GENESIS MINERALS LIMITED

LICENCE APPLICATION SUPPORTING INFORMATION

REDCLIFFE GOLD PROJECT

Version 1

May 2025

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1. APPLICATION TYPE

1.1 SCOPE AND PURPOSE

This document has been prepared to provide supporting information for a Prescribed Premises Licence (Licence) Application to support the transition from time limited operations for activities currently approved under Works Approval W6650/2022/1 issued by the Department of Water and Environmental Regulation (DWER) on 4 November 2022 for the Redcliffe Gold Project. This Prescribed Premise Licence Application applies only to:

- Category 6: Mine Dewatering

This document has been submitted to the DWER with the completed DWER Application Form: Works Approval / Licence / Renewal / Amendment / Registration (Form IR-F09 – v16.0). Completion of the DWER Application Form is a statutory requirement under section 59B(1)(a) of the *Environmental Protection Act 1986* (**EP Act**) for Amendment Applications. Genesis has consolidated all supporting information and attachments for this application into this one (1) document and indicated which sections of the DWER Application Form the information relates to.

1.2 APPLICABLE PRESCRIBED PREMISES CATEGORIES

Premises with potential to cause emissions and discharges to air, land or water are known as 'Prescribed Premises' and trigger regulation under the EP Act. Prescribed Premises categories are outlined in Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations). The Prescribed Premises categories applicable to Works Approval W6650/2022/1 (the Works Approval) and this Licence Application are outlined in Table 1.

Table 1: Prescribed Premise Categories

Category Number	Description of Category	Prescribed Premises Production or Design Capacity	Redcliffe Gold Project Production or Design Capacity Approved under W6650/2022/1
6	Mine dewatering	More than 100 000 tonnes but not more than 500 000 tonnes per year	471,500 tonnes per annual period

2. APPLICANT DETAILS

The Applicant is Genesis Minerals Limited (Genesis), and contact details are provided in Table 2. A Current Company Extract for Genesis from the Australian Securities and Investments Commission (**ASIC**) is submitted in accordance with Section 2.9 of the DWER Application Form (*Attachment 1B: ASIC Company Extract*).

Table 2: Applicant Details

Applicant Details	
Applicant Name	Genesis Minerals Limited
ACN	124 772 041
Office Address	Level 7, 40 The Esplanade, Perth, WA 6000
Postal Address	PO Box Z5024, St Georges Terrace Perth, WA 6831
Authorised Company Representative	[redacted]
Application Contact Person	[redacted]

Written authorisation confirming that Ms Emma Feint is nominated as an "Authorised Representative" with regards to applications made on behalf of Genesis to the DWER is submitted in accordance with Section 2.10 of the DWER Application Form (*Attachment 1C: Authorisation to Act as Representative of the Occupier*).

2.1 OCCUPIER STATUS

The current Works Approval W6650/2022/1 Prescribed Premises is located within Tenements M37/1276, M37/1286, M37/1295, M37/1348 and M37/233, which are mining tenements granted in accordance with the *Mining Act 1978*. Tenement details are provided in **Table 3**. Proof of occupier status has been retrieved from the Department of Energy, Mines, Industry Regulation and Safety (**DEMIRS**) Mineral Title Online system, submitted in accordance with Section 2.8m of the DWER Application Form (*Attachment 1A: Proof of Occupier Status*).

Table 3: Tenement Details

Tenement	Holder	Grant Date	Expiry Date	Current Area (Ha)
M37/1276	Redcliffe Project Pty Ltd	30/07/2008	29/07/2029	770.75
M37/1286	Redcliffe Project Pty Ltd	10/03/2010	09/03/2031	1,748.38
M37/1295	Redcliffe Project Pty Ltd	16/08/2012	15/08/2033	1,496.50
M37/1348	Redcliffe Project Pty Ltd	18/01/2021	17/01/2042	1,476.31
M37/233	Navigator Mining Pty Ltd	06/11/1989	05/11/2031	997.00

3. PREMISES DETAILS

Genesis is an Australian ASX listed gold development mining company focused solely on the Leonora-Laverton District in Western Australia (WA). In March 2021, Dacian acquired the RGP via a merger with NTM Gold Limited. Genesis acquired the Redcliffe Gold Project (RGP) in December 2023 as part of the acquisition of Dacian Gold Limited (Dacian). The RGP is located approximately 50 kilometres (km) northeast of Leonora in the Eastern Goldfields Region of WA (Figure xx). The RGP area comprises over 330 square kilometres (km²) and overlies Archean-aged greenstones. The primary focus of exploration within the tenements is the Mertondale Shear Zone (MSZ), a regional structure with demonstrated gold mineralisation.

The RGP is situated over a number of tenements as detailed in Table 1 above and shown in **Error! Reference source not found.**. The RGP includes the Redcliffe, Hub, GTS, Nambi, Kelly, Bindy and Mesa Westlode deposits. The Project includes the high-grade open pit Hub deposit with a Reserve grade of 3.4g/t. Grade control drilling, mining studies, geotechnical, hydrological and sterilisation drilling are advanced at Hub and the deposit remains open at depth and along strike.

In January 2022, Dacian submitted a Mining Proposal (MP) for the Project as required under the Mining Act WA 1978 (Mining Act). The Redcliffe Gold Project Mining Proposal: Hub and Golden Terrace South Open Pits Version 2 (REG ID 102646) was approved on the 13 June 2022 by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) and related to tenements:

- M 37/1348 (Hub open pit) – held by Redcliffe;
- M 37/1276 (GTS open pit) – held by Redcliffe;
- M 37/1286 (storage of mine dewatering at the historic Redcliffe/Mesa pits) – held by Redcliffe;
- M 37/1295 (accommodation camp, and access road/dewatering pipeline corridor) – held by Redcliffe; and
- M 37/233 (portion of the GTS open pit and storage of mine dewatering at the historic Mertondale 5 pit) – held by Kin Mining, Dacian has an Authorisation for Disturbance of Ground on M37/233 from Kin Mining (Appendix A).

