MATAKANUI

GOLD LIMITED

Engineered Landform Management Plan

DOCUMENT CONTROL

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1. INTRODUCTION

1.1. Purpose

The purpose of the Bendigo-Ophir Gold Project (BOGP) Engineered Landform Management Plan (ELFMP) is to guide the development of safe, stable, and sustainable Engineered Landforms (ELFs) that protect both people and the environment.

This plan is a living document, evolving throughout the life of the BOGP to reflect changes in ELF risk, design assumptions, and operational knowledge. It incorporates adaptive management, supported by performance monitoring and regular review.

This plan outlines key elements of the ELF management system at the BOGP including:

- ELF engineering design, construction, final slope preparation and closure of these facilities.
- ELF geochemical controls to minimise effects on receiving waters due to mine impacted waters (MIW) from these facilities.

1.2. Key Environmental Factors

Key environmental factors that have been identified through various technical studies are the protection of people and the environment from potential adverse water quality effects, long term landform stability, and ecological rehabilitation outcomes associated with ELF construction and closure.

ELF construction activity also involves aspects of noise, air quality, lighting, water, and erosion and sediment control management.

1.3. Project Description

The BOGP site is located approximately 20 km northeast of Cromwell in the Dunstan Mountains of Central Otago New Zealand, within the Central Otago District Council (CODC) and Otago Regional Council (ORC).

Gold mineralization is associated with the Rise and Shine Shear Zone (RSSZ), a late metamorphic deformation zone developed within Textural Zone 4 (TZ4) Schist. The upper part of the RSSZ is truncated by a shallow northeast dipping normal fault, the Thomson Gorge Fault (TGF), which juxtaposes RSSZ and TZ4 Schist against overlying unmineralized Textural Zone 3 (TZ3) Schist.

Four gold deposits have been identified within the project area. The Rise and Shine (RAS) and Come in Time (CIT) gold deposits are located within a ridge between Shepherds Creek

to the northeast and Rise and Shine Creek to the southwest. The Srex (SRX) and Srex East (SRXE) gold deposits are located on the southern slopes of Rise and Shine Valley. Water courses flow from a divide in the southeast to outlets in the northwest.

The BOGP involves mining the four identified gold deposits utilising both open pit and underground mining methods. Infrastructure to support the project will be constructed in the lower Shepherds Creek Valley with non-operational infrastructure located on the adjoining Ardgour Terrace. The BOGP also involves taking groundwater from the Bendigo Aquifer for use in mining-related activities and the realignment of Thomson Gorge Road via Ardgour Station.

Four ELFs are proposed as shown in Figure 1:

- Shepherds Engineered Landform (Shepherds ELF);
- Srex Engineered Landform (SRX ELF);
- Come in Time Pit Backfill (CITBF); and
- Western Engineered Landform (WELF).

The CITBF and ELFs are formed from waste rock and are managed under this plan. For simplicity where ELF is referred to in this management plan, this also refers to the CITBF.

The ELFs will have associated infrastructure and stockpiles including topsoil stockpiles, water diversion channels, sumps, silt ponds, and access tracks. This management plan includes these items where they relate to the ELFs.

The ELFs shall be designed, constructed, monitored, and rehabilitated in accordance with all the approved management plans within the environmental management system.

