

7. MANAGEMENT AND MONITORING OF ACTUAL AND POTENTIAL ENVIRONMENTAL EFFECTS

7.1 APPROACH TAKEN

Section 6 of this report provides an assessment of the actual and potential effects of the BOGP, which is based on:

- > Engagement within iwi regarding cultural effects; and
- > The various technical assessments commissioned by MGL that have been prepared by independent technical specialists.

The technical assessments have recommended the implementation of measures to avoid, remedy or mitigate actual and / or potential adverse effects on the environment where necessary. These recommendations have shaped the development of a robust suite of proposed conditions which are provided in **Part D** of these application documents.

In addition to the proposed conditions, MGL will also undertake the BOGP in accordance with a comprehensive suite of management plans (provided in **Part G** of these application documents) to ensure that measures to properly manage effects and minimise potential adverse effects are employed. Compliance with these management plans is also the subject of a proposed condition for the various resource consents.

MGL recognises that it is not possible to completely avoid all potential environmental effects associated with a mining project of the scale and complexity of the BOGP. As such, there will be residual ecological effects requiring further management following the implementation of avoidance, minimisation / mitigation and remediation measures. As discussed in Section 8.1 of Alliance Ecology (2025), this includes residual effects on a range of terrestrial and wetland ecological values including nine vegetation / habitat types, 24 plant species, 12 invertebrate species, two lizard species and three bird species.

These residual effects have been responded to through an offsetting and compensation package. The declining state of indigenous biodiversity in the Ecological Study Area and wider landscape provides a unique opportunity to restore the landscape at scale in the long-term and deliver additional benefits beyond directly addressing the residual effects of the BOGP. MGL is therefore proposing extensive measures to manage the residual adverse effects on terrestrial and wetland ecology values (where residual adverse effects are assessed as moderate or greater) to the extent practicable. This includes an ecological restoration and habitat enhancement programme across approximately 2,219 hectares of habitat in the landscape surrounding the DDF.



These measures aim to reverse the ongoing decline of native habitat to support a large-scale transition from exotic-dominated to native-dominated ecosystems.

As a result, net gain outcomes are expected for most very high or high value ecosystems and a range of Threatened or ecologically important species. However, despite significant restoration efforts, residual effects on cushionfield habitat and two associated species cannot be offset or compensated for.⁶⁹ It is noted, however, that the delay in mining identified parts of the CIT Open Pit in accordance with the Cushionfield ARP will ensure potential adverse effects on the high densities of cushionfields present in this location are appropriately avoided (refer to Section 3.5.3 of this Report). For all other biodiversity values, the measures proposed as part of the BOGP are expected to result in demonstrable benefits to indigenous terrestrial and wetland biodiversity that outweigh impacts within 35 years of granting of approvals.

It is noted that the offsetting and compensation of residual effects is independent of the BOGP Biodiversity and Heritage Enhancement Fund – which (in addition to addressing heritage effects) will provide regular funding to the Department of Conservation to support the protection and enhancement of cushionfield habitat (or other Threatened or At-Risk species or ecosystems) within the Dunstan Ecological District and is intended to achieve additional positive ecological outcomes for the district.⁷⁰

Overall, MGL and its expert advisers consider that the BOGP can be undertaken in a manner that will appropriately address any unavoidable adverse environmental effects. Where residual effects remain, they will be managed to achieve an overall net gain in ecological values within the Otago Region (with the exception to cushionfields and associated species where additional measures have been proposed to assist with address effects), while also achieving the purpose of the Act – to deliver a project with significant regional and national benefits.

7.2 MEASURES PROPOSED

The key measures proposed by MGL to manage identified effects are set out in Table 7-1 below. They include:

- > The establishment of a water management system designed to capture and maximise reuse of mine impacted water within site operations;

⁶⁹ Due to their irreplaceability or vulnerability, the magnitude of adverse effects or the technical infeasibility of demonstrating that adequate ecological gains will be achieved.

⁷⁰ As noted, MGL will provide \$500,000 + GST per year for every year of gold production up to a maximum of 10 years.



- > The Implementation of and adherence to a Water Management Plan which requires monitoring of creek flows and quality, volumes and quality of mine impacted water captured, water usage rates, and rainfall;
- > The augmentation of flows in Shepherds Creek and Rise and Shine Creek at locations upstream of the Project Site;
- > The implementation and adherence to an extensive suite of ecological management plans prepared as part of this substantive application, including management plans for managing effects on avifauna, lizards and terrestrial invertebrates and management and control of plant pests and mammalian pests;
- > Extensive measures to offset and compensate for residual effects on terrestrial and wetland ecological values, including an ecological restoration and habitat enhancement programme that will be protected in perpetuity by a covenant includes:
 - > The 889 hectare Mine Regeneration Zone (“**MRZ**”) adjacent to the DDF;
 - > The 1,263 hectare Ardour Restoration Area adjacent to the DDF; and
 - > Approximately 67 hectares of predator-exclusion fenced areas through the establishment of the Ardour and Bendigo Sanctuaries;
- > The implementation of and adherence to the Cushionfield ARP to guide the translocation of cushionfields and propagation of spring annuals and delay the mining of the CIT Open Pit until a net increase in these plants relative to loss can be demonstrated;
- > Implementation of best-practice erosion and sediment control measures during site establishment works;
- > Collection of mine-impacted water that is subject to appropriate management during operations and treatment post closure;
- > Diversion of clean water around the footprint of disturbed areas, including the realignment of sections of Shepherds Creek and Rise and Shine Creek to form rehabilitated stream diversions, where loss of these natural watercourses will occur as a result of placement of mine infrastructure;
- > Appropriate design and construction of the ELFs to limit sulphide mineral oxidation;
- > Design and eventual rehabilitation of visible project elements to avoid, remedy or mitigate any adverse landscape and visual effects;
- > Design of the TSF to withstand seismic activity, including a 1 in 10,000 year earthquake and subsequent aftershocks;



- > Limits on potential constituents of concern within Shepherds Creek and Rise and Shine Creek and associated tributaries;
- > Limits on the generation of noise, vibration and light spill;
- > Upgrades to the existing road network to accommodate increase vehicle movements associated with the BOGP, including the upgrade of SH8 / Ardgour Road intersection and a section of Thomson Gorge Road;
- > The implementation and adherence to a Soil Management Plan for managing arsenic-rich / impacted soils within the Project Site;
- > Minimisation of dust, particulate and gaseous emissions to protect amenity of surrounding landowners;
- > The protection of certain identified heritage / archaeological sites and archival recording of sites proposed to be impacted in accordance with the Archaeological and Heritage Management Plan;
- > Construction of Ardgour Rise as a replacement of Thomson Gorge Road to retain public access around the Project Site between the Ardgour Terrace and Thomsons Saddle;
- > The establishment of alternative walking access to the Come-in-Time Battery site; and
- > A rehabilitation and closure plan secured by rehabilitation and capitalisation bonds.