The approved Mining Proposal REG ID 102646 infrastructure includes the following:

Mine Infrastructure

- Mining of three open pits at Hub (which includes Hub North and Hub South) and GTS;
- Two Waste Rock Dumps (WRD);
- Two Run of Mine (ROM) pads;
- Abandonment bunds and a flood bund at the open pits; and
- Dewatering pipelines for mine dewatering discharge from the three open pits to the historic Redcliffe, Mesa and Mertondale 5 open pits. Mine dewatering infrastructure will include bores, surface infrastructure pad, water transfer station, pipelines, water clarifier tank, transfer tank and pump set.

Supporting Infrastructure

- Access road and dewatering pipeline corridor between the five open pits;

- Laydown area;
- Explosives storage facility;
- Topsoil stockpiles;
- Auxiliary power supply for offices and workshop;
- Portable bunded fuel facilities and construction of a bioremediation pad;
- Class II landfill to accept inert Type II and putrescible waste;
- Flood protection and drainage diversion features including a contact drain and rock aprons near the WRDs;
- Transportable accommodation camp. Domestic wastewater from these facilities will be treated through a wastewater/sewage treatment plant;
- Transportable administration offices, workshop and other buildings with communication and ablution facilities. Wastewater from ablutions facilities will report to in-ground septic tanks and leach drain systems;
- Wash down pad with wastewater collected and treated in dedicated facilities; and
- General mine roads.

4. PROPOSED ACTIVITIES

The Proposed Activity section outlines the scope and scale of the amended project, key infrastructure, processes, emissions, discharges, waste and construction activities for which approval is being sought. This additional information is provided in accordance with Section 4.12 of the DWER Application Form (Attachment 3B: Proposed Activities).

Dewatering of the Hub Central Pit and Hub South Pit is managed through a series of depressurization bores surrounding each pit, with the abstracted water reporting to the Hub Turkeys Nest via two pipelines (one from each pit). The abstracted water is utilized for two purposes: dust suppression and dewatering (discharge) to facilitate mining. The standpipes are directly adjacent to the Turkeys Nest at Hub, and a separate pipeline transports water from the Turkey's Nest to the Mesa Pit for discharge. The pipelines are sited on M37/1348 and M37/1286 within the Works Approval Boundary, as generally indicated in the Works Approval.

Recently constructed dewatering infrastructure consists of:

a) Dewatering pipelines and brine pipelines (includes all pipelines from turkeys' nests/dams or treatment infrastructure (oily water separator) at the truck wash facility)

b) Turkey's nests/dams for the storage of dewater effluent/RO Brine/Truck washdown water

c) Truck washdown facility

4.1 PRESCRIBED PREMISES INFRASTRUCTURE

4.1.1 Turkey's Nest

As detailed in the Construction Compliance Report (Attachment 3B (a)), the Turkey's Nest infrastructure is not associated with a Prescribed Premise Category (Table 4).

Table 4: Turkey's Nest Prescribed Premise Category

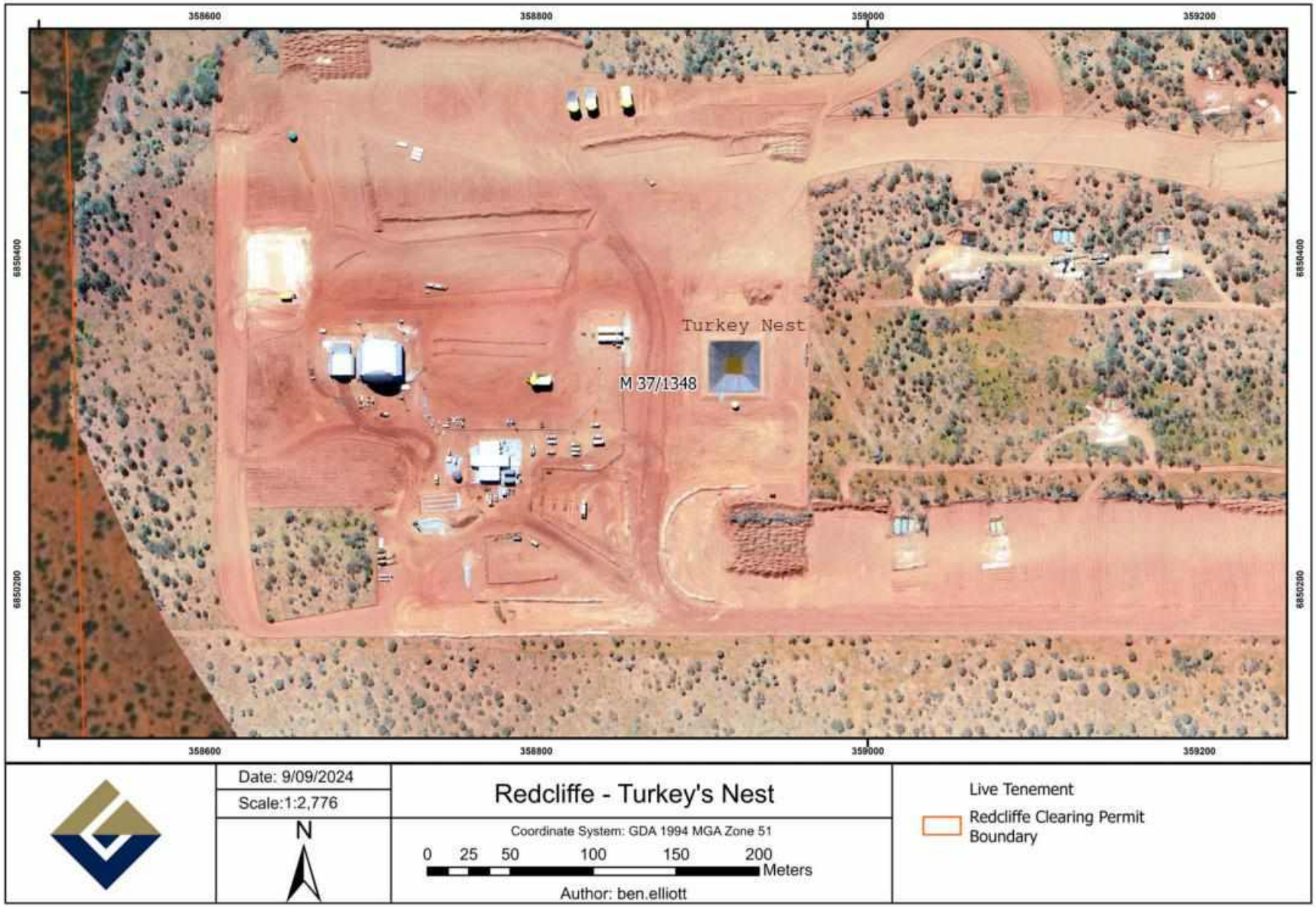
Prescribed Premises Category	Assessed Production/ Throughput Capacity
N/A	N/A