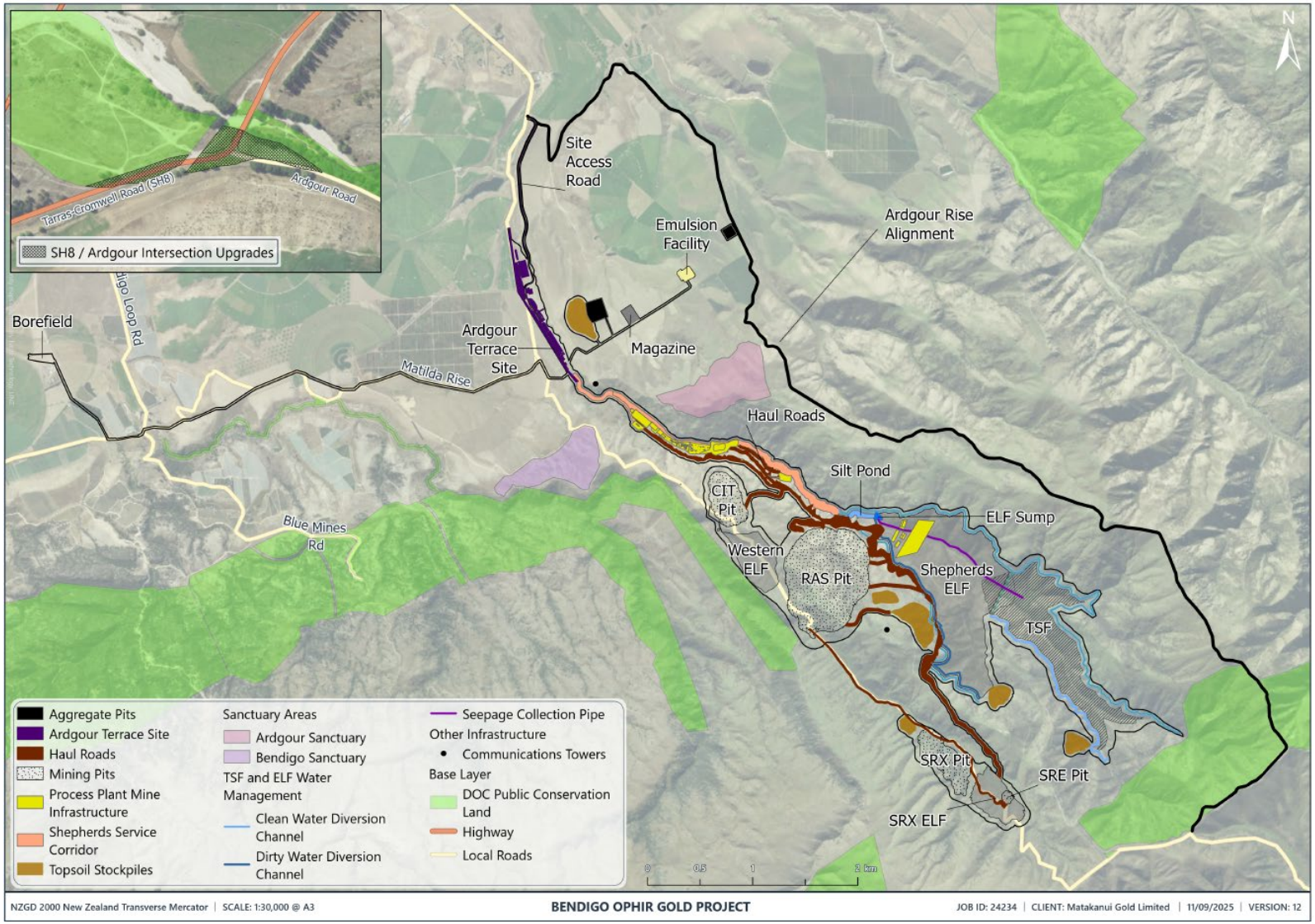

Figure 1: Bendigo-Ophir Gold Project and Supporting Infrastructure

1.4. Relationship with other Management Plans

Within the ELF Management Plan (ELFMP), specific reference is made to the following management plans:

- Erosion and Sediment Control Management Plan (ESCMP)
- Water Management Plan (WMP)
- Soil Management Plan (SMP)
- Landscape and Ecological Rehabilitation Plan (LERMP)

The ELFs shall be designed, constructed, monitored, and rehabilitated in accordance with all BOGP approved management plans.

2. MANAGEMENT OBJECTIVES

2.1. Key Objectives

The ELFMP for the BOGP sets out the framework to ensure ELFs are designed, constructed, and closed in a manner that is safe, stable, and environmentally responsible.

The key objectives of the ELFMP are to:

- Define roles and responsibilities for Matakanui Gold Limited (MGL) personnel to ensure effective implementation.
- Define the requirements to classify waste rock material used in ELF construction.
- Define various construction elements of ELF design.
- Define ELF design criteria and design documentation.
- Define ELF construction sequencing.
- Provide details of required ELF construction and performance monitoring.
- Define ELF reporting requirements.
- Provide a high-level risk assessment of environmental and geotechnical aspects associated with ELF construction.
- Establish a change management process for ELFMP updates and recertification.

2.2. Key Outcomes

Implementation of the ELFMP will result in the following outcomes:

- Identification and management of key risks associated with ELF construction and MIW that could impact water quality objectives during operation and closure.

- Development of a material classification and management process to ensure correct placement of all materials during ELF construction.
- Implementation of engineering design principles which minimise long-term geochemical risks and support closure water quality goals.
- Implementation of engineering design criteria which ensure long-term geotechnical stability.
- Establishment of performance monitoring to validate ELF design and construction effectiveness.
- Facilitation of a successful transition to closure, including meeting BOGP ecological rehabilitation and water quality compliance objectives for completed ELFs.

3. ROLES AND RESPONSIBILITIES

The key roles and responsibilities required to ensure the ELFs are designed, constructed, operated, and closed in accordance with the objectives of the ELFMP are summarised in Table 1.

Table 1: Roles and Responsibilities

Role	Responsibilities
General Manager	• Ensure protection of people and the environment • Oversee safe and stable ELFs during construction and closure • Ensure risks are managed
Environmental Manager	• Ensure compliance with ELF consent conditions • Ensure compliance to ELFMP requirements • Review and update of ELF Risk Register • Complete environmental monitoring • Complete Annual Work Plan reporting • Complete Annual Compliance reporting • Prepare individual ELF ecological rehabilitation plan
Technical Services Manager	• Review and update of ELF Risk Register • Classify gold (Au), arsenic (As) and sulfur (S) content within TZ3 and TZ4 Schist, and As content within Topsoil • Ensure individual ELF design achieves criteria documented in Table 5 • Prior to individual ELF construction, prepare design report, construction drawings, construction specifications, and construction inspection and

Role	Responsibilities
	monitoring requirements. Engage appropriate engineering expertise as required. Ensure approval by CPEng. • Prior to individual ELF construction, prepare Site Specific Erosion & Sediment Control Plan (SSESCP) • Implement periodic investigation and measurement of ELF construction performance associated with material classification, particle size segregation, oxygen ingress to ELFs and water ingress to ELFs • Implement ELF construction monitoring recordkeeping system • Ensure ELF final slope earthwork design is consistent with individual ELF ecological rehabilitation plans • Prepare individual ELF volume and tonnage for annual reporting • Prepare balance of Topsoil and Brown rock requirements and availability for final slope preparation to be summarised in annual reporting • Prepare individual ELF Completion Reports. Engage appropriate engineering expertise as required. Ensure approval by CPEng and suitability qualified and experienced practitioner (SQEP): geochemical specialist. • Implement mitigation strategies if ELF construction does not conform to design or where MIW performance monitoring does not conform to geochemical modelling predictions
Mining Manager	• Ensure individual ELF construction is completed in accordance with design drawings, specifications, inspection and monitoring schedules • Implement SSESCP associated with individual ELFs • Ensure ELF construction inspection and monitoring is completed • Ensure Topsoil recovery and stockpiling is implemented during stripping activities • Ensure Brown Rock recovery and stockpiling is implemented during excavation activities • Inspect and maintain ELF water diversion channels and sediment retention structures • Inspect and stabilise areas of erosion on ELF final surfaces • Ensure all ELF construction activities are performed in accordance with all relevant BOGP Health & Safety procedures and BOGP site management plans.

