



**Environmental
Protection
Authority**

Mt Weld Rare Earths Project – Life of Mine Proposal

Mt Weld Mining Pty Ltd (a subsidiary of Lynas Rare Earths Ltd)

Report 1752

November 2023

This assessment report has been prepared by the Environmental Protection Authority (EPA) under s. 44 of the *Environmental Protection Act 1986* (WA). It describes the outcomes of the EPA's assessment of the Mt Weld Rare Earths Project – Life of Mine Proposal by Mt Weld Mining Pty Ltd.

This assessment report is for the Western Australian Minister for Environment and sets out:

- what the EPA considers to be the key environmental factors identified in the course of the assessment
- the EPA's recommendations as to whether or not the proposal may be implemented and, if it recommends that implementation be allowed, the conditions and procedures, if any, to which implementation should be subject
- other information, advice and recommendations as the EPA thinks fit.



Prof. Matthew Tonts
Chair
Environmental Protection Authority

3 November 2023

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Summary

Proposal

The Mt Weld Rare Earths Project – Life of Mine is a proposal to extend the approved [Mt Weld Rare Earths Project](#), which includes the construction and operation of a rare earths mine and processing plant. The proposal is located 35 kilometres (km) south-east of Laverton, in the Shire of Laverton, within the Northern Goldfields region of Western Australia.

The proponent for the proposal is Mt Weld Mining Pty Ltd (a subsidiary of Lynas Rare Earths Ltd).

The proposal is a significant amendment of the approved Mt Weld Rare Earths Project regulated under Ministerial Statement 476 (MS 476), operated by the same proponent. The proposal involves the extension of the development envelope to allow expansion of infrastructure and mining activities.

Environmental values

Terrestrial fauna and human health are the key environmental factors that would be impacted by the proposal.

Consultation

The EPA published the proponent's referral information for the proposal on its website for seven days public comment. The EPA also published the proponent's additional information on its website for public review for four weeks (15 May 2023 – 11 June 2023). The EPA considered the comments received during these public consultation periods in its assessment.

Mitigation hierarchy

The mitigation hierarchy is a sequence of proposed actions to reduce adverse environmental impacts. The sequence commences with avoidance, then moves to minimisation, rehabilitation, and offsets are considered as the last measure.

The proponent considered the mitigation hierarchy in the development and assessment of its proposal, and as a result has proposed to:

- implement the fauna management plan to mitigate potential impacts to terrestrial fauna
- minimise potential impacts from radiation through the implementation of a radiation management plan, transport management plan and radiation waste management plan
- implement a mine closure plan and progressively rehabilitate the mine site.

Assessment of key environmental factors

As the proposal is a significant amendment to an existing proposal, the EPA's assessment has been undertaken in the context of the existing proposal, having regard to the combined and cumulative effects on the environment. The EPA has also considered whether to inquire into the implementation conditions for the existing proposal.

Terrestrial Fauna

Residual impact or risk to environmental value	Assessment finding
<p>1. <u>Existing impact</u> Impacts to the following habitat of the long-tailed dunnart:</p> <ul style="list-style-type: none"> • 1.45 hectares (ha) of 'stony rise' habitat type. <p><u>(Proposed impact)</u> Impacts to:</p> <ul style="list-style-type: none"> • 37.93 ha of 'stony rise' habitat type and 1.85 ha of 'rocky ridge and outcropping habitat type'. <p><u>(Combined impact)</u> Given the above, the combined impact on each habitat type is:</p> <ul style="list-style-type: none"> • 39.38 ha of 'stony rise' habitat type 1.85 ha of 'rocky ridge and outcropping habitat type'. 	<p>The proposal will result in the loss of foraging habitat for the long-tailed dunnart. Considering that the habitat distribution extends 5 km north-west of the development envelope and the proposal will only affect 1.4% of this habitat type in the local area, the residual impacts are not likely to be significant.</p> <p>The EPA advises that subject to the recommended condition A1 to limit the disturbance to terrestrial fauna habitat, and condition B1-2 to minimise impacts to terrestrial fauna, the residual impacts can be managed so that the environmental outcome is likely to be consistent with the EPA objective for terrestrial fauna.</p>
<p>2. Fauna mortality or injury due to vehicle and machinery movements.</p>	<p>The EPA advises that subject to the recommended conditions B1-2 to minimise the risk of physical injury or mortality, behavioural changes and health impacts, the environmental outcome is likely to be consistent with the EPA objective for terrestrial fauna.</p>
<p>3. Indirect impact to terrestrial fauna associated feral animal activity, weeds and altered fire regimes.</p>	<p>The EPA advises that subject to the recommended outcomes in condition B1-1 and requirement to minimise the risk of adverse impacts and limit indirect disturbance to terrestrial fauna in condition B1-2, the environmental outcome is likely to be consistent with the EPA objective for terrestrial fauna.</p>