The Turkey's Nest was constructed in accordance with the construction and installation requirements of Works Approval Condition (LC) 1, Table 1, Item 2 – Turkey's Nest/Dams for storage of dewatering effluent/RO Brine/Truck washdown water (Table 5). The infrastructure was constructed on 16 August 2024, within the proposed premise boundary in tenement M37/1348, shown in Figure 1.

Table 5: Turkey's Nest Construction and Installation Requirements

Item	Infrastructure and / or equipment	Design and construction / installation requirements	Infrastructure Location
2	Turkey's nests/dams for the storage of dewater effluent/RO Brine/Truck washdown water	(a) HDPE lined; and (b) Sized to contain a one in one-hundred-year 72-hour ARI rainfall event	No location specified in Works Approval.

Figure 1: Redcliffe Turkey's Nest Location



4.1.2 Dewatering Infrastructure

Mine dewatering infrastructure, as per the Construction Compliance Report, is associated with the following Prescribed Premise Categories (Table 6.)

Table 6: Dewatering Infrastructure Prescribed Premise Category

Prescribed Premise Category	Assessed production / throughput capacity
Category 6: Mine dewatering	471,500 tonnes per annual period

Dewatering infrastructure was constructed in accordance with the construction and installation requirements of Works Approval Licence Condition 1, Table 1, Item 1 – dewatering pipelines. The infrastructure was constructed on 16 January 2025 as per the requirements in Table 7 below.

Table 7: Dewatering Infrastructure Construction and Installation Requirements

Item	Infrastructure and / or equipment	Design and construction / installation requirements	Infrastructure Location
1	Dewatering pipelines and brine pipelines (includes all pipelines from dewater storage or treatment infrastructure (oily water separator) at the truck wash facility).	(c) (a) Pipeline without telemetry to be provided with secondary containment adequate to contain any spill for a period equal to the time between routine inspections; or (d) (b) Pipeline to be installed with telemetry system and auto shut-off to detect and control leaks; and (e) (c) Installed with flow meters at discharge points to Redcliffe, Messa and Mertondale No. 5 pits.	Dewatering pipeline route from the mining areas to the pits to be located as shown in Figure 2 and Figure 4. Brine pipelines and pipelines from/between storage and treatment facilities are not specified.

4.1.3 Washdown Facility

The truck washdown facility is associated with the following Prescribed Premise Categories (Table 8):

Table 8: Washdown Facility Prescribed Premise Category

Prescribed Premise Category	Assessed production / throughout capacity
Category 6: Mine dewatering	471,500 tonnes per annual period

Mine dewatering infrastructure was constructed in accordance with the construction and installation requirements of Works Approval 8650/2022/1 Licence Condition 1, Table 1, Item 6 – Truck washdown facility. These requirements are detailed in Table 9 below.

Table 9: Washdown Facility Construction and Installation Requirements

Item	Infrastructure and / or equipment	Design and construction / installation requirements	Infrastructure Location	Construction Completion Date
6	Truck washdown facility	(a) Facility designed so all washdown water is captured and prevented from being released into the environment. (b) Installation of the oily water treatment system is completed as required by the manufacturer's specifications; and (c) Oily water treatment system must be capable of treating the washdown water to <15mg/L total petroleum hydrocarbons.	Truck washdown facility located as shown in Figure 3.	10/03/2025