Role	Responsibilities
Suitably qualified and experienced practitioner (SQEP): geochemical specialist	• Review and approve As and S threshold values for material classification • Review and approve changes to maximum lift height within Bulk Fill Zones • Review and approve ELF design objectives associated with oxygen ingress, water ingress, and ELF derived MIW management • Annually review ELF derived MIW performance monitoring trends • Annually review ELF downgradient groundwater performance monitoring trends • Review and approve ELF Completion Reports for aspects associated with oxygen ingress, water ingress and ELF derived MIW management • Review and approve mitigation strategies for oxygen ingress, water ingress and ELF derived MIW management where construction does not conform to design, or where performance monitoring does not conform to geochemical modelling predictions
Chartered Professional Engineer (CPEng) experienced in geotechnical and civil engineering	• Review and approve individual ELF design report, construction drawings, specifications, and construction inspection and monitoring requirements. • Review and approve SSESCP • Review and approve changes to maximum lift height within Bulk Fill Zones • Review and approve ELF design criteria • Annually review individual ELF construction monitoring records • Review and approve ELF Completion Reports • Review and approve mitigation strategies where construction does not conform to design, or where performance monitoring does not conform to geochemical modelling predictions

4. MATERIAL CLASSIFICATION and SCHEDULING

4.1. Objective

Materials need to be classified at the point of excavation and managed within ELF construction to minimise the geochemical risks associated with MIW, ensure ELFs are constructed to be geotechnically stable, and to ensure final slopes are prepared to minimise erosion and are suitable for revegetation.

Materials are classified according to physical appearance, stratigraphic position, and chemical composition.

4.2. Materials Summary

Waste materials extracted from open pit and underground mining will be classified to ensure correct placement within ELFs and / or associated stockpiles. In summary, material classification shall define:

- Topsoil
  - Topsoil
  - As- Rich Topsoil
- Brown Rock
- TZ3 Schist
  - Low As, Low S
  - High As, Low S
  - Low As, High S
- TZ4 Schist

4.2.1. Top Soil

Topsoil is the uppermost layer of soil, rich in organic matter and nutrients essential for supporting plant growth and maintaining healthy ecosystems. During clearing and stripping activities, topsoil recovery shall be maximised.

Some areas of topsoil within the BOGP contain elevated concentrations of As (GRM, 2025) and recovered topsoil shall be classified according to As content (Table 2).

Table 2: Topsoil classification: Geochemical Threshold Values

Element	Threshold Value	
Arsenic (As)	<70 ppm	>70 ppm
	Topsoil	As-rich Topsoil

Systematic delineation of the location of As-rich soils shall be completed prior to clearing and stripping activities.

Topsoil (but not As-rich Topsoil) is classified as a material type within the BOGP resource Block model.

Topsoil will be taken directly from areas of stripping for placement on prepared final ELF slopes. Where prepared final ELF surfaces are not available at the time of stripping, Topsoil will be placed in clearly identified Topsoil stockpiles for later use.

For further details of Topsoil and As-rich Topsoil management, refer to the SMP.

4.2.2. Brown Rock

Brown Rock is weathered material that lies immediately below topsoil. Within the BOGP, brown rock is predominantly weathered TZ3 Schist but may include alluvium, colluvium and loess. Brown rock is characterised by the absence of sulphide minerals – any sulphide minerals present in the host lithology have been oxidized to oxide minerals. Brown Rock is of low geochemical risk.

Brown Rock is classified as a material type within the BOGP Resource block model.

Brown Rock will be taken directly from areas of excavation to designated locations within ELFs. Where designated locations within ELFs are not available at the time of excavation, Brown rock will be placed in clearly designated Brown Rock stockpiles for later use.

4.2.3. TZ3 Schist

TZ3 Schist is slightly weathered or unweathered rock that lies below brown rock and above the TGF. Within TZ3 Schist sulphide minerals are unoxidised. TZ3 is the most volumetrically significant rock type to be mined within open pits and the dominant rock type placed within ELFs.

Data indicates the oxidation of sulphide minerals from Schist rock will generate neutral metalliferous drainage ("NMD") which has potential to result in water with elevated potential constituents of concern (PCOC), including sulphate and arsenic (MWM, 2025b). Some TZ3 Schist are elevated in As and / or S compared to background levels and threshold values have been proposed to classify TZ3 Schist with regard to geochemical risk (Table 3).

Table 3: TZ3 Schist classification: Geochemical Threshold Values

Element	**Threshold Value**		
Arsenic (As)	<30 ppm As		>30 ppm As
	TZ3 Shist – Low As		TZ3 Schist – High As
Sulfur (S)	<0.02 wt% S	0.2 to 0.15 wt% S	>0.15 wt% S
	TZ3 Schist – Very Low S	TZ3 Schist - Low S	TZ3 Schist – High S

A systematic method of determining TZ3 Schist As and S content shall be undertaken and areas of High As and / or High S TZ3 Schist demarcated prior to excavation.