Human Health

Residual impact or risk to environmental value	Assessment finding
<p>1. Potential impact to human health from:</p> <ul style="list-style-type: none"> a) radiation exposure during mining and mineral processing of naturally occurring radioactive material (NORM) b) radiation exposure to public and workers during transport and storage of NORM c) radiation risk from closure. 	<p>The radiation exposure on site and during transport will be below the worker and public dose limits. The proponent has prepared closure, transport management, radiation management and radiation waste management plans to ensure it does not exceed any dose limits, and these plans would be implemented through legislation administered by the Radiological Council and the Department of Mines, Industry Regulation and Safety.</p> <p>The EPA advises that, subject to the implementation of management plans by other decision-making processes and the recommended condition B2-1(1) to cause no environmental harm, and condition B3-3 'Environmental Performance Report' to report on closure progress every five years, the environmental outcome on human health is likely to be consistent with the EPA objective for human health.</p>

Holistic assessment

The EPA considered the connections and interactions between relevant environmental factors and values to inform a holistic view of impacts to the whole environment. The EPA formed the view that the holistic impacts would not alter the EPA's conclusions about consistency with the EPA factor objectives.

Conclusion and recommendations

The EPA has taken the following into account in its assessment of the proposal:

1. Environmental values which may be significantly affected by the proposal.
2. Assessment of key environmental factors, separately and holistically (this has included considering cumulative impacts of the proposal where relevant).
3. Likely environmental outcomes which can be achieved with the imposition of conditions.
4. Consistency of environmental outcomes with the EPA objectives for the key environmental factors.
5. Confidence in the proponent's proposed mitigation measures.
6. Whether other statutory decision-making processes can mitigate the potential impacts of the proposal on the environment.

7. Principles of the *Environmental Protection Act 1986* (EP Act).

The EPA has recommended that the proposal may be implemented subject to conditions recommended in Appendix A.

Other advice

The EPA provides the following information for consideration by the Minister:

1. The Department of Water and Environmental Regulation (DWER) administers the *Rights in Water and Irrigation Act 1914* (RiWI Act), which provides for the granting of licenses and permits to abstract groundwater and surface water. The EPA notes that abstraction of groundwater from Mt Weld aquifer required for this proposal will be managed by DWER under the proponent's existing groundwater licence (GWL17130(2)), which contains conditions to ensure that drawdown is monitored and impacts on nearby groundwater users are controlled.
2. Emissions and discharges associated with the prescribed premises, defined under Schedule 1 of the *Environmental Protection Regulations 1997* (EP Regulations) can be regulated by the DWER under the Division 3, Part V of the EP Act.
3. The EPA notes that regulation of waste rock and by-product landforms is via the continued application and implementation of a Mining Proposal and a Mine Closure Plan, required under the *Mining Act 1978* (Mining Act). The Department of Mines, Industry Regulation and Safety (DMIRS) is responsible for ensuring the waste landforms are physically and radiologically safe, geotechnically stable, and geochemically non-polluting and non-contaminating.
4. DMIRS administers the *Mine Safety and Inspection Regulations 1995* and is responsible for ensuring the proponent is compliant with Part 16 requiring the proposal to comply with the Radiation Management Plan and Radiation Waste Management Plan.
5. The Radiological Council of Western Australia administers the *Radiation Safety Act 1975* (RS Act) and its regulations. This will include the approval and review of compliance with the Radiation Management Plan, Radiation Waste Management Plan and Transport Management Plan.

1 Proposal

The Mt Weld Rare Earths Project – Life of Mine Proposal is a proposal to extend the approved Mt Weld Rare Earths Project. The proposal is located in a remote area 35 kilometres (km) south-east of Laverton in the Shire of Laverton, in the Northern Goldfields region of Western Australia (see Figure 1).

The proposal is a significant amendment of an approved proposal, the [Mt Weld Rare Earths Project](#) regulated under Ministerial Statement 476 (MS 476). The significant amendment involves the expansion of infrastructure and mining activities which includes a run of mine pad, extended waste rock and by-product landforms, tailing storage facilities, a workers accommodation village, an additional borefield and tailings water recycling infrastructure, a hybrid power station, and an increase in production capacity.