Table 7-1: Summary of Key Management and Monitoring Measures for the Bendigo-Ophir Gold Project

Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
Cultural Matters			
Potential effects on matters of importance to Kā Rūnaka, and their relationship with ancestral lands and water.	To be confirmed following further engagement with Kā Rūnaka.	To be confirmed following further engagement with Kā Rūnaka.	To be confirmed following further engagement with Kā Rūnaka.
Surface Water Effects			
Partial loss of flows contributing to Shepherds Creek and Rise and Shine Creek catchments.	Establish clean water diversion channels and stream diversions around operational mining areas.	Upstream and downstream flow monitoring and rainfall monitoring in accordance with the Water Management Plan (provided in Part G of these application documents). Restoration of flows post mining operations through: > Decommissioning of water management infrastructure; > Progressive allowance of discharges from mine closure areas; and > Softening of erosion and sediment control structures.	None.
Loss of flows in Shepherds Creek and Rise and Shine Creek catchments as a result of pit dewatering and loss of watercourses during operations.	The creation of approximately 7,643 m of new stream diversions within Shepherds Creek catchment and approximately 1,600 m of new stream diversions within the Rise and Shine Creek catchment to capture water from ephemeral streams and transfer it back into the creeks. The augmentation of flows in Shepherds Creek and Rise and Shine Creek at locations upstream of the Project Site (via the proposed take from the Bendigo Aquifer) to ensure that existing permit holders are able to access their full consented surface water allocations throughout the life of the BOGP.	Flow monitoring within Shepherds Creek and Rise and Shine Creek as per the Water Management Plan. Use of proposed compliance and performance monitoring in Shepherds Creek and Rise and Shine Creek to inform any need for additional augmentation to address any surface water flow reduction effects due to the BOGP.	None.
Groundwater Effects			
Groundwater inflows to surface mining pits and underground workings resulting in dewatering effects to aquatic features such as Shepherds Creek, Rise and Shine Creek, and springs / wetlands within the Rise and Shine Creek catchment area.	> Water conservation and water substitution to minimise groundwater taking; > Options to minimise effects on the Rise and Shine Creek wetlands such as: • Piping upstream water past SRX Open Pit so it does not get diverted into the pit; • Keeping the time the SRX Open Pit is open to the minimum possible; • Monitoring of effects; • Adaptive management; • Offsetting by increasing the area of wetland on the TSF or elsewhere; and • Rehabilitation of affected sections after mine closure.	Monitoring in accordance with the Water Management Plan which includes: > Flow rates within Shepherds Creek and Rise and Shine Creek; > RAS Underground tunnel drainage rates; and > Water levels and water quality in the RAS pit lake and surrounding groundwater. Future actions during mine closure: > Dewatering of the open pits ceasing at the conclusion of surface mining at the base of the ultimate pit. Formation of the RAS and	None.



Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
	The sealing of completed stopes with cement paste backfill to minimise any underground dewatering effects. Mine surveying will be undertaken to map the total extent of open drives and other workings, plus the progressive emplacement of cemented tailings in the wake of stope ore extraction.	SRX pit lakes to allow previous flow patterns to be progressively restored; > Maintaining the RAS pit lake level at 405 m asl with pumping / dewatering undertaken whilst underground mining at the RAS Underground continues; and > Rehabilitation of the RAS Underground portal area and any subsidence surface cracking following the completion of mining activities.	
Effects on surrounding groundwater users from proposed water abstraction at borefield in Bendigo Aquifer.	The water management system has been designed to augment the water requirements of the BOGP with mine-impacted water and mining affected stormwater. The sources of mining-impacted water would include open pit dewatering, underground mine water surplus, the Shepherds Silt Pond decant water and seepage collection sump and collected stormwater. The principal substitutions of water with mine-impacted water would include: > Dust suppression water; > Ore processing make-up water; and > Watering of plantings as part of landscape and rehabilitation activities). Conservation of water (where possible) to minimise the need to abstract water from the Bendigo borefield through: > The installation of efficient appliances and practices for high water use activities; > The planting of indigenous drought-resistant plantings in planted areas; > The collection of rainwater from roofs of structures (where appropriate) to water plantings; and > Reuse suitably clean grey water for appropriate water uses.	Regular review and validation of the water and load balance model for accurate representation of the operational conditions on site in accordance with the Water Management Plan. Monitoring as per the Water Management Plan which includes: > Monitoring of mine water pumping / extraction quantities to validate water balance model; > Metering of the rates and volume of water taken using the proposed production bore(s) at the Bendigo borefield; and > Groundwater level monitoring at the following locations: • The Bendigo borefield monitoring bore (CB13/0216); • An additional neighbouring bore (potentially G41/0263 but yet to be confirmed); and • ORC State of Environment monitoring bore (CB13/0159).	None.
Terrestrial Ecology and Wetland Effects			
Impacts to terrestrial habitats from vegetation clearance associated with the development of BOGP.	Adherence with the Habitat Impact Management Plan (provided in Part G of these application documents) which includes: > Further ecological assessments and surveys; > Protocols for effects avoidance and minimisation, including: • Pre-clearance - physical delineation of DDF, erosion and sediment control measures, threatened plant and fauna surveys and salvaging; and • During clearance – maintenance of physical delineation barriers and erosion and sediment control measures, salvage of vegetation, topsoil and habitat features for ecological restoration and enhancement, management of material stockpiles.	Monitoring as per the Habitat Impact Management Plan and Biodiversity Outcome Monitoring Plan (provided in Part G) which includes: > Baseline monitoring across the ecological rehabilitation and offset / compensation areas; > Establishment of 500 integrated terrestrial biodiversity monitoring stations; > Outcome monitoring of native terrestrial vegetation bio-indicators (within 10 x 10 m vegetation plots) on a five-year rotational cycle with 100 stations monitored each year; and	None.



Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
		> Annual compliance monitoring and reporting as part of the BOGP Annual Ecological Monitoring Report.	
Impacts to avifauna from vegetation clearance associated with the development of BOGP.	Adherence with the Avifauna Management Plan (provided in Part G of these application documents) which includes: > Pre-clearance bird nest surveys to confirm the presence of individuals; > Adherence to a nest protection protocol during peak bird breeding season during the months of September – January (inclusive); and > Protocols in the event of accidental bird injury/death or discovery of Threatened species. Habitat impact protocols to minimise the potential for effects outside the DDF (see above). Measures to insulate transmission lines, and to underground cabling where possible, and to deter falcon from collision with high fences and windows as set out in the Aurora Standards (AE-NR01-S).	Monitoring as per the Avifauna Management Plan and Biodiversity Outcome Monitoring Plan which includes: > Baseline monitoring across the ecological rehabilitation and offset / compensation areas; > Outcomes of nesting bird surveys, avoidance procedures and fledging success for recorded nests; > Establishment of 500 integrated terrestrial biodiversity monitoring stations; > Outcome monitoring for avifauna (annual 5-minute bird counts) will be undertaken on a five-year rotational cycle with 100 stations monitored each year; and > Annual compliance monitoring and reporting as part of the BOGP Annual Ecological Monitoring Report.	None.
Impacts to lizards from vegetation clearance associated with the development of BOGP.	Adherence with the Lizard Management Plan (provided in Part G of these application documents), which includes: > Salvage of lizards within the DDF prior to earthworks commencing; > Relocation of lizards to suitable habitat within the Ardgour Restoration Area; > Deployment of lizard habitat features in rehabilitated areas; and > Protocols in the event of accidental lizard injury/ death or discovery of Threatened species. Habitat impact protocols to minimise the potential for effects outside the DDF (see above). Measures to salvage and relocate lizard habitat features as set out in the LERMP.	Monitoring as per the Lizard Management Plan and Biodiversity Outcome Monitoring Plan which includes: > Baseline monitoring across the ecological rehabilitation and offset / compensation areas; > Outcomes of lizard salvaging; > Establishment of 500 integrated terrestrial biodiversity monitoring stations; > Outcome monitoring for lizards (checking of eight double layer Artificial Cover Objects) on a five-year rotational cycle with 100 stations monitored each year; and > Annual compliance monitoring and reporting as part of the BOGP Annual Ecological Monitoring Report.	None.
Impacts to terrestrial invertebrates during vegetation clearance associated with the development of BOGP.	Adherence with the Terrestrial Invertebrate Management Plan (provided in Part G of these application documents), which includes: > Pre-clearance habitat assessments; > Vegetation clearance protocols including salvage and relocation of target species; > Translocation of host plants from the DDF to nearby areas; > Minimisation of disturbance from artificial night-time lighting and accidental vegetation damage;	Monitoring as per the Terrestrial Invertebrate Management Plan and Biodiversity Outcome Monitoring Plan which includes: > Pre-clearance surveys of baseline populations on host plant and at release sites; > Monitoring for 5 years to measure salvage success and invertebrate colonisation success on translocated plants; and > Annual reporting on management results and compliance in the BOGP Annual Ecological Monitoring Report.	Captive breeding study / programme for the Threatened (Nationally Critical) moth <i>Sporophyla Oenspora</i> if additional specimens are found.

Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
	> Post mining salvage and relocation of the At-Risk (Declining) short-horned grasshopper <i>Phaulacridium otagoense</i> to rehabilitated areas; and > Adaptive management triggers.		
Disturbance of cushionfields and spring annuals and effects on associated species, including <i>Ceratocephala pungens</i> (Nationally Critical) and <i>Myosotis brevis</i> (Nationally Vulnerable).	Delaying mining within the CIT Open Pit until a net increase in <i>Ceratocephala pungens</i> (Nationally Critical) and <i>Myosotis brevis</i> (Nationally Vulnerable) relative to loss can be demonstrated via propagation and species recovery at offset / compensation sites, as informed by the Cushionfield ARP. The Cushionfield ARP includes the following proposed activities to propagate and aid species recovery: > Map cushionfields across the managed landscape to define distribution and confirm success criteria for condition of key cushionfield species; > Identify current pressures on cushionfield and best current management outcomes for cushionfield vegetation; > Identify areas where cushionfield could be most likely enhanced and develop a range of practical extensive and intensive interventions; > Develop methods for <i>raoulia</i> propagation and re-establishment; > Protect and replant genetically diverse kōwhai treeland and shrubland areas within cushionfield mosaic; and > Map, propagate and establish taramea herbfield at mined areas.	Annual monitoring of translocated plant health and natural recruitment in accordance with the Cushionfield ARP.	Implementation of the BOGP Biodiversity Fund to provide funds to the Department of Conservation to be used in the Dunstan Ecological District for the protection and enhancement of cushionfield habitat to the extent possible.
Competition of pest plant species with native species effecting rehabilitation success.	Implementation of the Biosecurity and Plant Pest Management Plan (provided in Part G of these application documents) which complies with the requirements of the Biosecurity Act 1993, Otago Regional Pest Management Plan 2019 and NZS 8409:2021 Management of Agrichemicals. This includes: > Biosecurity management of key contamination pathways (including material importation, equipment contamination and human-mediated spread; > Plant pest control of target species with zone-specific restoration objectives; and > Adaptive management triggers to respond to changing conditions, emerging threats, and technological advances.	Preparation of Annual Operational Plans that detail quarterly work schedules, site-specific treatments, compliance procedures and monitoring protocols. Monitoring of ‘Points of Interest’ where plant pest control work has been undertaken or plant pests are found as set out on the management plan. Annual reporting of biosecurity and plant pest control works undertaken within the Annual Ecological Monitoring Report.	None.
Presence of mammalian pest species effecting rehabilitation success of native species.	Implementation of the Mammalian Pests Management Plan (provided in Part G of these application documents) which complies with the Otago Regional Pest Management Plan 2019.	Monitoring of target pest species within the landscape control zones in accordance with the Mammalian Pests Management Plan. Annual reporting of mammalian pest monitoring data within the Annual Ecological Monitoring Report.	None.

Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
	The plan targets 13 mammalian pest species using evidence-based control methods within seven distinct landscape control zones across the proposed rehabilitation and enhancement areas surrounding the DDF.		
Loss of 607 hectares of variable quality habitat and associated species associated with the development of BOGP.	Ecological restoration and habitat enhancement of approximately 480 hectares in areas within the DDF in accordance with the LERMP. Implementation of extensive offsetting and compensation measures to address remaining residual adverse effects that are assessed as moderate or greater. This includes ecological restoration and habitat enhancement of approximately 2,219 hectares of habitat in the landscape surrounding the DDF in accordance with the LERMP (and associated MRZ Plan), the Ardgour Restoration Area Management Plan and the Matakanui Sanctuary Management Plan. Restoration and enhancement will comprise native regeneration and enrichment planting, translocation of locally extirpated (extinct) Threatened or At-Risk species, livestock and browser management, mammalian pest control, ecological weed control, and animal pest / predator exclusion via fencing.	Monitoring as per the Biodiversity Outcome Monitoring Plan (provided in Part G) which includes: > Baseline monitoring across the ecological rehabilitation and offset/compensation areas; > Establishment of 500 integrated terrestrial biodiversity monitoring stations; > Outcome monitoring of vegetation and species (within 10mx10m vegetation plots) will be undertaken on a five-year rotational cycle with 100 stations monitored each year; and > Annual compliance monitoring and reporting as part of the BOGP Annual Ecological Monitoring Report.	None.
Loss of 3.1 hectares of moderate to high value wetland habitat associated with the development of BOGP.	Remedy the loss of wetlands through the establishment of over 7.5 hectares of indigenous swamp / marsh wetland communities within the rehabilitated DDF.	Monitoring as per the Freshwater Ecology Management and Monitoring Plan (provided in Part G) which includes: > Riparian vegetation planting monitoring every six months in the year following planting by a suitably qualified person.	None.
Indirect impacts to 0.43 ha of wetland habitat within the Potential Dewatering Drawdown Zone.	Remedy indirect impacts to wetlands through the establishment of over 7.5 hectares of indigenous swamp / marsh wetland communities within the rehabilitated DDF. The augmentation of flows in Shepherds Creek and Rise and Shine Creek at locations upstream of the Project Site (via the proposed take from the Bendigo Aquifer).	Monitoring in accordance with the Water Management Plan (provided in Part G) which includes: > Flow rates within Shepherds Creek and Rise and Shine Creek; and > Groundwater quality and levels in the Shepherds Creek alluvium and Ardgour Valley Aquifer.	None.
Aquatic Ecology Effects			
Loss of watercourses within Shepherds Creek and Rise and Shine Creek due to establishment of mine components associated with the BOGP.	The creation of approximately 9,558 m of new rehabilitated stream diversions and the rehabilitation of an existing 1,196 m length within Shepherds Creek catchment as an appropriate remedy for the loss of sections of Shepherds Creek. The creation of approximately 1,600 m of new and enhanced rehabilitation stream diversions within the Rise and Shine Creek catchment as an appropriate remedy for the loss of sections of Rise and Shine Creek.	Monitoring as per the Freshwater Ecology Management and Monitoring Plan (provided in Part G) which includes: > Monitoring within stream diversions in Years 1, 2 and 5 post-construction to ensure ecological objectives are being met; and > Riparian vegetation planting monitoring every six months in the year following planting by a suitably qualified person.	Additional compensation is proposed in the form of management of existing willows and transformation to native riparian vegetation over some 6,700 m of Bendigo and Clearwater Creeks (Willow concession area).
Effects on stream flows from mine pit dewatering, loss of water in stream	Effects would be minimised and remedied through:	Monitoring in accordance with the Water Management Plan which includes:	None.



Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
diversions, and loss of flow via ephemeral streams.	> creation of diversions (see above) to capture flow from ephemeral streams and transfer it back into the creeks; > diversion of clean water around dewatering zones; > removal of irrigation abstraction from Shepherds Creek; and > restoration of creek network during closure.	> Flow rates within Shepherds Creek and Rise and Shine Creek; > RAS Underground tunnel drainage rates; and > Water levels in the RAS pit lake and surrounding groundwater.	
Surface Water Quality Effects			
Impacts to surface water quality from the discharge of mine impacted water during operations.	Water management system has been designed to divert clean water around the footprint of disturbed areas, and capture and maximise reuse of mine impacted water within site operations with minor discharges to adjacent waterbodies predicted to occur following treatment. Construction of the Shepherds Silt Pond and other water management infrastructure to capture mine impacted runoff and reduce sediment loads into receiving waters. The implementation of the Erosion and Sediment Control Management Plan during construction activities in accordance with the following guidelines: > Auckland Council (2016), <i>Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region</i>; > International Erosion Control Association (2018), <i>Best Practice Erosion and Sediment Control</i>; > NZTA (2014), <i>Erosion and Sediment Control guidelines for State Highway Infrastructure</i>; and > Otago Regional Council (2023), <i>Residential Earthworks in Otago, A guide for developers, landowners, contractors, and service providers</i>.	Prepare and adhere to comprehensive Site-Specific Erosion and Sediment Control Plans for key operational areas where earthworks are proposed in accordance with the Erosion and Sediment Control Management guidelines. Regular visual monitoring of the site and maintenance of controls as per the Erosion and Sediment Control Management Plan. Progressive rehabilitation of disturbed areas. Routine water quality sampling in accordance with the Water Management Plan.	None.
Impacts to surface water quality from the discharge of mine impacted water during closure.	Design of ELFs to limit sulphide mineral oxidation (see Environmental Chemistry section below). Maintain water quality of Shepherds Creek and groundwater within the compliance limits identified by Ryder (2025) which consider relevant aquatic guidelines and human consumption aesthetic guideline values. These include: > Australia and New Zealand Guidelines (ANZG) for fresh and marine water quality (2018) default guideline values; > 2020 National Policy Statement for Freshwater Management attribute states; > The New Zealand Drinking Water Standards (2022); and > 2022 Aesthetic Values for Drinking Water Notice.	Monitoring as per the Water Management Plan which includes: > Flow and solute monitoring within Shepherds Creek; and > Sampling and analysis of groundwater water quality down gradient of the existing groundwater monitoring bores. Rehabilitation activities associated with mine closure (see Landscape, Natural Character and Visual Amenity section below).	MGL to identify appropriate water treatment options should elevated levels of sulphate be detected.
Groundwater Quality Effects			

Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
Infiltration of seepage from ELF into the underlying alluvial groundwater system which may result in elevated solute emissions accumulating in the flowing groundwater.	Design of ELFs to limit sulphide mineral oxidation (see Environmental Chemistry section below). Maintain water quality of Shepherds Creek, Rise and Shine Creek and groundwater monitoring bores within the compliance limits identified by Ryder (2025) which consider relevant aquatic guidelines and human consumption aesthetic guideline values. These include: > Australia and New Zealand Guidelines (ANZG) for fresh and marine water quality (2018) default guideline values; > 2020 National Policy Statement for Freshwater Management attribute states; > The New Zealand Drinking Water Standards (2022); and > 2022 Aesthetic Values for Drinking Water Notice.	Monitoring as per the Water Management Plan which includes: > Seepage water quality; and > Sampling and analysis of water quality of the groundwater at the down gradient groundwater monitoring bores.	MGL to identify appropriate water treatment options should elevated levels of sulphate be detected.