TZ3 Schist with High As and / or High S have increased geochemical risk. TZ3 Schist of Low As and Very Low S content has low geochemical risk. Data indicates the most volumetrically significant material class is TZ3 Schist of Low As and Low S content.

TZ3 Schist (but not the As and S content within TZ3 Schist) is classified as a material type within the BOGP Resource block model.

4.2.4. TZ4 Schist

TZ4 Schist lies beneath the TGF and is variably deformed and mineralised within the RSSZ. TZ4 Schist material with Au content above the economic cut-off is defined as Ore, will be treated within the Processing Plant and deposited within the Shepherds Tailings Storage Facility (TSF). TZ4 Schist with Au content below the economic cut-off (i.e., waste rock) will be placed within ELFs.

Data indicates the vast majority of TZ4 Schist within, or in close proximity to, the RSSZ is elevated in As and / or S content compared to background levels within TZ3 Schist (MWM, 2025b). Oxidation of sulphide minerals within TZ4 Schist will result in NMD to produce water with elevated PCOC, including sulphate and arsenic. All TZ4 Schist shall be considered as High As and / or High S material (i.e., material with increased geochemical risk) unless measured As and S contents are below threshold values of Table 3.

A systematic method of determining TZ4 Schist Au, As and S content shall be undertaken prior to excavation.

TZ4 Schist (including Au and As content, but not S content) is classified as a material type within the BOGP Resource block model.

4.2.5. Threshold Value Review

Periodic review of threshold values for As and S for waste material classification may be undertaken in response to the results of performance monitoring of ELF derived MIW. Performance monitoring sampling locations are provided in the WMP.

Proposed changes to As and S threshold values for waste material classification shall be reviewed and approved by a SQEP geochemical specialist before implementation.

4.2.6. Materials Schedule

As part of the BOGP mine plan waste materials shall be scheduled to the appropriate location in the ELFs and/or associated stockpiles.

Topsoil and Brown Rock are required for the rehabilitated surfaces of the ELFs. This requires sources to be identified in advance of mining and ELF developments. A balance of rehabilitation materials available and required upon closure shall be kept and reported annually.

5. ELF CONSTRUCTION ELEMENTS

5.1. Objectives

ELFs are to be designed and constructed to be geochemically and geotechnically stable. Various construction elements of ELF design and construction are illustrated in Figure 2 and described below.

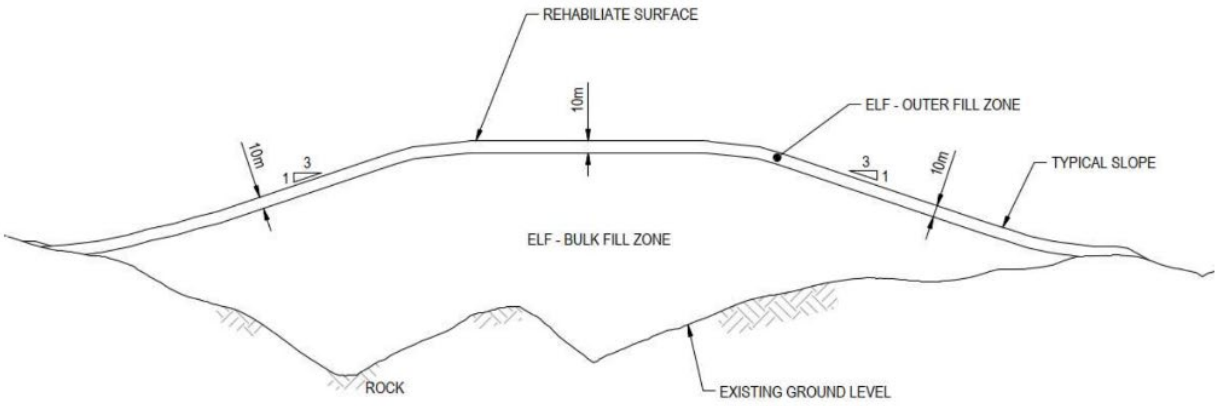

Figure 2: ELF construction elements

5.2. Foundations

ELF foundations shall have vegetation removed, topsoil stripped, and rock features suitable for rehabilitation structures recovered prior to waste material placement.

5.3. Base Layer

Where practicable, material of low geochemical risk should be placed immediately above foundations in a single layer up to 3 m thick to minimise PCOC mobilization due to basal seepage from natural springs, etc.

Where material cannot be directly placed on foundations, e.g., at the base of narrow gullies, and particle size segregation during construction cannot be adequately controlled, a low permeability toe bund may be used to reduce advective oxygen ingress along the base layer.

5.4. Bulk Fill Zones

The Bulk Fill Zone is the dominant element within ELF design and construction, and contains the bulk of material placed within an ELF. Material placed in Bulk Fill Zones should be placed to minimise the amount of particle size segregation during construction, achieved by using paddock tipping and dumping from tip heads with a total lift height of 6 m (Figure 3).