The proponent for the proposal is Mt Weld Mining Pty Ltd (a subsidiary of Lynas Rare Earths Ltd). The proponent referred the proposal to the Environmental Protection Authority (EPA) on 17 August 2022. The referral information was published on the EPA website for seven days public comment. On 4 October 2022, the EPA determined to assess the proposal at the level of Referral Information with additional information and public review. The EPA published the additional information on its website for public review from 15 May 2023 – 11 June 2023.

The main elements of the proposal which have been subject to the EPA's assessment are outlined in Table 1.

The EPA has assessed the residual impacts of the significant amendment by considering the life of mine extension and changes which are now proposed in the context of the original proposal. The EPA has also considered the combined impacts of the original proposal and the proposed changes, and cumulative impacts of the significant amendment with other proposals in the region. The EPA has considered new information on the mitigation of impacts on the approved proposal and significant amendment, and proposed changes to the conditions accordingly.

The EPA has not reassessed the Mt Weld Rare Earths Project approved under MS 476. The proposal elements for the approved Mt Weld Rare Earths Project are provided in Table 1 for context and the cumulative impacts in the context of the original proposal.

Table 1: Location and proposed extent of proposal elements

Proposal element	Location	Original proposal	Significant amendment	Combined proposal
<i>Physical elements</i>				
Development envelope comprising: <ul style="list-style-type: none"> • mine pit • beneficiation plant • evaporation ponds • waste/low grade ore stockpiles • waste rock and by-product landforms • hybrid power station • extended borefield network • accommodation village • associated infrastructure. 	Figure 2	Disturbance of up to 429 ha within a development envelope of 505 ha.	Additional disturbance of up to 1812.6 ha within a development envelope of 2802 ha.	Disturbance of up to 2241.6 ha within a development envelope of 2802 ha.
Tailings dam area	Figure 2	Disturbance of up to 67.3 ha within a development envelope of 505 ha.	Additional disturbance of up to 102.7 ha within a development envelope of 2802 ha.	Disturbance of up to 170 ha within a 2802 ha development envelope.
<i>Operational elements</i>				
Ore processing	Figure 2	Regulated under Part V EP Act.	Up to 1.3 Mtpa	Up to 1.3 Mtpa
Concentrate production	Figure 2	Not Specified.	Up to 300,000 Mtpa	Up to 300,000 Mtpa
Tailings deposition	Figure 2	Regulated under Part V EP Act.	Up to 1.15 Mtpa	Up to 1.15 Mtpa
Raffinate evaporation	Figure 2	Not Specified.	Up to 1.2 GL/yr	Up to 1.2 GL/yr
Groundwater abstraction	Figure 2	Regulated under Groundwater Licence.	Up to 2.8 GL/yr	Up to 2.8 GL/yr
Power plant	Figure 2	Not Specified.	22 MW of installed power supplied by a hybrid solar/wind power station	22 MW of installed power supplied by a hybrid solar/wind power station

Proposal element	Location	Original proposal	Significant amendment	Combined proposal
			with a thermal baseload supply.	with a thermal baseload supply.
Receival and storage of REPF by-product.	Figure 2	Not Specified	Up to 132,000 dry tpa of Iron Phosphate and 330,000 dry tpa of Gypsum.	Up to 132,000 dry tpa of Iron Phosphate and 330,000 dry tpa of Gypsum.
Greenhouse gas emissions				
Total	Scope 1		81,357 t CO ₂ -e/yr	
	Scope 2		0 t CO ₂ -e/yr	
	Scope 3		0 t CO ₂ -e/yr	
Other elements which affect extent of effects on the environment				
Proposal time	Maximum project life		Up to 30 years	
	Decommissioning phase		Up to 2 years	

Units and abbreviations

ha – hectare

GL/yr - gigalitres per year

Mtpa – metric tonnes per annum

MW – mega watt

tCO₂-e/y – tonnes Carbon dioxide equivalent per year

tpa – tonnes per annum

REPF – rare earth processing facility

¹ The Mt Weld Rare Earths Project was originally approved through MS 290, issued on 9 November 1992, which included a mine and beneficiation plant at Mt Weld, and a major secondary processing facility at Meenaar Industrial Estate in Northam. The area of disturbance for the Mt Weld site was 250 ha and 100 ha for secondary plant and the life of project was 15 years.