Figure 2: Redcliffe (Hub) Dewatering Network

Figure 3: Redcliffe Washbay Location

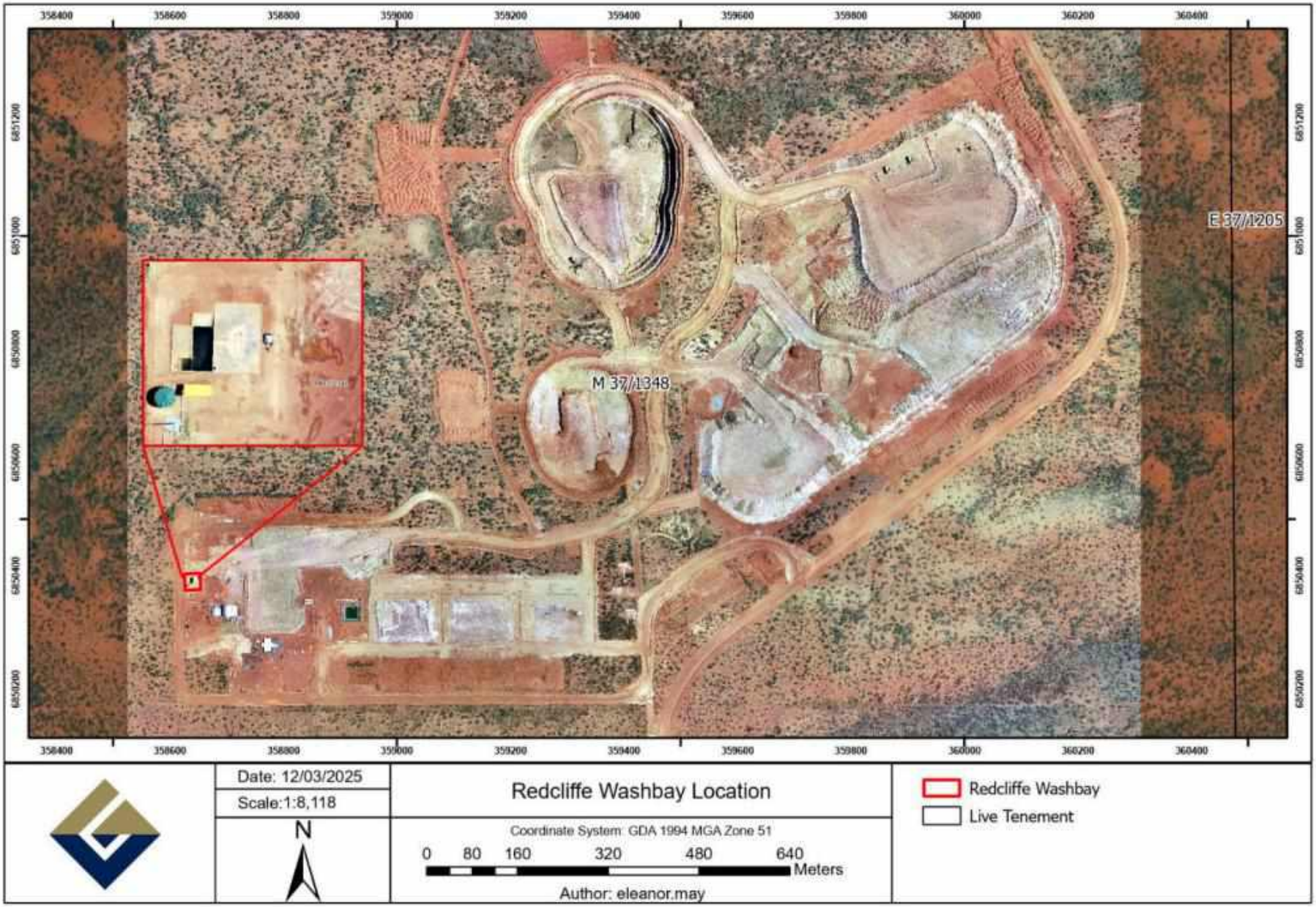
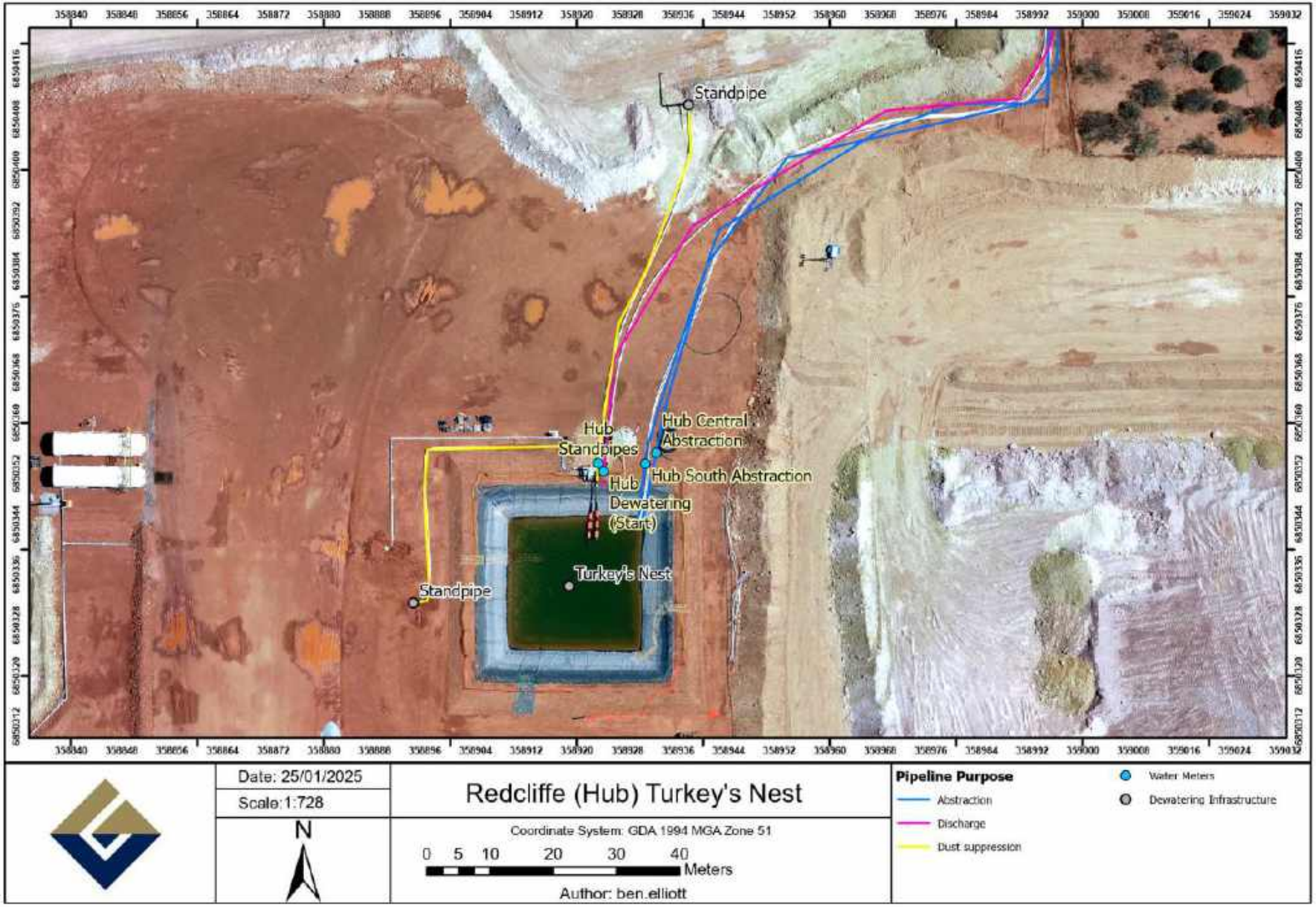


Figure 4: Dewatering Pipeline Location (Start)



4.1.4 Mine Dewatering

Monitoring bores, production bores and vibrating wire piezometer (VWP holes are installed at suitable locations around the Hub pit to determine the most suitable dewatering/depressurization technique to ensure the pit floor is dewatered ahead of mining. Genesis will consider all methods on how best to achieve depressurization of the pit walls, including sub horizontal drain holes if other conventional methods are not successful.