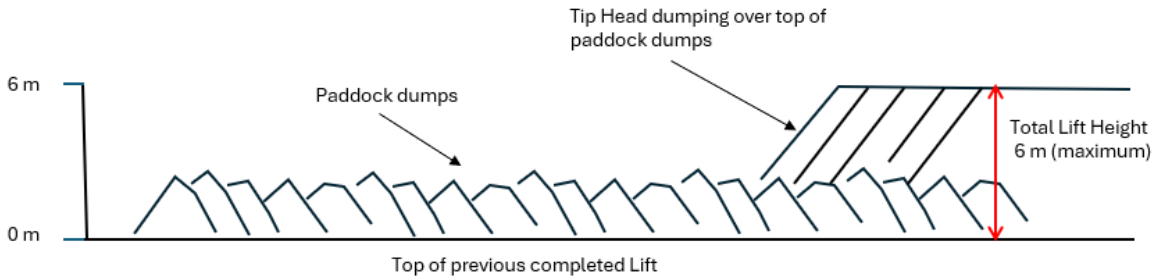

Figure 3: Lift height within Bulk Fill Zone

If positive results from field-based trials measuring the amount of particle size segregation and oxygen content within completed Bulk Fill Zones is demonstrated during initial ELF construction, maximum lift heights may be increased provided continued trials confirm suitable geochemical control is achieved. Proposed changes to lift height within Bulk Fill Zones must be reviewed and approved by both a SQEP geochemical specialist and a CPEng.

5.5. Outer Fill Zones

Where material is placed within 10 vertical m of the final surface, a reduced tiphead thickness is required to limit oxygen ingress via diffusion into the ELF. Outer Fill Zones should be paddock tipped, spread in layers and systematically truck compacted during subsequent layer construction. This will minimize the risks associated with horizontal ingress of oxygen by advective airflow.

5.6. Final Slopes

Final slopes will be shaped with a maximum slope of 1V:3H (or 18.4 degrees).

Placement of rehabilitation material (Topsoil, Brown Rock) on final ELF slopes will be consistent with Root Zone and Soil requirements of the LERMP.

5.7. Underdrainage

Subsurface drainage shall be installed (typically at the ELF toe) where required to adequately separate ELF seepage from surface water. Seepage drain outlets shall be constructed to avoid oxygen ingress into the ELF via seepage collection pipes.

5.8. Clean Water Diversion Channels

Clean water diversion channels minimise the amount of water interacting with ELFs by diverting upslope surface water run-off during precipitation events around the margins of the ELF.

5.9. Erosion & Sediment Control Structures

Surface water run-off from disturbed areas during ELF construction and ELF final slopes will be collected by dirty water channels and diverted to appropriately sized sediment retention structures (including silt ponds) consistent with the requirements of the ESCMP. Sediment retention structures on ELF surfaces shall be earth lined with 1×10^{-7} m/s permeability material to minimise seepage into the ELF.

5.10. Material Placement Versus ELF Construction Element

Waste material selection and placement within various ELF construction elements will be managed based on physical and geochemical characteristics. Material classification versus ELF construction element is detailed in Table 4.

Table 4: Material Classification versus ELF Construction Element

Material Classification	ELF Construction Element				
	Final Slope		Outer Fill Zone	Bulk Fill Zone	Base layer
	Topsoil	*Root Zone*			
Topsoil	**XXX**				
As-Rich Topsoil	**XXX**				
Brown Rock		**XXX**			**X**
TZ3 – Very Low S, Low As			**X**		**XXX**
TZ 3 – Low S, Low As			**XXX**	**X**	**X**
TZ3 – High S, Low As				**XXX**	
TZ3 – Very Low S, High As				**XXX**	
TZ3 – Low S, High As				**XXX**	
TZ3 – High S, High As				**XXX**	
TZ4				**XXX**	

XXX indicates priority placement position; **X** indicates secondary placement position where material supply exceeds requirements; blank space indicates material classification not suitable for construction element.

6. ELF DESIGN

6.1. Objective

ELF designs shall achieve the design objective of Table 5 unless the risk can be demonstrated to be accepted, and design objective reviewed and approved by a CPEng and SQEP geochemical specialist.

Table 5: ELF Design Criteria

Aspect	Criteria	Attribute
Geotechnical Stability	Static Factor of Safety (FOS) – interim slopes	FOS ≥ 1.3
	Static FOS – Final Slopes	FOS ≥ 1.5
	Post Earthquake FOS following: 1 in 2,500 year Severe Earthquake	FOS ≥ 1.2
	Earthquake Performance Citeria – 1 in 150 year Moderate Earthquake	Damage being minor & readily repairable following event

Aspect	Criteria	Attribute
	Earthquake Performance Citeria – 1 in 2,500 year Severe Earthquake	No catastrophic failure. Damage being moderate & repairable following event.
	Seismic Hazard	Site Specific Seismic Hazard Assessment based on National Seismic Hazard Model 2022
Oxygen Ingress	Segregated rockfill – Base layer in gullies	Toe Bund – site specific design to extend at least 5 m above the level of segregated rock fill base layer
	Seepage underdrainage	Outlets designed to avoid oxygen ingress via seepage collection pipes
	Bulk Fill Zone	Lift height ≤ 6 m to limit amount of particle size segregation during tipping
	Outer Zone	Paddock tipping only within 10 vertical m of final slope position
Water Ingress	Clean water diversion channels – operation phase	Sized for 1 in 10 yr peak flows
	Clean water diversion channels – closure phase	Sized for 1 in 100 yr peak flow
	Final slope cover system	Designed to limit net percolation to <20% of annual rainfall
MIW Management	Basal seepage	Material of low geochemical risk placed immediately on stripped foundations in layer up to 3 m thick
	Seepage underdrainage	Subsurface drainage shall be installed where required to adequately separate ELF seepage from surface water
Erosion & Sediment Control	Dirty water diversion channels	Sized in accordance with the ESCMP
	Sediment retention structures (including Silt Ponds)	Sized in accordance with the ESCMP
	Final slopes	Maximum slope gradient of 1V:3H
	Progressive revegetation	Progressive revegetation of completed final slopes in accordance with LERMP

6.2. Long term Geotechnical stability

Two static geotechnical Factors of Safety (FOS), interim and closure, are set to manage the different risks that exist during operation and closure. While operating, interim slopes can be designed to a lower FOS than in closure where slopes remain in perpetuity. These factors of safety are typical industry values (EGL, 2025b).