² MS 476 was issued under section 46 of the EP Act and superseded existing MS 290 to allow for a time extension to implement the proposal and to update all conditions of approval which originally included in MS 290. Subsequently since the approval of MS 476 in May 1998, seven minor changes to the Proposal Key Characteristics have been approved via section 45C process. The majority of these amendments were for changes to the operations or to reduce duplication with other legislation.

³ The secondary processing at Meenaar is no longer considered, as it was never implemented and was removed from the proposal following approval under section 45C of the EP Act.

Application of Environmental Protection Act 1986 amendments

The proposal was referred as a significant amendment to the existing Mt Weld Rare Earths Project which was approved through MS 476. The EPA determined to assess the proposal on 4 October 2022.

Given the proposal is a significant amendment to an existing proposal, the EPA's assessment has been undertaken in the context of the existing Mt Weld Rare Earths Project, having regard to combined and cumulative effects on the environment. The EPA has also considered whether to inquire into the implementation conditions for the existing Mt Weld Rare Earths Project. However, the EPA has not re-assessed the approved proposal (MS 476).

Proposal alternatives

Technology alternatives were explored, emphasising the potential transition to LNG fired boilers and burners to reduce greenhouse gas emissions. The expansion of the development envelope was contemplated to facilitate strategic long-term planning, progressive rehabilitation, and installation of renewable energy sources outside mineralised areas. However, the proponent did not consider alternative locations for the proposal, as the ore body is in a fixed location and placing other infrastructure in different locations was unlikely to improve the environmental outcomes, and would necessitate increase transport movements of products and increase the greenhouse gas emissions from the significant amendment.

Proposal context

The Mt Weld Rare Earths Project is located approximately 35 km south-east of Laverton in the Shire of Laverton. There are no conservation or environmentally sensitive areas within the vicinity of the proposal area, and the proposal occurs in a remote area. The development envelope, with exception of the proposed accommodation camp on western ridge, is situated within the Nyalpa Pirniku Native Title claim (WC2019/002).

The Mt Weld region is subject to a prevailing issue of overgrazing, primarily caused by domestic animals, alongside occasional disturbances resulting from certain exploration activities. No sensitive receptors are located within the vicinity of the proposal. The nearest town is Laverton.

The EPA encouraged the proponent to develop a comprehensive long-term mining proposal, defining the maximum extent that allows for an upfront assessment of the environmental impacts associated with the foreseeable life of the proposal. The EPA commends the proponent for adopting this approach in assessing the potential environmental impacts within the proposed development envelope for the foreseeable life of the mine.

The proponent has proposed to increase the production to meet the growing global demand for rare earth (RE) products and proposes to increase the development envelope to allow expansion of infrastructure and mining activities. The Kalgoorlie Rare Earths Processing Facility (REPF) under a separate Ministerial Statement 1181 (MS 1181) is approved to process RE concentrate from the Mt Weld mine to produce

a RE carbonate product, which will be transported to Fremantle port for export to Lynas' downstream production facilities. The by-products generated by the process which include gypsum and iron phosphate (IP), were approved to be removed from the REPF to Mt Weld mine for long-term storage under the conditions of MS 1181.

The EPA's report and recommendations for the Kalgoorlie REPF was appealed raising concerns about radioactive material being processed and temporarily stored on the proposal site and transported to and disposed of at the Mt Weld mine. During the appeals process, it was noted that a section 46 assessment needed to be conducted to determine whether the implementation conditions at the Mt Weld mine were appropriate to meet the environmental objectives of protecting human health and the environment from the harmful effects of radiation.

This report has now assessed the by-product waste disposal at the Mt Weld mine and the potential impacts of radiation during transportation of RE concentrate and by-products to and from REPF.