The Hub open pit is expected to experience groundwater infiltration during mining. Dewatering bores will be the initial method used to pump mine water, manage the ground water table and rainwater ingress into the open pits. In pit sumps may be used after the initial mine dewatering. Mine water will be transferred directly via the proposed dewatering pipeline, along the dewatering route (as shown in Figure xxxx). The dewatering pipeline corridors will be approximately 2 m to 5 m wide within existing tracks, with no clearing of native vegetation required.

The Hub mine water will be discharged into the existing Redcliffe and Mesa open pits (Figure xxx). Mine dewatering infrastructure will include bores, surface infrastructure pad, water transfer station, pipelines, water clarifier tank, transfer tank and pump set.

4.2 CONFIRMATION OF WORKS

4.2.1 Construction Compliance Report

Genesis have submitted Construction Compliance Reports for dewatering infrastructure in accordance with Works Approval Conditions. These Construction Compliance Reports were prepared by suitably qualified and experienced persons, confirming that infrastructure has been constructed with no material defects, and that all Works Approval conditions relating to the construction and installation of the landfill infrastructure were complied with. The following reports have been submitted:

- W6650_2022_1_CCR_DewateringInfrastructure *(Attachment 3B (a))*
- W6650_2022_1_CCR Redcliffe Turkey Nest *(Attachment 3B (b))*
- W6650_2022_1_CCR_Redcliffe Washbay *(Attachment 3B (c))*

4.2.2 Time Limited Operations

Dewatering activities are currently underway at the RGP under the approved 180-day Time Limited Operations conditioned in Works Approval W6650/2022/1.

Genesis is operating these activities as per the conditions outlined in the Works Approval.

4.2.3 Licence Application

This Licence Application serves as the transition from Works Approval Time Limited Operations to ongoing operations for the activities specified herein. Amendments to this licence are anticipated as further construction of infrastructure outlined in the Works Approval commence.

5. APPROVALS AND CONSULTATION

This Approvals and Consultation Section is provided in accordance with Section 7.9 of the DWER Application Form (*Attachment 5: Other Approvals and Consultation Documentation*).

5.1 ENVIRONMENTAL LEGISLATION AND APPROVALS

Genesis is committed to compliance with statutory requirements, continuous improvement, and minimising environmental and social impacts. A review of applicable environmental legislation, environmental approvals and statutory requirements that apply to the environmental management of the RGP has been completed. A list of relevant environmental approvals including those that have been sought or are required for the new prescribed activities is provided in Table 5-1.

Relevant Legislation	Environmental Factor Regulated / Affected	Relevant Approval / Requirement	Status
Aboriginal Heritage Act 1972	Aboriginal Heritage	Section 18 Consent	
Biodiversity Conservation Act 2016	Flora & Fauna	Modify a TEC Authorisation	

		Disturb Threatened Plants Authorisation	
Conservation and Land Management Act 1984	State Forest National Parks Timber Reserves	Section 89 Permit Section 90 Licence	
Country Areas Water Supply (CAWS) Act 1947	Catchment Clearing	Licence (not required for clearing approved under Part V of the *EP Act*)	
Dangerous Goods Safety Act 2004	Dangerous Goods Transport, Storage and Handling	Dangerous Goods Site Licence Explosives Licence	
Environment Protection and Biodiversity Conservation Act 1999	Biodiversity Flora / Fauna Ecosystem	Controlled Action Referral / Determination / Approval	
Environmental Protection Act 1986 (Part IV)	Flora / Vegetation Terrestrial Fauna Hydrological Processes Terrestrial and Inland Waters Environmental Quality Rehabilitation and Closure	Project Referral / Environmental Impact Assessment / Ministerial Approval and Conditions (if required)	
Environmental Protection Act 1986 (Part V)	Clearing Emissions and Discharges Water Resources (Pollution) Landforms	Clearing Permit	Granted (9608/1)
		Prescribed Premise Works Approval (Construction / Commissioning)	Granted (W6650/2022/1)
		Prescribed Premise Licence (Operation)	Planned (this document)
Heritage Act 2018	Heritage Place	Development Approval	
Metropolitan Water Supply Sewerage and Drainage Act 1909	Water Resources	Permit for Designated Activities in Public Drinking Water Source Areas	
Mining Act 1978	Landforms Rehabilitation Mine Closure Water Resources Clearing Aboriginal Heritage Land Use Buffers	Appropriate Mineral Title	Granted
		Written Consent of Occupier (s20)	
		Mining Proposal	Approved (Reg ID 129926)
		Mine Closure Plan	
Planning and Development Act 2005	Infrastructure	Local Government Development Approvals	
Rights in Water and Irrigation Act 1914	Water Resources	5C Licence	GWL172143(3) GWL207510(1) (Dacian Gold) GWL207546(1) (Dacian Gold)
		26D Licence	
		Section 11 Permit	
		Section 17 Permit	

		Section 21A Permit	
Waterways and Conservation Act 1976	Water Resources	Disposal Licence	Not Required

5.1.1 Environmental Protection Act 1978

5.1.1.1 Part V – Prescribed Premises Works Approvals and Licences

DWER regulates industrial emissions and discharges to the environment through a Works Approval and Licencing process, under Part V of the EP Act. Industrial premises with potential to cause emissions and discharges to air, land or water are known as 'Prescribed Premises' and trigger regulation under the Act. Prescribed premise categories are outlined in Schedule 1 of the EP Regulations.