Geotechnical post-earthquake FOS and earthquake performance criteria are set to achieve an acceptable level of performance over a range of earthquakes in operation and closure. Displacement and settlements of the ELFs rockfill can be expected in earthquakes due to shake down settlement (due to particle rearrangement) and internal shear mechanisms in the rockfill. No catastrophic failure should result, and this is to be tested by considering the FOS meeting 1.2 for material strength conditions post a severe 1 in 2,500 year earthquake. This post earthquake case is to consider any material strength loss due to shaking i.e., due to phenomena such as contractive behaviour of loose materials leading to softening or liquefaction.

Earthquake loadings shall be based on site specific seismic hazard assessment best representing the current knowledge of seismic hazard in the area. The current best knowledge is using the National Seismic Hazard Model 2022. Refer the BOGP Site Specific Seismic Hazard Report (EGL, 2025a).

6.3. Specific Detail Design of each ELF

All ELFs shall be subject to a specific detailed design. This is required as the foundations, catchments, profile, materials, and groundwater conditions, and specific controls will be different for each ELF.

The specific detailed design for each ELF shall be documented in:

6.3.1. Detailed Design Report:

This report shall be concise and summarise the design basis and criteria, assessments, calculations, stability, sizing, and detailing requirements, and controls required for safe and stable design and construction.

6.3.2. Construction Drawings:

Construction drawings are required of all the civil items (diversions, drainage, sumps, toe embankments, silt ponds) and the maximum final slope profiles, internal zoning and final slope details for the ELFs.

6.3.3. Specification:

Specifies the requirements for civil items including concrete work, pipe work, earthworks, sump lining, drainage materials, etc. It may be possible to combine the ELF and TSF specification requirements. A common specification can be developed to cover all ELFs.

6.3.4. Construction monitoring and inspection schedule:

For quality control and assurance for the construction and operation of the ELFs monitoring and inspections are required to be planned and undertaken. This includes hold points for key civil and operational items. A construction monitoring schedule sets out these requirements at the design stage.

The design and documentation shall be reviewed and approved by a CPEng experienced in geotechnical and civil engineering.

7. CONSTRUCTION MANAGEMENT

7.1. Objective

Construction to take place in accordance with approved design to achieve geotechnically safe, geochemically stable, water quality compliant, and sustainably rehabilitated ELFs.

7.2. Construction Sequencing

Construction to take place in the following sequence:

- Establishment of clean water diversion channels;
- Establishment of approved SSESCP measures;
- Foundation clearing and topsoil stripping. Recovered topsoil to be placed directly on prepared final slopes where available, or within designated topsoil stockpile(s);
- Establishment of underdrainage (where required) and placement of base layer of material with low geochemical risk;
- Bulk Fill Zone placement;
- Outer Fill Zone placement;
- Final slope shaping and preparation in accordance with LERMP; and
- Revegetation of Final slopes in accordance with LERMP.

Sequencing various activities may be progressively undertaken. Several activities (e.g., foundation preparation, Bulk Fill placement, Outer Fill placement, Final Slope shaping and preparation, revegetation) may be ongoing within different areas of one ELF at any point in time during construction.

Where practicable, construction sequencing should be undertaken to limit the area of ground disturbance associated with ELF construction at any point in time as well as ensure rock is progressively rehabilitated to limit oxygen and water ingress.

Construction activities should take place in accordance with relevant BOGP management plans (Noise, Lighting, Air Quality, etc.) and documented operating procedures.

8. MONITORING

8.1. Objective

Undertake inspection and monitoring of ELF construction and performance to ensure ELFs are constructed and perform to design or identify deviations from design such that mitigation measures can be put in place.

8.2. Construction Monitoring

Inspection and monitoring during ELF construction shall be undertaken in accordance with the schedule defined during the design phase (Section 6.3.4).

Records of all construction monitoring and inspections shall be held on file for review. Important items include diversion drainage channels, sediment retention structures, foundation stripping, underdrainage, toe bund, stage surfaces of Bulk Fill Zone, Outer Fill Zone, Final Slope shape and profile. Construction records should include georeferenced test results (geochemical and geotechnical), surveyed surfaces, visual inspection notes, site photographs, aerial photographs and mapping.

Records of material volume, tonnage, and placement locations using the material classification of Section 4 shall be collected and held on file for review. Survey of stockpiles or surfaces shall be undertaken periodically (monthly) to support record keeping.

8.2.1. Remedial Actions

Where construction inspection and monitoring identify deviations from the approved construction design, remedial actions should be developed. Remedial actions should be

reviewed and approved by a CPEng experienced in geotechnical and civil engineering before undertaken.

8.3. Performance Monitoring

8.3.1. Erosion and Sediment Control

Clean and dirty water diversion channels, surface drains, and sediment retentions structures (including silt ponds) associated with ELF construction should be inspected and monitored in accordance with the ESCMP.

Blockages within diversion channels be cleared as soon as practicable.

Identified areas of erosion within diversion channels or final slopes should be stabilized as soon as practicable.

Sediment build-up within ESC retention structures should be cleared on a regular basis.

8.3.2. Mine Influenced Water

Performance monitoring of ELF derived MIW and groundwater downgradient of ELFs should be undertaken in accordance with the WMP. MIW and groundwater monitoring results should be reported to the Mine Manager and Technical Services Manager on a monthly basis.