Original proposal implementation

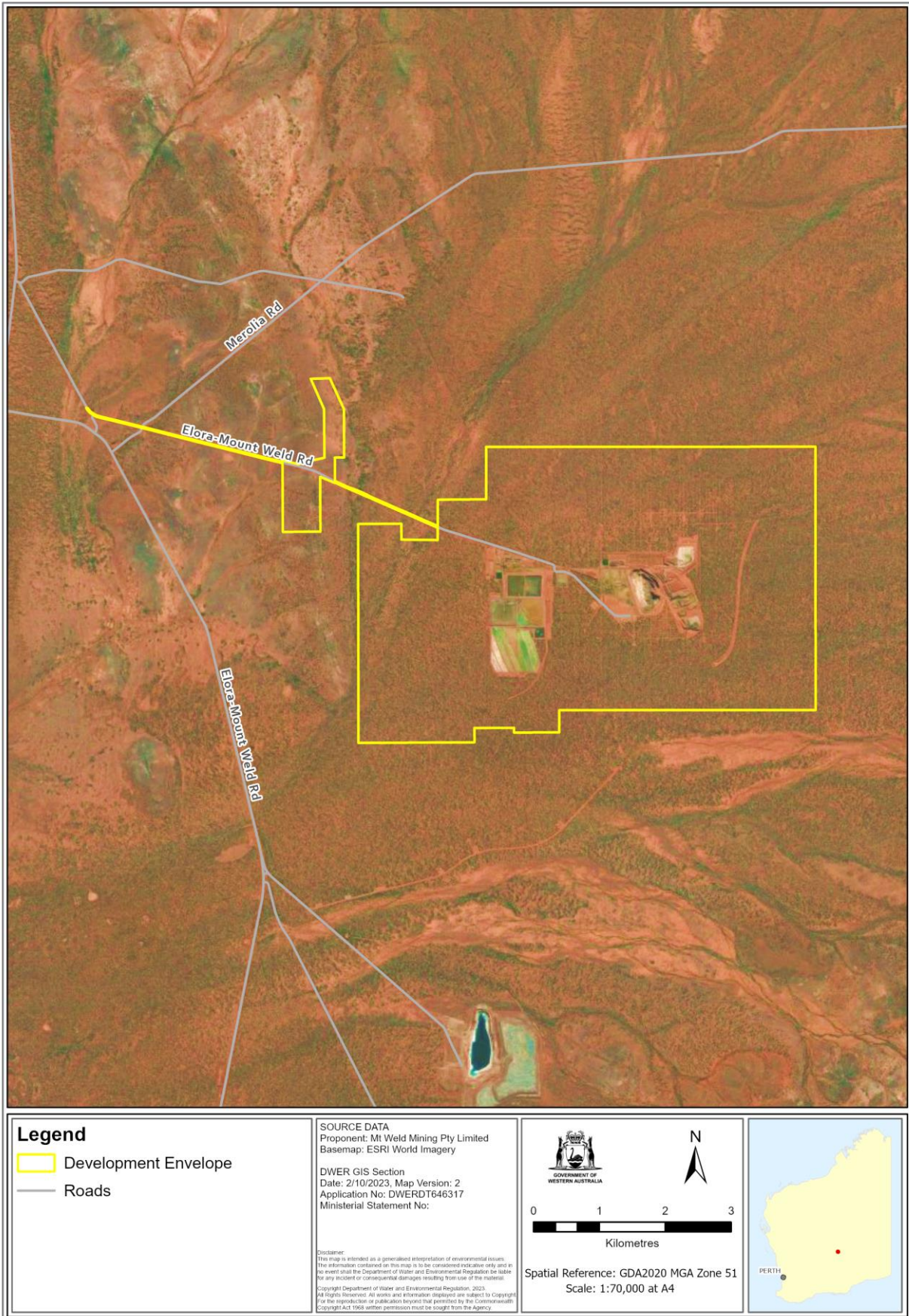
The Mt Weld Rare Earths project was originally approved through MS 290 on 9 November 1992, which included a mine and beneficiation plant at Mt Weld, and a secondary processing facility at Meenaar Industrial Estate in Northam.

On 26 May 1998, MS 476 was issued under section 46 of the EP Act. MS 476 superseded the existing MS 290 and allowed for a time extension to implement the proposal, which also included an update of conditions. Since MS 476 was issued in 1998, there have been a number of minor changes under section 45C of the EP Act to the approved proposal. The majority of these amendments were for changes to the operations or to reduce duplication with other legislation. For example, in May 2003 an amendment to the approved proposal under section 45C of the EP Act was issued, which removed secondary processing at Meenaar from the proposal, as the Meenaar component of the project was never implemented. On 22 January 2018, an amendment to remove key characteristics which had not been found to have an environmental impact during operations and were regulated through other legislation by other agencies was approved. As a result, limits on processing inputs, solid waste materials and abstraction limits on groundwater were removed as they were duplicated under Part V of the EP Act, the *Mining Act 1978*, and *Rights in Water and Irrigation Act 1914*.