Genesis has been issued Works Approval W6650/2022/1 for the Redcliffe Sewage Facility (Category 85), Class II Putrescible Landfill (Category 64) and Mine Dewatering (Category 6). This approval is valid from 4/11/2022 to 3/11/2025. This Licence Application has been submitted to transition Mine Dewatering activities from the Time-Limited Operations under the Works Approval, to ongoing operations under a Prescribed Premise Licence.

5.1.2 Mining Act 1978

Appropriate mineral title (tenements) has been granted in accordance with the Mining Act 1978 (Mining Act) and tenement conditions have been reviewed to ensure that the proposed activities comply. Development of the Project will not impact within the 100m and 400m buffer zone of any items listed under Section 20(5) of the Mining Act.

The Genesis RGP Hub Stage 2 Mining Proposal (MP Reg ID 129926) was approved on 28 March 2025.

5.2 STAKEHOLDER ENGAGEMENT

Genesis undertakes consultation with stakeholders in accordance with the Stakeholder Engagement Principles outlined in Table 10. These Principles are outlined in the *Guidelines for Preparing Mine Closure Plans* (DEMIRS/EPA, 2015) and have been adapted from the Ministerial Council on Mineral and Petroleum Resources (MCMPR) Principles for Engagement with Communities and Stakeholders 2005.

Table 10: Stakeholder Engagement Principles

Principle	Requirement
Communication	Communication must be open, accessible, clearly defined, two-way and appropriate.
Transparency	The process and outcomes of community and stakeholder engagement should, wherever possible, be made open and transparent, agreed upon and documented.
Collaboration	A cooperative and collaborative approach to seek mutually beneficial outcomes is considered key to effective engagement.
Inclusiveness	Inclusiveness involves identifying and involving communities and stakeholders early and throughout the process, in an appropriate manner.
Integrity	Community and stakeholder engagement should establish and foster mutual trust and respect.

In addition, Genesis has also incorporated the Stakeholder Involvement Principles from the Strategic Framework for Mine Closure (ANZMEC/MCA, 2000) into its Stakeholder Engagement Strategy. These Principles require that:

1. Stakeholders and interested parties are identified;
2. Effective consultation occurs regularly and throughout the life of the mine;
3. A targeted communication strategy reflects the needs of the stakeholders and interested parties;
4. Adequate resources have been allocated to ensure the effectiveness of the consultation process; and

5. Wherever practical, the company will work with communities to manage the potential impacts of mine operations and closure.

5.2.1 Targeted Community and Engagement Strategy

The purpose of the Genesis Stakeholder Engagement Strategy is to ensure the effective involvement of stakeholders throughout the proposed life of the RGP. This involvement is required for all phases of the operation from exploration, planning and approvals; to construction, commissioning and operation; to final decommissioning and closure. The Stakeholder Engagement Strategy is used to:

- Identify the full range of stakeholders with an interest in the Project;
- Establish and maintain a consistent and coordinated approach for communication with the local community, government agencies, special interest groups and industry;
- Identify known and emerging environmental, social and cultural heritage aspects of the Project which might be of interest or concern to stakeholders;
- Inform stakeholders about key environmental, social, and cultural heritage factors associated with the Project which might be of interest or concern to stakeholders;
- Consider stakeholder concerns during all phases of the Project decision making process; and
- Ensure that there is timely and accurate feedback and provision of information on how any information on how any impacts and issues will be managed.

Genesis will continue to engage with stakeholders following approvals, including during the construction, operation and rehabilitation phases. The level of engagement (information letters, telephone calls, face-to-face meetings etc.) will be relevant to the information communicated, as detailed in Table 11.

Table 11: Stakeholder Engagement Strategy

Group	Stakeholder	Communication Tools	Key Interests
WA Government Agency	Department of Water and Environmental Regulation (**DWER**)	Meeting / Email / Phone / Applications / Reports	• Contaminated Sites • Native Vegetation Clearing • Prescribed Premise Activities • Water Licencing and Reports • Water Management • Annual Environmental Reports
	Main Roads WA	Meeting / Email / Phone / Applications	• Road Access and Transport • Road Reserve Activities • Blasting Deed
	Department of Energy, Mines, Industry Regulation and Safety (**DEMIRS**)	Meeting / Email / Phone / Applications / Reports	• Mineral Titles • Mining Proposals • Mine Closure Plans • Project Management Plans • Programme of Works (PoW) • Dangerous Goods • Mining Rehabilitation Fund • Annual Environmental Reports • Care and Maintenance • Native Title
WA Government Agency	Department of Planning, Lands and Heritage (**DPLH**)	Letter	• Heritage and Cultural Sites • Mine Closure Plans • Pastoral Leases
	Department of Fire and Emergency Services (**DFES**)	Meeting / Email / Phone	• Emergency Response • Fire Advice and Warnings
	Department of Health (**DoH**)	Email / Phone / Reports	• Drinking Water Reporting • Wastewater Treatment Systems

Local Government	Shire of Laverton Shire of Leonora	Meeting / Letter / Applications	• Prescribed Premise Activities • Mineral Titles • Mining Proposals • Mine Closure Plans • Road Reserve Activities • Wastewater Treatment Systems
Pastoral Lease Holders	Department of Defence Mertondale Pastoral Lease Minara Resources Nambi Pastoral Lease	Meeting / Email / Phone / Letter	• Mineral Titles • Exploration Activities (PoWs) • Mining Proposals • Mine Closure Plans
Neighboring Tenement Holders (500m)	Exploration Mining Miscellaneous Prospecting	Meeting / Email / Phone / Letter / Agreements	• Mineral Titles • Exploration Activities (PoWs) • Mining Proposals • Mine Closure Plans • Water Management • Operational Activities
Traditional Owners	Darlot Native Title Group Tjupan People – Harris Family	Meeting / Email / Phone / Letter / Agreements / Surveys	• Heritage and Cultural Sites • Heritage Protection Agreements • Mineral Titles • Exploration Activities (PoWs) • Mining Proposals • Mine Closure Plans