Landscape, Natural Character and Visual Amenity

Landscape effects of various project components within the Project Site and on the broader Dunstan Mountains ONL.	A number of measures have been developed to avoid, remedy or mitigate actual or potential landscape and visual effects and are set out within the LERMP, and shown in the Landscape Mitigation Plan (appended to Boffa Miskell (2025)). These include: > The location of the process plant within the Shepherds Valley floor to minimise effects; > Delaying mining within the CIT Open Pit for at least five years until rehabilitation and translocation techniques for cushionfield and spring annuals are successfully developed; > Progressive capping and rehabilitation of the Shepherds ELF; > The progressive rehabilitation of proposed MRZs by enrichment and thickening of grey scrubland and tussock areas to connect Ardgour Conservation Area; > The enhancement of riparian margins of proposed diversion channels; > The establishment of a rough surface on proposed topsoil stockpiles through the Project Site during mining operations with vegetation and rock cover; and > Maintaining the visibility and integrity of Battery Hill (B10D) which is the high point within the Shepherds Valley area.	Post mining actions to reduce adverse effects of the BOGP include the rehabilitation of project components and substantial areas of ecological mitigation. These are set out within the LERMP, and shown in the Landscape Closure Plan (appended to Boffa Miskell (2025)), and include: > Removal of Ardgour Terrace Site activities (including temporary construction works accommodation infrastructure, topsoil stockpiles, magazine and emulsion facilities and aggregate pits) and the rehabilitation of land for rural agricultural activities; > Removal of processing plant and associated infrastructure at Shepherds Valley Site and establish constructed wetland; > Progressive rehabilitation of MRZs; > Filling of portals and access road to resemble existing landform and rehabilitation to mixed nature scrubland; > Fill edges around rim of the RAS Open Pit (pit lake to remain); > Partial rehabilitation of the SRX Open Pit (pit lake to remain); > Filling of CIT Open Pit to resemble original landform and rehabilitation of landcover; and > Capping and rehabilitation of ELFs and TSF, with dam crest of Shepherds ELF to be covered to remove linear form. Ongoing annual monitoring of rehabilitation is proposed. Monitoring requirements will be captured in detailed monitoring programmes which will be developed for each stage of extraction activity.	None.
---	---	---	-------



Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
Visual amenity effects of project components within the Project Site on public views.	The implementation of the LERMP and Landscape Mitigation Plan (see landscape effects section above).	Post mining rehabilitation measures for the visible project elements in accordance with the LERMP, including: > Removal of processing plant and associated infrastructure; > Removal of proposed topsoil stockpile at Battery Hill; > Rehabilitation of the edges of the RAS Open Pit to soften adverse visual effects; and > Earthworks and establishment of vegetation to integrate the ELF's, CIT Open Pit and ore stockpiles into the surrounding landform.	None.
Natural character effects on Shepherds Creek and Rise and Shine Creek and tributaries.	Maintain freshwater flows during mining activities through the construction of clean water diversion channels. The enhancement of riparian margins along established clean water diversion channels.	Post mining rehabilitation measures of project elements within Shepherds Creek catchment as set out in the LERMP, including: > The rehabilitation of the TSF; > The removal of processing plant and associated infrastructure; > The establishment of three constructed wetlands; and > The partial decommissioning of diversion channels on the upper slopes of Mount Moka.	None.
Geotechnical Matters and Natural Hazards			
Failure of the TSF because of seismic activity.	Detailed design of the TSF is to adopt the recommended design spectra in the Site-Specific Seismic Hazard Assessment provided in EGL (2025a).	None.	None.
Effects on people and environment associated with instability of ELF's.	Implementation of the Engineered Landform Management Plan during detailed design, construction, operation and closure of the BOGP.	Implementation of the following as per the Engineered Landform Management Plan: > Specific detailed design for each ELF, including construction monitoring and inspection schedules with records kept; > Recording of material volume, tonnage and locations using the material classifications in Section 5.2 of the Engineered Landform Management Plan; > Undertaking monthly surveys of stockpiles or surfaces; and > Maintenance of running surfaces, drainage and sumps.	None.
Geochemistry			
Potential effects / risks to groundwater and surface water associated with NMD from the ELF's.	Implementation of the Engineered Landform Management Plan to manage waste rock within the ELF's in order to limit sulphide mineral oxidation, which includes: > Appropriate foundation earthworks; > Clean water management;	Preparation and implementation of a Water Management Plan which includes compliance and performance monitoring and adaptive management processes to identify and manage NMD hazards.	None.



Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
	> Management of material types and sizes; > Use of low lift heights to prevent grainsize segregation; > Encapsulation of reactive sulphide-rich materials with low-risk materials; > Consideration of cover systems; and > Progressive rehabilitation of each lift after its completion.	Implementation of the following as per the Engineered Landform Management Plan: > Specific detailed design for each ELF which will include construction monitoring and inspection schedules with records kept; > Recording of the material volume, tonnage and locations using the material classifications in Section 5.2 the Engineered Landform Management Plan; > The undertaking of monthly surveys of stockpiles or surfaces; and > Maintenance of running surfaces, drainage and sumps.	
Water Quality			
Effects on surface waters with freshwater ecological values.	Maintain water quality within the compliance limits identified by Ryder (2025) which consider relevant aquatic guidelines and human consumption aesthetic guideline values. These include: > Australia and New Zealand Guidelines (ANZG) for fresh and marine water quality (2018) default guideline values; > 2020 National Policy Statement for Freshwater Management attribute states; > The New Zealand Drinking Water Standards (2022); and > 2022 Aesthetic Values for Drinking Water Notice.	Surface water monitoring in accordance with the Water Management Plan using adopted water quality compliance limits.	None.
Noise and Vibration			
Excessive noise creating nuisance impacts.	Compliance with <i>New Zealand Standard NZS 6803:1999 “Acoustics - Construction Noise”</i> for construction noise. Mining activities shall be conducted such that the following noise limits are not exceeded within the notional boundary of any dwelling: > Daytime (0700 to 2200 hrs), 55 dB L_{Aeq}; and > Night-time (2200 to 0700 hrs) 40 dB L_{Aeq} and 75 dB L_{AFmax} Implementation of the NVMP, which includes: > Maintenance of working surfaces (roads and work areas) to ensure they are free of potholes and undulations to minimise vehicle noise and vibration; > Maintenance of all equipment to reduce noise and vibration levels; > Establishment of a complaints register; and > Induction training of all staff.	Noise monitoring at weekly intervals during construction and six-monthly during mining operations in accordance with the NVMP.	None.

Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
Effects of vibration on amenity values during blasting activities.	For all blasting associated with the establishment of portals and underground tunnels, noise and vibration limits measured at the notional boundary of the nearest rural dwelling of: > Appropriate blasting noise (airblast) limits of 115 dB Lz peak and vibration limits of 5 mm/s for the ‘human comfort’ of nearest residents; and > Blasting managed to ensure that in any calendar year, 95% of airblast levels do not exceed 115 dB Lz peak, with a maximum of 120 dB Lz peak, when applied at any point within the notional boundary of any rural dwelling. Implementation of the NVMP, which includes: > Maintenance of working surfaces (roads and work areas) to address any potholes and undulations that develop to minimise vehicle noise and vibration effects; > Maintenance of all equipment to reduce noise and vibration levels; > Establishment of a complaints register; and > Induction training of all staff.	Vibration monitoring during blasting activities in accordance with the NVMP.	None.
Transportation			
Increased turning movements at the SH8 / Ardgour Road intersection affecting the safe and efficient operation of the intersection.	Safety improvements at the SH8 / Ardgour Road intersection including: > The installation of a 3.5 m wide right turn bay on SH8; > Reprofilng of existing roadside barrier on Ardgour Road to follow the new road edge alignment; > The widening of SH8 road carriageway and provision of 1.5 m wide road shoulders; and > New pavement marking and give way controls.	Detailed design will require a Safe System Audit and consideration of the need for flag lighting at the intersection.	None.
Partial closure of Thomson Gorge Road through Project Site affecting public access.	The realignment of the western portion of Thomson Gorge Road between the Ardgour Terrace and Thomsons Saddle – referred to as Ardgour Rise – which will be a 4WD gravel track approximately 4 m wide. Design will be to a standard which provides a comparable level of public access to the Dunstan Mountains and will be vested with CODC to operate and maintain upon completion.	Detailed design to identify any ongoing maintenance requirements for the Ardgour Rise road.	None.
Safety effects from increased traffic on Thomson Gorge Road and Ardgour Road.	Implementation of a Project Traffic Management Plan (“PTMP”), which includes the following measures: > Site access arrangements; > Travel route restrictions; > Traffic volume details to be provided; > Specific requirements for over-weight and over-dimension loads; and > All drivers to be subject to a Driver’s Code of Practice; and	Establish a community liaison group to provide feedback on the effectiveness of the PTMP and provide project updates. Updates to the PTMP to be notified electronically to relevant groups / agencies. Monitoring of edge break and road pavement performance as per the PTMP. Monitoring of vehicles movements and reporting to CODC on a quarterly basis during construction (once vehicles exceed 50 movements per day) and annually thereafter.	None.



Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
	> Road improvements which includes upgrade of Thomson Gorge Road between the intersection with Ardgour Road and the proposed new site access road (on the Ardgour Station) to establish a two-way sealed carriageway. Prior to completion of the improvement works, some temporary traffic management controls will be required.	Detailed design of the Thomas Gorge Road upgrades will require geotechnical investigations. Advertising of oversize load movements or temporary road closures through local media sources.	
Unauthorised use of Matilda Rise / Bendigo Loop Road by BOGP vehicles affecting road condition, performance and safety.	Implementation of the PTMP which includes the following measures: > Driver's Code of Practice that requires all vehicles to use Ardgour Road and Thomson Gorge Road to access the Project Site (and not Matilda Rise / Bendigo Loop Road); > Install additional signage at each end of Matilda Rise to notify drivers that the road is not to be used by vehicles for access to the Project Site (unless exceptions apply).	Monitoring of vehicle movements and reporting to CODC.	None.
Potential effects on the safe, efficient and effective functioning of the transport network during construction of road upgrades.	Implementation of an Access Road Construction Traffic Management Plan ("CTMP"), which aims to manage construction impacts to: > Ensure safety; > Minimise disruption; > Manage vehicle movements; > Ensure regulatory compliance; > Promote effective communication; and > Support project efficiency.	Monitoring in accordance with the CTMP which includes: > Routine site inspections of traffic management measures; and > Recording of inspections, incidents, complaints and any corrective actions.	None.
Lighting			
Lighting impacts on neighbours due to light spill from exterior lighting.	The temporary construction workers accommodation and wider Ardgour Terrace Site will generally utilise discrete and low output building mounted lighting, supported by bollards (or similar) if / where required for safe orientation around the site. Uncontrolled floodlighting will not be used. Incorporate lighting controls to enable lighting to switch-off or operate at a reduced output after normal operating hours and / or in combination with motion sensors to ensure lighting is only used where required in occupied areas. Ensure light fitting specifications with the operational mining areas (including processing plant and supporting infrastructure areas) and haul roads comply with the District Plan requirements, and mobile lighting rigs will be customised or retrofitted with optically controlled light fittings. Lighting specifications shall generally include a light source with a colour temperature of 3000K. Only utilise light fittings using LED light sources.	The detailed design will identify locations where more intensive lighting is required for safe operation when undertaking specific tasks such as plant maintenance or drilling.	None.



Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
Upward spill light towards the night sky from exterior lighting.	Light fittings will generally be directed and shielded to minimise upward light into the sky.	None.	None.
Contaminated Land			
Disturbance of contaminants (particularly arsenic) in shallow soils.	Implementation of a Soil Management Plan, which aims to manage arsenic-rich soils and cadmium bearing soils present within the Project Site through: > Targeted field sampling to further delineate the locations of arsenic-rich soils; > Removal of arsenic-rich soils from disturbance areas; > Temporary stockpiling for later reuse in the rehabilitation of areas where the soils originated or other areas with naturally elevated levels of arsenic; > Segregation from non-bearing soils in designated stockpile area; and > Dust and erosion management during stockpiling.	Routine inspections of stockpiles and management measures performance. Validation sampling of the ground surface once stockpiles are removed to ensure arsenic concentrations are below the performance criteria set in the Soil Management Plan.	None.
Hazardous Substances			
Risk to ecosystems from a spill of diesel during tank filling or equipment refuelling and from a spill of packaged goods during unloading to site.	All hazardous substances will be stored in approved and bunded containment in accordance with the relevant New Zealand Standards and Codes of Practice and the Hazardous Substances and New Organisms Act 1996 and Regulations. Management controls are set out in the Hazardous Substances Environmental Management Plan.	Monitoring, review and auditing of the Hazardous Substances Environmental Management Plan will be undertaken on a regular basis.	None.
Spill of the ecotoxic liquid hazardous substances stored and used at the processing plant and WTP (in closure), which includes diesel, corrosive substances (hydrochloric acid, caustic soda), oxidisers (hydrogen peroxide), cyanide and mercury.	All hazardous substances will be stored in approved and bunded containment in accordance with the relevant New Zealand Standards and Codes of Practice and the Hazardous Substances and New Organisms Act 1996 and Regulations. Management controls are set out in the Hazardous Substances Environmental Management Plan.	Monitoring, review and auditing of the Hazardous Substances Environmental Management Plan will be undertaken on a regular basis.	None.
Storage of explosives resulting in risks to the environment and public safety.	All emulsion explosives and detonator boosters will be stored, secured and separated in approved storage facilities in accordance with the Health and Safety at Work (Hazardous Substances) Regulations 2017. Management controls are set out in the Hazardous Substances Environmental Management Plan.	Monitoring, review and auditing of the Hazardous Substances Environmental Management Plan will be undertaken on a regular basis.	None.
Dust and Air Quality			
Dust discharge affecting the amenity of surrounding neighbours.	Implementation of the Air Quality Management Plan, which includes the following measures: > Dust suppression of haul roads and construction surfaces by water application;	An ambient air quality monitoring programme as set out in the Air Quality Management Plan, which includes the use of:	None.



Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
	> Minimising drop heights from excavators and dump trucks; and > Limiting certain activities during conditions susceptible to dust generation. This includes when windspeeds are greater than 7.5 m/s and toward sensitive receptors within 500 m of the site boundary and when dust is visibly blowing over the Project Site boundaries.	> Two real time particulate (PM₁₀) monitoring sites; > Five dust deposition gauges; and > Daily visual monitoring. Collection of wind data at four meteorological monitoring sites in accordance with the Air Quality Management Plan.	
Emissions of metals to air from processing plant as a result of ore processing.	Implementation of the Air Quality Management Plan and the proposed conditions which include the following requirements for the processing plant: > Maintaining pH greater than 10.5 in wet chemistry vessels to eliminate hydrogen cyanide gas; > Capture and discharge induction furnace exhaust via a 15 m stack; and > The particulate filtration of induction furnace exhaust flows.	Continuous monitoring of gaseous air and particulate contaminants from the processing plant in accordance with the Air Quality Management Plan.	None.
Historic Heritage and Archaeological Effects			
Full or major removal of 22 identified archaeological sites.⁷¹ (refer to Section 6.19 of this report for details on these sites).	A general Heritage NZ Archaeological Authority will be applied for under Section 44 of the HNZPT Act to cover all aspects of the BOGP. The implementation of an Archaeological and Heritage Management Plan to manage potential archaeological / heritage effects (provided in Part G), which will include: > The recording of any archaeological features or deposits encountered, and all structures, within the identified archaeological sites in accordance with current best practice, > Photographing the five identified stone huts and stone-faced dam to produce digital 3D models; > The spatial mapping of all archaeological features and structures within the Project Site; > The presence of an archaeologist during vegetation removal within proximity to archaeological sites, excavations within site extents and during the recording of archaeological sites; and > The retention of stone from affected hut dam sites for future reuse in landscaping.	Monitoring will be undertaken as required by the Heritage NZ Archaeological Authority, and in accordance with the proposed Archaeological and Heritage Management Plan.	MGL has agreed to undertake several activities to improve access to, and preserve, heritage sites outside the Project Site to offset effects on heritage within the Project Site, including: > Willow management along Clearwater Creek, to the southwest of the Come-in-Time Battery site (G41/251); > Funding the restoration of a damaged retaining wall within site G41/251; > The establishment of an alternative marked walking route to the Come-in-Time Battery Site; and > Funding and assisting with the stabilisation of a stone retaining wall associated with the refurbished Come-in-Time Battery (G41/251).⁷² MGL is also proposing a BOGP Biodiversity and Heritage Enhancement Fund to

⁷¹ G41/6 (water race); G41/264 (Rise and Shine Creek gold working); G41/265 (Rise and Shine Creek stone hut); G41/266 (Rise and Shine Creek stone hut); G41/267 (Rise and Shine Creek stone hut); G41/269 (Rise and Shine Creek Dam); G41/273 (Stone hut); G41/277 (Rise and Shine Mine and Battery); G41/589 (revetted road); G41/604 (Gold working); G41/605 (Gold working); G41/606 (Stone hut); G41/658 (Hut terrace); G41/782 (Matakanui-Bendigo Road); G41/783 (track); G41/784 (Hut site); G41/785 (Hut site); G41/786 (Hut terrace); G41/787 (tailings); G41/788 (tailings); G41/789 (Sluicing); and G41/790 (Water race).

⁷² This work will be undertaken alongside the Otago Goldfields Heritage Trust and will be subject to a separate archaeological authority and necessary approval from the Department of Conservation if required.



Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
			enhance heritage values outside of the BOGP Consent Area within Central Otago.
Minor effects (partial removal or modification) to the following archaeological sites: > G41/251 (Come-in-Time Battery); > G41/256 (Gold working); > G41/584 (Rise and Shine water race); and > G41/586 (Come-in-Time water race).	A general Heritage NZ Archaeological Authority will be applied for under Section 44 of the HNZPT Act to cover all aspects of the BOGP. The implementation of an Archaeological and Heritage Management Plan to manage potential archaeological / heritage effects, which will include: > Clearly marking the points at which sites G41/584 and G41/586 enter the Project Site with semi-permanent fencing; > The recording of any archaeological features or deposits encountered (including the affected parts of water races G41/584 and G41/586 and all structures within G41/256) to current best practice; and > The presence of an archaeologist during vegetation removal within proximity to archaeological sites, excavations within site extents and during the recording of archaeological sites.	Monitoring will be undertaken as required by the Heritage NZ Archaeological Authority, and in accordance with the proposed Archaeological and Heritage Management Plan.	None.
Accidental effects to archaeological sites in close proximity to the Project Site that have been identified as being protected, including: > G41/4 (Rabbitier's Hut); > G41/5 (Stock Yards); > G41/270 (Rise and Shine Creek historic-domestic); > G41/271 (Rise and Shine Creek historic-domestic); > G41/272 (Rise and Shine Creek historic-domestic); > G41/274 (Rise and Shine Creek historic-domestic); > G41/585 (Mining gold); > G41/587 (Timber milling); and > G41/588 (artefact find).	The implementation of an Archaeological and Heritage Management Plan to manage potential archaeological / heritage effects, which will include: > Clearly marking the boundaries of all sites with semi-permanent waratahs and bunting prior to works commencing; > Establishing a 5 m buffer around site G41/4 (Rabbitier's Hut) prior to works commencing using semi-permanent fencing; and > No works to occur, or topsoil stored, within the existing fenced enclosure for site G41/5 (Stock Yards). > No earthworks to be undertaken outside the footprint shown in Figure 1 of the Heritage Assessment, and no topsoil will be stored within 10m of any previously recorded heritage site or those additional POI identified by NZHP. > Boundaries of Sites G41/270, G41/271, G41/272, G41/274, G41/275, G41/276, G41/585, G41/587 and G41/588 must be clearly marked with semi-permanent fencing such as waratahs with bunting.	Annual inspections of each location by an archaeologist to ensure boundaries remain clearly marked and no further damage has occurred Annual inspections of each hut by an archaeologist to ensure no damage has occurred and allow for identification of any required remedial work to maintain the hut. Annual inspections of stockyards by an archaeologist to ensure they remain in a stable condition. Annual inspections of the portions of the CIT Battery (G41/251) that fall outside the project footprint to ensure site condition remains stable. Annual condition assessments must be undertaken of Sites G41/270, G41/271, G41/272, G41/274, G41/275, G41/276, G41/585, G41/587 and G41/588 to ensure their condition remains stable. Should any damage or significant change in condition be identified during the annual site inspections, HNZPT must be notified immediately and a course of action agreed upon between MGL, the s45 approved person, and HNZPT.	None.
Removal of main walking track from Thomson Gorge Road to the historic Come-in-Time Battery (G41/251).	MGL will relocate access to the Come-in-Time Battery via a new marked route west of the battery location, which will be accessed via Blue Mines Road (noting the alignment is indicative and subject to refinement).	None.	None.

Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
	The clearance of any vegetation required to establish the new marked route to the Come-in-Time Battery will be undertaken using hand tools (e.g. brush cutters, loppers) to avoid impacting any unidentified heritage sites.		
Accidental discovery of unknown historical and archaeological items and material.	If archaeological material (including that of māori origin) is uncovered, all works will cease immediately within a 10 m vicinity of the find and the 'On Call Protocol' will be followed in accordance with the Archaeological and Heritage Management Plan.	All contractors briefed on the 'On Call Protocol' for accidental discovery of archaeological materials / human remains in accordance with the Archaeological and Heritage Management Plan.	None.
Accidental discovery of kōiwi tangata (human remains).	If kōiwi takata (human remains) are encountered, all work will cease immediately within a 25 m vicinity of the remains and the 'On Call Protocol' followed in accordance with the Archaeological and Heritage Management Plan. The Ngāi Tahu policy for kōiwi takata shall also be followed (Te Rūnanga o Ngāi Tahu, 2019).	All contractors briefed on the 'On Call Protocol' for accidental discovery of archaeological materials / human remains in accordance with the Archaeological and Heritage Management Plan.	None.
Public Access and Recreation			
Loss of access along Thomson Gorge Road, and access to the Come-in-Time Battery.	Establish Ardgour Rise as an alternative to Thomson Gorge Road to a standard suitable for public access (including appropriate road surfacing and width, design speed, gradient, road reserve, signage, safety features, and future maintenance requirements) and vesting in the CODC. Provide a viewing area of the mining operations from Ardgour Rise, with suitable interpretation about the project (in the same style as that currently provided for the Come-in-Time Battery). Maintain existing recreation access to the Ardgour and Bendigo Conservation Areas. Provide alternative walking access to the Come-in-Time Battery via the Bendigo Historic Reserve (refer to historic heritage and archaeological effects section above).	The restoration of pedestrian, cycle and equestrian access along Thomson Gorge Road alignment (as close as possible) following the completion of mining activities. Public vehicle access will continue to be provided along Ardgour Rise.	None.
Effects on public recreation activities (e.g. walking, hunting and biking) resulting from noise, blasting, lighting and traffic associated with mining operations at the Project Site.	Consideration of cycle traffic on Ardgour Rise in the Project Traffic Management Plan. Management of light, noise and blasting as per the Noise and Vibration Management Plan and proposed lighting measures (see lighting section above).	None.	None.
Post-Closure Effects			
Landscape changes as a result of mining being unsuitable for post mining land use.	Closure outcomes for the BOGP are summarised below: > Safety hazards have been appropriately managed, and effective controls are in place; > Key heritage values have been protected during closure implementation; > All infrastructure not required to support post mining land use(s) has been removed and appropriately disposed; > Contamination caused by the operation is appropriately remediated or managed;	Measures as per the LERMP: > CIT Open Pit to be backfilled to near-natural landforms as mining is completed; > Complete pit edge and pit batter rehabilitation as mining progresses and pit haul road rehabilitation as pits finish (e.g., RAS, and SRX pits); > Complete TSF, Shepherds ELF, and stockpile rehabilitation;	None.



Actual or Potential Effects	Recommended Mitigation / Management	Recommended Monitoring / Future Action	Additional Measures Proposed by MGL
	> The final landform is geotechnically stable; > Disturbed areas have been appropriately revegetated in accordance with the consent conditions; > Water quality and hydrological function meet agreed parameters, and the final landform integrates appropriate surface water management controls; > Pit lakes have developed in line with modelled parameters, as demonstrated through model calibration; > A strategy has been implemented that manages impacts of closure on the workforce; and > Closure implementation is to the satisfaction of key stakeholders, enabling relinquishment of tenure and associated obligations held by MGL.	> Disestablish temporary Site Workers Camp and return to agricultural use and remove remaining temporary infrastructure; > Create rock stacks, rubble pits and habitat features; > Plant native vegetation across all completed landforms; > Establish permanent watercourses; > Establish long-term management systems; > Reinstate walking access through Rise and Shrine Creek; > Annual monitoring and reporting; > Maintenance of all areas; and > Adapt management based on results of monitoring.	
Risk of MGL defaulting on its obligations.	The combination of the Mine Closure Plan provided in MCM (2025) and the bond ensures that rehabilitation and closure of the Project Site will occur under all circumstances, and that the costs associated with both the rehabilitation of the land and its long-term management will be met.	None.	None.