The original proposal commenced operations in 2007. Annual compliance assessment reports have been submitted since 2007. The proponent's operations have not been shown to have a significant impact on the environment. The proponent did need to undertake significant research and design work on their tailings storage facilities, to improve the settling and consolidation of materials after starting operations. The research led to the use of a technique known as Accelerated Mechanical Consolidation (AMC) and has resulted in a 50% reduction in tailings volume that needs to be stored, an increase in the shear strength of the material and up to 70% water recovery. The research and design work on AMC was shortlisted for a Golden Gecko for Environmental Excellence in 2022.



Figure 1: Project location



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Figure 2: Development envelope

2 Assessment of key environmental factors

This section includes the EPA's assessment of the key environmental factors. The EPA also evaluated the combined and cumulative impacts of the approved proposal and significant amendment on other environmental factors (Air Quality, Inland Waters, Social Surroundings and Greenhouse Gas Emissions) and concluded these were not key environmental factors for the assessment. This evaluation and an outline of legislation that can regulate these matters is included in Appendix D.

The EPA has assessed the proposal in the context of the approved proposal (MS 476) while having regard to the combined and cumulative effect that the implementation of the approved proposal and significant amendment may have on the following key environmental factors.

2.1 Terrestrial Fauna

2.1.1 Environmental objective

The EPA environmental objective for terrestrial fauna is *to protect terrestrial fauna so that biological diversity and ecological integrity are maintained* (EPA 2016a).

2.1.2 Investigations and surveys

The EPA advises the following investigations, surveys and peer reviews were used to inform the assessment of the potential impacts to terrestrial fauna:

- Onshore Environmental. (2020). *Technical Review - Mt Weld Rare Earths Project Level 2 and Targeted Terrestrial Fauna Survey [Review of Technical Review - Mt Weld Rare Earths Project Level 2 and Targeted Terrestrial Fauna Survey, by Stantec]*. (Appendix M2 of the Environmental Review Document.)
- Onshore Environmental Consultants (2022). *Mt Weld Rare Earths Project: Proposed Disturbance Footprint Impact Memo*. (Appendix L of the Environmental Review Document.)
- Stantec. (2020). *Mt Weld Rare Earths Project Level 2 and Targeted Terrestrial Fauna Survey*. Stantec. Prepared for Mt Weld Mining Pty Ltd. (Appendix K of the Environmental Review Document.)
- Stantec. (2023a). *Targeted SRE Survey*. Stantec. Prepared for Mt Weld Mining Pty Ltd. (Appendix 2 of the Response to Submission Document)

The final surveys used for the assessment were consistent with the *Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA 2020). The original surveys with the referral for short-range endemics (SRE) were partially consistent with the *Technical guidance – Sampling of short-range endemic invertebrate fauna* (EPA 2016b) but have since been supplemented with additional work.

The EPA considered that subsequent targeted SRE surveys were undertaken to understand the potential distribution of SREs outside the development envelope, and

genetic analysis was undertaken for the recorded specimens to determine whether they are widespread.

The subsequent reports on targeted SRE surveys submitted to the EPA, both during the response to submissions (RtS) stage and the assessment stage, adhered to the technical guidance. The additional efforts primarily concentrated on understanding potential distribution of SREs outside the development envelope and conducting genetic analysis to identify taxa at the species level.

2.1.3 Assessment context – existing environment

Fauna habitat

The proposal area is located within the Eastern Murchison subregion (MUR01) of the Murchison bioregion. The proposal area is dominated by Mulga woodland with some localised mallee and spinifex communities. The survey covered an area of approximately 3,254.8 ha, comprising 2,934.2 ha (90%) of native vegetation in ‘Very Good’ condition and 10% mapped as ‘Completely Degraded’ condition.

The biological surveys identified seven broad fauna habitat types in the survey area including ‘mulga on clay loam’, ‘mulga on stony plain’, ‘stony rise’, ‘shrub plain’, ‘low mulga on clay loam’, ‘rocky ridge and outcropping’, and ‘sparse shrubland on heavy clay’ (Figure 3). The ‘mulga on clay loam’ habitat type is the most extensive habitat type within the proposal area, covering an area of 2,623 ha (93%) of the development envelope (Stantec 2020). The remaining habitat types occupy smaller portions within the development envelope with ‘mulga on stony plain’ totalling 105.5 ha (3%); ‘stony rise’ 39.38 ha (1%); ‘shrub plain’ 16.6 ha (0.6%), and the ‘low mulga on clay loam’ covering 5.2 ha (0.2%). The ‘rocky ridge with outcropping’ habitat encompasses 1.85 ha in the development envelope, with a combined extent of 6.6 ha within the greater surveyed area. The ‘sparse shrubland on heavy clay’; although not situated within the development envelope, has a total extent of 5.2 ha within the survey area.

