.  Poor ESC Practices.  Failure to recognise or mitigate erosion.  Failure of ICDS to contain all mine effected water and runoff.  Construction of infrastructure outside ICDS area.  Dewatering parameters not met during discharge to Lake	Reputational (Legal & LTO)	Extreme	3	Very High	* Designated delivery routes and volumes approved by regulator; requirements built into contract arrangements  * Hazardous Materials Management Plan  * Transport Management Plan  * Authorised and licenced transport companies  * Chemalert - All chemicals must be approved for use on site.  * Designated maximum delivery volumes  * Soil Stripping Management Plan  * Erosion controls such as rock, silt fencing, design of infrastructure to limit potential for erosion, revegetation of exposed surfaces  * Designed as a zero release site, with key infrastructure designed by suitably qualified personnel (e.g. UCDS, ICDS).  * Site Ground Disturbance procedure and permit process  * Long Range Weather Forecast  * Water Balance Model (GoldSim) used to manage water storage	Extreme	1	Moderate

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R1	ini o o ,	Intergrated Waste Landform (IWL) Paste Plant	Seismicity or earthquake, Inadequate operating practice, Piping and erosion, Seepage, Dam wall structural failure, Dam wall foundation failure, Design not conducted in accordance with approvals, Lack of/insufficient QA/QC, Overtopping (weather causation), Static liquification Failure of IWL and paste plant pipelines and/ or bunding	Environment	Moderate	3		* Water Management Plan, Cyandie Management Plan & Tailings Construction Procedure  * Critical controls, PHMP and underpinning bowtie for IWL/ TSFs  * Monthly tailings governance committee meetings  * Design and constructed following the ANCOLD guidelines  * Dam Break study and simulation.  * Switch to downstream construction for IWL that encompasses existing upstream TSF's.  * Geotech investigation of TSF footprint completed prior to construction, permeability testing, triaxial testing, atterberg limits, tillage and compacting of basal layer to achieve required permeability and under drainage construction.  * QA/QC testing during construction to validate built to design specifications. Independent accredited NATA registered material testing laboratory used.  * Slot Drains through embankment augmentation layers to drain high phreatic water	Moderate	2	Moderate
				Reputational (Legal & LTO)	Extreme	3	Very High	* Failure Mode and Effects Analysis completed by GHD 2019. Independent stability analysis (Geoanalytica).  * VWP monitoring, CPT and Shear Vein testing. Liquefaction assessment studies.  * TSF Operations and maintenance manual provided by EOR, including deposition management plan.  * Daily/weekly/monthly inspections of operating deposition, water levels, drone photos, piezometer readings, beach surveys densities, pipelines, wildlife activity, etc. Inspections prompted by seismic activity.  * Operation water balance model, including Weather forecasts, through GOLDSIM.  * Groundwater monitoring program.  * Calibration of monitoring and measuring equipment. Trained and competent operators  * Cyanide code / development consent management measures and reporting requirements.  * Emergency Preparedness And Response Plan (EPRP)	Extreme	1	Moderate
R	Disposal of waste products generated through mining activities	All areas	Failure of systems and procedures for waste segregation and disposal, Employees and contractors unaware of waste management requirements/obligations Contractual obligations of waste transport company lacking information regarding approved waste facilities	Reputational (Legal & LTO)	Moderate	3	Moderate	* Hazardous Materials Management Plan  * Inspections / audits  * Environmental training re: waste segregation  * Utilisation of experienced waste contractors and management of offsite transfers  * EPA online waste tracking system for hazardous chemicals, completed by waste management contractor.  * Regular performance reviews with Waste Management Contractor  * EPA Approved disposal facilities.	Moderate	2	Moderate
R	2 Water supply requirements for mining activities	All areas	Water use exceeds allocated and licenced water balance Drought conditions LTA Management of Dewatering Activities (UG and OP) Damage to water infrastructure (ICDS, UCDS, pipelines, etc.)	Asset (Financial / Production)	Extreme	3	Very High	* Water Management Plan  * Preferential IWL Water recovery system used in processing plant  * Water sourced from on site water storages and internal rainfall catchments (reuse)  * Alternate water resources (i.e. Saline bore field, Jemmalong Allocation, Paleochannel bore field) available if required  * Extraction licences and limits (groundwater and surface)  * Groundwater modelling indicates that the maximum cumulative drawdown associated with the open cut and underground development would be confined within the existing mining lease  * Extraction licences and GW trigger limits monitored (groundwater and surface)  * Preventative maintenance regime and regular inspections for onsite water infrastructure  * Monitoring flow and levels, reporting and leak detection alarm systems  * Level sensors and operating strategies for alternative water sources  * Lined process water dam  * Periodic desilting of dams  * Site water balance maintained and modelled for multiple scenarios (Goldsim)  * Annual external site water balance review (with scenario capacity)  * General Environmental Awareness training (Induction)	Extreme	2	High

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