5.2.2 Ongoing Community and Stakeholder Engagement

Genesis understands that expectations regarding the types and level of stakeholder engagement are not static and will shift according to the Project phase and the social, economic, and environmental conditions of the day. To maintain effective Stakeholder Engagement Strategy and ensure its relevance over the long term, Genesis maintains a Stakeholder Consultation Register and undertakes regular review of the strategy as part of its Environmental Management System (**EMS**). Genesis aims to remain alert and sensitive to any changes in public perception of the Project and will continue to investigate, define and discuss any issues with relevant stakeholders.

6. EMISSIONS, DISCHARGES AND WASTE

The Emissions, Discharges and Waste Section is provided in accordance with Section 9.3 of the DWER Application Form (*Attachment 6A: Emissions and Discharges*).

6.1 EMISSIONS AND DISCHARGES

The amended Prescribed Premises activities with the potential for emissions or discharges are provided in Table 12 and further information and the proposed controls is provided in the following sections.

Table 12: Prescribed Premises Potential Emissions and Discharges

Potential Emissions and Discharges	Source	Activity
Waste and Leachate (Brackish/Saline Water)	Pipelines (Dewatering)	Spills and Leaks from Pipelines
	Receiving Pit Lake(s)	Seepage or Overtopping from Receiving Pit Lake(s)

6.2 NOISE

Noise is generated by several sources during mining activities. Depending on the source, noise may be continuous (i.e. trucking), or an impulsive sudden noise (i.e. rock breaking). Many factors can affect the level of noise received at a location. Noise propagation is complex and is influenced by distance, wind, temperature, cloud cover, topography, and structures such as barriers and buildings.

Given the distance of the Premises from residential areas (the nearest is the Mertondale Homestead 10km to the south and the Nambi Pastoral Station Homestead 11km to the east), impacts from noise generation are unlikely. Any complaints from stakeholders regarding noise emissions will be acted on immediately and management measures reviewed accordingly.

6.3 DUST

As is typical of any mining operation in an arid environment, dust can be generated during earthmoving, windblown from exposed areas and stockpiles, and vehicle movements. Impacts are usually localized and decrease rapidly with separation from the source (relative to particle size and wind strength). Near the source, dust can stress sensitive vegetation, pose a human health risk impact on the amenity of a nearby community or reduce visibility on adjacent roads.

No sensitive receptors have been identified within or surrounding the Premises and given the distance from residential areas (the nearest is the Mertondale Homestead 10 km to the south), impacts of dust generation on populated areas are unlikely.

To prevent and minimise dust emissions, Genesis will undertake regular:

- Visual monitoring and implement appropriate dust controls as required; and
- Watering of roads and open areas with a water truck.

Any complaints from stakeholders regarding dust emissions will be acted upon immediately and management measures reviewed accordingly.

6.4 WASTE AND LEACHATE (BRACKISH / SALINE WATER)

6.4.1 Spills or Leaks from Pipelines

There is the potential that spills and leaks of brackish/saline water from the dewatering pipelines can have localised impacts on the soil or vegetation. To prevent and minimise the impacts of spills, and leaks, Genesis have, and continue to:

- Construct pipelines with secondary containment adequate to contain any spill for a period equal to the time between routine inspections; or
- Pipeline to be installed with telemetry system and auto shutoff to detect and control leaks; and
- Installed with flow meters at discharge points to Redcliffe, Mesa and Mertondale No. 5 pits.

6.4.2 Spills or Leaks from Turkeys Nest

There is the potential that spills and leaks of brackish/saline water from the Turkey's nests/dams can have localised impacts on the soil or vegetation. To prevent and minimise the impacts of spills and leaks, Genesis have, and continue to:

- Ensure turkey's nests/dams for the storage of dewater effluent/RO Brine/Truck washdown water are HDPE lined; and
- Infrastructure is sized to contain a one in one hundred year, 72 hour Average Recurrence Interval (**ARI**) rainfall events

6.4.3 Spills or Leaks from Truck Washdown Facility

There is the potential that spills and leaks of brackish/saline water from the Truck washdown facility can have localised impacts on the soil or vegetation. To prevent and minimise the impacts of spills and leaks, Genesis have, and continue to,

- Design facility to ensure all washdown water is captured and prevented from being released into the environment.
- Confirm by CCR that installation of the oily water treatment system was completed as required by the manufacturer's specifications; and
- Oily water treatment system must be capable of treating the washdown water to <15mg/L total petroleum hydrocarbons.

6.5 RISK ASSESSMENT

Genesis has a risk assessment process to identify significant risks and ensure that appropriate management strategies are implemented to reduce potential impacts to people, the environment or community. The risk assessment identifies the hazards associated with planned activities, the likelihood of it happening and the consequence of the potential impact. Risk assessments are utilized by Genesis to:

1. Identify activities that could result in safety, environmental or community impacts;
2. Quantify the level of inherent risk (pre-treatment) of the activity i.e. no control measures applied;
3. Develop appropriate control measures to reduce the residual risk (post-treatment);
4. Document these processes so they form part of the EMS; and
5. Routinely monitor and review the effectiveness of these processes and control measures aiming for continuous improvement.

A key outcome of risk management is to rank potential impacts, so that specific management measures (controls or treatments) can be developed. The aim of the process is to reduce the residual risk to "As Low as Reasonably Practicable" (ALARP).

The best way to control a risk is to eliminate the hazard altogether, however that is not always reasonably practicable. Genesis uses the Hierarchy of Control which is widely used as a systematic approach to managing risks. It provides a structure to select the most effective control measures to eliminate or reduce the risk of identified hazards.