ELF derived MIW seepage and surface runoff quantity and quality monitoring results should be reviewed on an annual basis by a SQEP geochemical specialist and assessed against modelled MIW evolution for individual ELFs (MWM, 2025c). Any deviation from the expected model case should be assessed by a risk assessment process to ensure what management processes are required to achieve operational and closure water quality objectives.

Groundwater monitoring results downgradient of individual ELFs should be reviewed on an annual basis by a SQEP geochemical specialist.

8.3.3. Oxygen Ingress

Oxygen probes (or similar: e.g., oxygen sensors) should be used to confirm that the design objectives exclude oxygen into the core of the ELF (e.g., < 5% oxygen beyond ~20 m horizontally) with a clear oxygen diffusion profile.

8.3.4. Particle Size Segregation

Assessment of grainsize segregation during ELF construction should be periodically undertaken to validate the lift height is appropriate.

9. REPORTING

9.1. Annual Reporting

9.1.1. Annual Compliance Report

Work completed on individual ELFs shall be summarized within the Annual Compliance Report. Reporting details include:

- A description of works completed within previous 12 month period;
- The actual material in volume and tonnage contained within each ELF at the end of the reporting period;
- The location, volume and tonnage of topsoil and brown rock stockpiles at the end of the reporting period;
- Review of completed construction versus design by a CPEng, noting any non-compliance items and recommendations;
- Review of MIW performance monitoring trends by a SQEP geochemical specialist, noting any deviation from predicted trends and recommendations; and
- A balance of volume and tonnage of required and available final slope material (Topsoil, As-rich Topsoil & Brown Rock) for the site at the end of the reporting period.

9.1.2. Annual Work Plan

For the 12 period ahead, proposed work on individual ELFs shall be summarised within the Annual Work Plan. Reporting details include:

- A description of works proposed within the next 12 month period;
- The predicted volume and tonnage contained within each ELF at the end of the Work Plan period; and
- The predicted volume and tonnage of required and available final slope material (Topsoil, As-rich Topsoil & Brown Rock) for the site at the end of the Work Plan period.

9.2. Completion Report

At the completion of all earthworks (operational closure) of an individual ELF, the final construction is to be reviewed against detailed design by:

- a CPEng experienced in geotechnical and civil engineering.
- a SQEP geochemical specialist

Any remedial measures shall be recommended and actioned. The Completion Report shall be submitted to the Regional Council.

10. RISK MANAGEMENT

10.1. Objective

The object of the risk management framework is to identify, assess, manage, and monitor risks associated with the design, construction, and closure of the ELFs.

10.2. ELF Risk Assessment

A high-level risk assessment has been conducted for ELF design and construction. Key risks, cause, consequence, uncontrolled risk classification (e.g. High, Moderate, Low), mitigation controls and controlled risk classification are presented in Table 6.

Table 6: ELF Risk Register

Risk no.	Risk Description	Cause	Consequence	Risk Rating	Control (mitigation measures)	Residual Risk Rating
ELF01	Inappropriate Material Classification	• Incorrect geochemical classification criteria applied (i.e., As and S threshold limits are not suitable)	• Material with higher geochemical risk placed in inappropriate location during ELF construction, topsoil stockpiling or topsoil placement, resulting in increased risk of NMD and / or PCOC mobilisation	Moderate	• Threshold set for separation of high As from low As material (TZ3 / TZ4 Schist and soils) • Threshold set for separation of very low, low and High S material (TZ3 / TZ4 Schist) • Validate data against ongoing column leach tests • Validate results from large scale field trial data.	Low
ELF02	Inappropriate Material Classification	• Inappropriate sampling and assay management leading to incorrect geochemical material classification	• Material with higher geochemical risk placed in inappropriate location during ELF construction topsoil stockpiles or topsoil placement, resulting in increased risk of NMD and / or PCOC mobilisation	Moderate	• Investigate natural As and S variability within TZ3 / TZ4 Schist, and As variability in soils • Develop appropriate sampling protocol • Develop appropriate sample preparation protocol • QA/QC procedure (includes sampling procedure, duplicates, data management, internal lab QA/QC)	Low

Risk no.	Risk Description	Cause	Consequence	Risk Rating	Control (mitigation measures)	Residual Risk Rating
					• Develop management actions for unacceptable QA/QC outcomes	
ELF03	Incorrect Material classification leads to inappropriate placement of waste rock.	• Incorrect classification of materials	• Material with higher geochemical risk placed in inappropriate location during ELF construction, resulting in increased risk of NMD and PCOC mobilisation • Material with lower geochemical risk placed in inappropriate location during ELF construction, resulting in insufficient material available for Outer Fill Zone and Final Slope preparation	Moderate	• Develop geostatistical model of As and S distribution in TZ3 / TZ4 Schist, and As distribution in soils • Develop a suitable classification process for waste rock • Train excavator operators on brown rock visual selection criteria • Plan Topsoil and Brock Rock stockpile locations	Low
ELF04	Materials are placed in the wrong location.	• Material management errors	• Material with higher geochemical risk placed in inappropriate location during ELF construction, resulting in increased risk of	Moderate	• Schedule material placement in ELF based on material classification • Implement a vehicle tracking system for ensuring materials are placed in the right location	Low