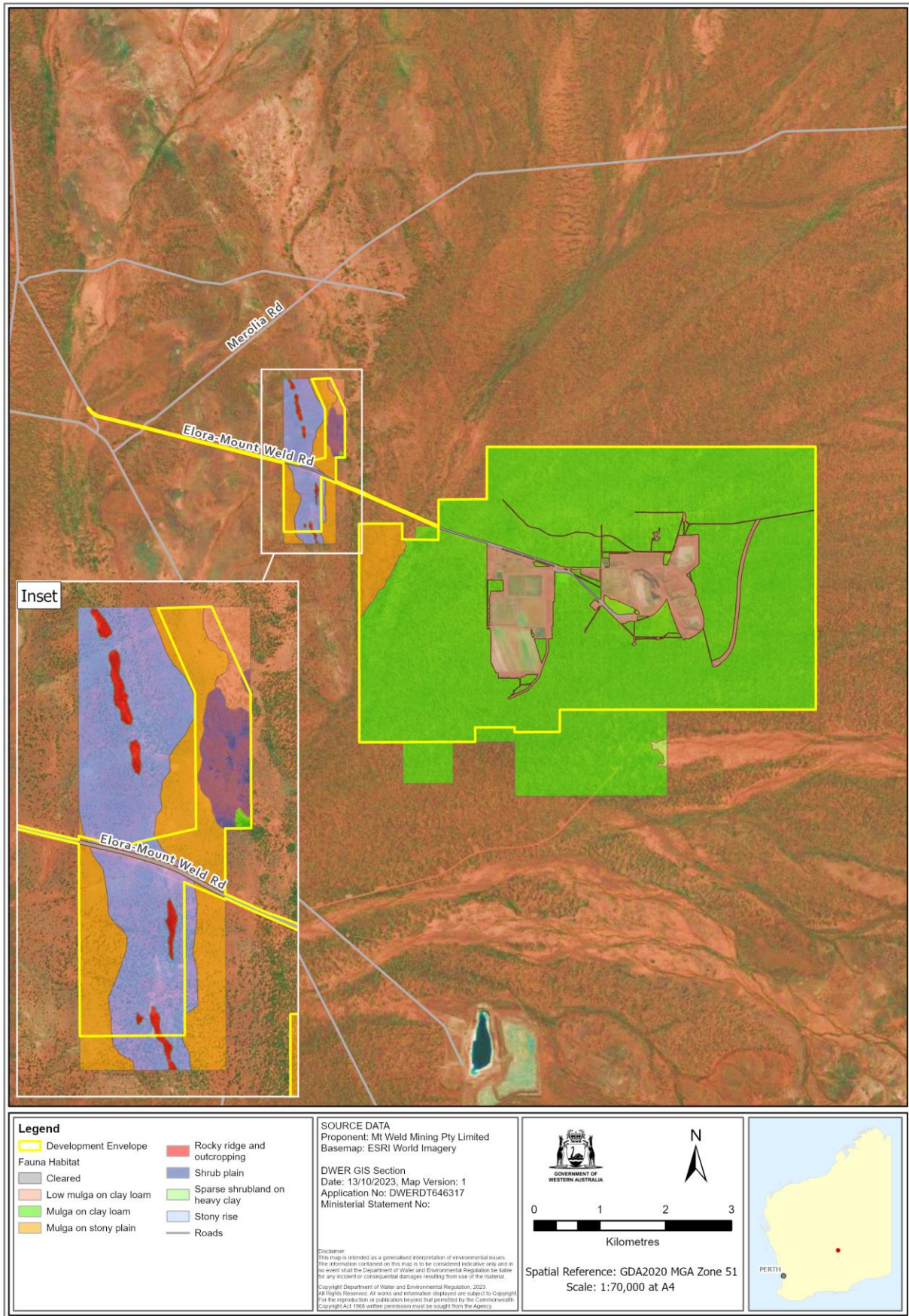
The desktop assessment identified 25 fauna species comprising of six mammals, 18 birds, and one reptile. Of these, only three species were recorded during the field surveys including:

- long-tailed dunnart (Priority 4, *Biodiversity Conservation Act 2016* (BC Act))
- wood sandpiper (Migratory (Mi); International Agreement (IA))
- common sandpiper (Mi; IA).