The Hierarchy of Control ranks risk control measures from the highest level of protection and reliability to the lowest level of protection and reliability. Eliminating the hazard is the most effective, followed by substituting the hazard with something safer, isolating the hazard or reducing risk using engineering controls. Administrative actions (and Personal Protective Equipment) sit as the last line of defence and are only used after all other controls have been assessed or as supplementary control. A combination of controls is used whenever a single control measure is not sufficient.

6.5.1 Risk Assessment Criteria

Risk levels for identified impacts are evaluated based on the maximum reasonable consequence and the likelihood of that consequence occurring. For this Licence Application, Genesis has used the Risk Assessment Criteria outlined in the DWER Guideline – Risk Assessments (DWER, 2017). The likelihood and consequence definition tables are provided in Table 13 and Risk Assessment Environmental Consequence Criteria respectively.

Table 13: Risk Assessment Criteria

Level	Likelihood	Description
A	Almost Certain	The risk event is expected to occur in most circumstances.
B	Likely	The risk event will probably occur in most circumstances.
C	Possible	The risk event could occur at some time.
D	Unlikely	The risk event will probably not occur in most circumstances.
E	Rare	The risk event may only occur in exceptional circumstances.

Table 14: Risk Assessment Environmental Consequence Criteria

Environmental Factor	Environment	Public Health and Amenity
Severe (5)	Onsite impacts: **catastrophic** Offsite impacts local scale: **high level or above** Offsite impacts wider scale: **mid-level or above** Mid to long term or permanent impact to an area of **high** conservation value or special significance Specific Consequence Criteria (for environment): **significantly exceeded**	Loss of life Adverse health effects: high level or ongoing medical treatment Specific Consequence Criteria (for public health): **significantly exceeded** Local scale impacts: permanent loss of amenity
Major (4)	Onsite impacts: **high level** Offsite impacts to local scale: **mid-level** Offsite impacts wider scale: **low level** Short term impact to an area of high conservation value or special significance Specific Consequence Criteria (for environment): **exceeded**	Adverse health effects: mid-level or frequent medical treatment Specific Consequence Criteria (for public health): **exceeded** Local scale impacts: high level impact to amenity
Moderate (3)	Onsite impacts: **mid-level** Offsite impacts to local scale: **low level** Offsite impacts wider scale: **minimal** Specific Consequence Criteria (for environment): **at risk of not being met**	Adverse health effects: low level or occasional medical treatment Specific Consequence Criteria (for public health): **at risk of not being met** Local scale impacts: low level impact to amenity
Minor (2)	Onsite impacts: **low level** Offsite impacts local scale: **minimal** Offsite impacts wider scale: **not detectable** Specific Consequence Criteria (for environment): **likely to be met**	Specific Consequence Criteria (for public health): **likely to be met** Local scale impacts: low level impact to amenity
Slight (1)	Onsite impacts: **minimal** Specific Consequence Criteria (for environment): **met**	Specific Consequence Criteria (for public health): **met** Local scale impacts: minimal impacts to amenity

The risk matrix detailed in Table 15 combines the level of likelihood and consequence to determine the associated risk level. A risk priority is assigned to each of the 25 possible outcomes and risks are categories as Extreme (Red), High (Orange), Medium (Yellow) and Low (Green). As different activities differ in scale and nature of impact, control measures are tailored to ensure they are relevant and effective in mitigating the identified risk.

Table 15: Risk Matrix

Risk Matrix		Consequence				
		Slight (1)	Minor (2)	Moderate (3)	Major (4)	Severe (5)
Likelihood	Almost Certain (a)	Medium (15)	High (19)	High (22)	Extreme (24)	Extreme (25)
	Likely (b)	Medium (10)	Medium (14)	High (18)	High (21)	Extreme (23)
	Possible (c)	Low (6)	Medium (9)	Medium (13)	High (17)	Extreme (20)
	Unlikely (d)	Low (3)	Medium (5)	Medium (8)	Medium (12)	High (10)
	Rare (e)	Low (1)	Low (2)	Medium (4)	Medium (7)	High (11)

- Extreme risk, not tolerated, may refuse application.
- High risk; may be tolerated, multiple regulatory controls.
- Medium risk; tolerable, may apply regulatory controls.
- Low risk; acceptable, generally no regulatory controls.

6.5.2 Risk Assessment Outcomes

An environmental risk assessment has been developed to identify and manage potential environmental risks associated with the amended activities at the Prescribed Premises. The risk assessment was based on an understanding of the existing environment through desktop assessments, and technical reports. A summary of the risk assessment outcomes for each key environmental factor is provided in Table 16.

Table 16: Risk Assessment Outcomes

Environmental Factor	Inherent Risk (pre-treatment)				Residual Risk (post-treatment)				Total Risks
	Low	Medium	High	Extreme	Low	Medium	High	Extreme	
Biodiversity	5	2	0	0	**5**	2	0	0	**7**
Land and Soils	1	2	0	0	1	2	0	0	**3**
Social	4	0	0	0	4	0	0	0	**4**
Water Resources	6	2	0	0	**6**	2	0	0	**8**

Total Risks	**16**	**6**	**0**	**0**	**16**	**6**	**0**	**0**	**22**

7. SITING AND LOCATIONS

This Siting and Location Section is provided in accordance with Section 10.4 of the DWER Application Form (*Attachment 7: Siting and Location*).

7.1 SENSITIVE LAND USES

A sensitive land use is a residence or other land use which may be affected by an emission or discharge associated with the proposed activities. The WA Environmental Protection Authority (EPA) *Guidance No. 3 – Separation Distances between Industrial and Sensitive Land Uses* indicates that a Category 89 prescribed premises should maintain a 500m buffer distance for sensitive uses. The proposed Site location is in accordance with these guidelines.

The RGP is located 50km north-northeast of Leonora, between the towns of Kalgoorlie and Laverton, and is a significant support center for the local community, tourism, and Aboriginal communities.