Risk no.	Risk Description	Cause	Consequence	Risk Rating	Control (mitigation measures)	Residual Risk Rating
			NMD and PCOC mobilisation • Material with lower geochemical risk placed in inappropriate location during ELF construction, resulting in insufficient material available for Outer Fill Zone and Final Slope preparation		• Operator education of material sources and ELF zones • Audits / spot checks • Task observations to be completed	
ELF05	Elevated oxygen ingress into the ELF	• ELF not constructed according to design • Particle size segregation leading to advective oxygen ingress • Toe Bund or underdrains allow oxygen into ELF core. • Cover system not effective at reducing	• Increased risk of NMD and PCOC mobilisation • Elevation of PCOC present in MIW compared to geochemical modelling • Elevated PCOC in MIW persists longer than geochemical modelling • Failure to meet site WMP compliance limits	High	• Materials placed in correct ELF zones according to design • Construction inspection and monitoring • Annual review of inspection, monitoring an as built survey versus design by CPEng • Oxygen probes to confirm depth of oxygen ingress • Assessment of grainsize segregation during ELF construction to validate the lift height is appropriate. • Performance monitoring of PCOC in ELF derived MIW	Low

Risk no.	Risk Description	Cause	Consequence	Risk Rating	Control (mitigation measures)	Residual Risk Rating
		oxygen ingress.			• Install and operate site water treatment methods until PCOC levels meet WMP compliance levels	
ELF06	Elevated water ingress into ELF	• ELF not constructed according to design objectives • Water diversion (clean and dirty water) not effectively managed • Final slope preparation and revegetation sequences do not achieve net percolation targets (NP 20) • Progressive rehabilitation	• Increased risk of NMD and PCOC mobilisation • Elevation of PCOC present in MIW compared to geochemical modelling • Elevated PCOC in MIW persists longer than geochemical modelling • Failure to meet site WMP compliance limits	High	• Materials placed in correct ELF zones according to design • Construction inspection and monitoring • Annual review of inspection, monitoring an as built survey versus design by CPEng • Diversion of clean run on water • Routine monitoring and maintenance of water diversion channels • Field trials and modelling to confirm NP are acheived • Performance monitoring of PCOC in ELF derived MIW • Collect and treat seepage water until PCOC levels meet WMP compliance levels	Low

Risk no.	Risk Description	Cause	Consequence	Risk Rating	Control (mitigation measures)	Residual Risk Rating
		not undertaken in a timely manner				
ELF07	Erosion of ELF Final Slopes	• ELF not constructed according to design objectives • Inadequate or unsuitable cover system installed. • Progressive rehabilitation is not undertaken in a timely manner.	• Increased water ingress into ELF • Increased sediment run off	Moderate	• Construction inspection, monitoring and annual review of as built versus design by CPEng • Progressive Final Slope preparation, shaping and revegetation in accordance with LERMP • Routine monitoring and maintenance of Final Slope surfaces	Low
ELF08	ELF Slope Instability	• Inappropriate ELF design criteria • ELF not constructed according to design objectives	• Collapse of ELF slopes • Development of large tension cracks in Outer Fill Zones • Increased Oxygen ingress into ELF	Moderate	• Undertake slope stability assessment of ELF design • Follow FOS design criteria • Undertake Site Specific Seismic Hazard Assessment • Assess seismic deformation against proposed design	Low

Risk no.	Risk Description	Cause	Consequence	Risk Rating	Control (mitigation measures)	Residual Risk Rating
		• Instability due to seismic event • Instability due to weakness in foundation	• Increased water ingress into ELF • Increased sediment run off		earthquake performance criteria) • Construction inspection and monitoring • Annual review of inspection, monitoring an as built survey versus design by CPEng • Foundation clearing, topsoil stripping and inspection	
ELF09	Failure to meet ELF revegetation objectives	• Insufficient volumes of Topsoil and Brown Rock for Final Slope preparations • Insufficient variety of root zone depths created during Final Slope preparation • Insufficient number of landscape features created on ELF final slopes	• Failure to meet LERMP revegetation objectives • Failure to meet LERMP fauna objectives	Moderate	• Integrate LERMP objectives to ELF final slope cover design • Plan and schedule Topsoil stripping, stockpiling and placement • Plan and schedule natural rock features recovery during stripping activities • Plan and schedule Brown Rock separation during excavation, stockpiling and placement • Monitor and annual report balance of Topsoil and Brown Rock volume required and available	Low

A Risk Registered shall be developed for each individual ELF prior to construction.

Risk Registers shall be reviewed and updated:

- Following investigation of any significant Health & Safety and / or Environmental incidents associated with ELF design, construction or monitoring
- Following any design change or mitigation measures
- Following review of monitoring
- Annually

ELF Risk management processes shall be integrated into the BOGP and corporate risk management framework

11. CHANGE MANAGEMENT

A formal Change Management Process is required to ensure that any modifications to the ELF design, construction, or monitoring systems:

- Are properly evaluated by MGL and the CPEng and/or SQEP geochemical specialist as necessary.
- Do not compromise the integrity, safety, or environmental performance of the ELFs.
- Remain compliant with resource consent conditions.

Key Requirements

- All proposed changes must be assessed against the resource consents granted for the BOGP.
- Significant update to the ELFMP must be submitted for recertification by the ORC.
- If a change affects consent conditions, an amendment to the consent may be required.
- Changes must be documented and tracked within the ELFMP.

Change Management Record

All changes must be recorded in the ELFMP Change Management Record (Table 7).

Table 7: Change Management Record

Item	Section	Summary of change	Reason for change	Complexity of change	Date
1.				☐ Minor ☐ Moderate ☐ Major	
2.				☐ Minor ☐ Moderate ☐ Major	
3.				☐ Minor ☐ Moderate ☐ Major	
4.				☐ Minor ☐ Moderate ☐ Major	

12. REFERENCES

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