No species listed as *Threatened* under state or commonwealth legislation were recorded during the field surveys.

Long-tailed dunnart

The long-tailed dunnart are widely distributed in low abundance across much of the arid and semi-arid areas of Western Australia. Long-tailed dunnart prefers



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Figure 3: Habitat mapping within the development envelope

rocky landscapes which support low open mulga over a spinifex understorey, occasionally with perennial grasses (Stantec 2020). The field surveys recorded these species at a total of 33 locations within a 5 km radius of the survey area, of which three were within the development envelope, occurring within the ‘stony rise’ habitat type. They were also recorded at the ‘rocky ridge and outcropping’ habitat within the survey area, however, none of them were recorded within the development envelope in this habitat type.

Wood Sandpiper and Common Sandpiper

The wood sandpiper is a migratory bird species from Siberia travelling to Australia to utilise freshwater wetlands to forage and roost, before returning to the northern hemisphere for the breeding seasons (DCCEEW 2020). The common sandpiper is also a migratory bird species which migrates to Australia from Europe and Asia during the non-breeding season and utilises mangrove-lined creeks, mud with outcropping of rocks, steep-sided sewage ponds and dams.

Single individuals of wood sandpiper and common sandpiper was recorded during a targeted avifauna survey. The EPA notes that these species are more of vagrant species to this area and unlikely to have important habitat in the area, so have not been considered further.

Short-range Endemics

A total of 13 taxa (28 specimens) were recorded within the development envelope during the field surveys, of which nine taxa were identified as potential SREs, including:

- the mygalomorph spider specimens *Idiosoma* ‘MW1’ and *Idiosoma* ‘MW1’ the mygalomorph spider specimens *Idiosoma* ‘MYG722’
- the mygalomorph spider specimens *Proshermacha* sp.
- the mygalomorph spider specimens *Aname* ‘MYG629’
- the scorpion specimens *Urodacus* sp.
- the pseudoscorpion specimen from the morphospecies *Synsphyronus* ‘weld’
- the slater specimen from the morphospecies *Buddelundia* ‘103’
- the slater specimen from the morphospecies *Buddelundia* ‘106’.

The slater specimens were recorded from ‘shrub plain’ habitat type whilst the others were recorded within the mulga on clay loam habitat.

The proponent undertook a genetic analysis of recorded SRE specimens to resolve identification of potential SRE taxa and to confirm if they were widespread. The additional morphological and genetic work confirmed that the five of the nine potential SRE taxa were widespread. These taxa were:

- *Aname* ‘MYG629’
- *Idiosoma*. ‘MYG722’

- *Proshermacha* ‘MYG715’
- *Buddelundia* ‘103’
- *Buddelundia*. ‘106’.

Of the remaining four taxa, three were recorded from ‘mulga on clay loam’ habitat type. The proponent undertook an additional targeted survey to confirm that they were widespread. These taxa were:

- *Idiosoma* ‘MW1’
- *Idiosoma* ‘MW2’
- *Urodacus* ‘MW1’.

The remaining taxon *Synsphyronus* ‘weld’ was recorded on ‘mulga on clay loam’ habitat within the development envelope, but outside of any areas proposed to be impacted. The genetic analysis for *Synsphyronus* ‘weld’ was inconclusive as there were no matches with reference genetic sequences for this taxon. The proponent undertook an additional targeted survey outside the development envelope to confirm that this species are widespread. A total of 135 pseudoscorpion specimens were recorded during the survey, with 35 specimens recorded outside the development envelope identified as potential members of genus *Synsphyronus* (Stantec 2023b). These specimens underwent additional morphological and genetic analysis, confirming that these species were widespread and not restricted to areas of disturbance.

2.1.4 Consultation

The additional information required under section 40(2)(a) of the EP Act was advertised for four weeks public review. Matters raised during stakeholder consultation and the proponent’s responses are provided in the response to submissions document (Mt Weld Mining Pty Ltd 2023).

The key issues raised during the public consultation on the proposal and how they have been considered in the assessment are described in sections 2.1.5, 2.1.6, 2.1.7, 2.1.8 and 2.1.9.

2.1.5 Potential impacts from the proposal

The proposal has the potential to impact on terrestrial fauna from:

- direct impacts of clearing and habitat loss
- loss of 39.38 ha of ‘stony rise’ habitat type used by the long-tailed dunnart
- accidental deaths and injuries to terrestrial fauna from vehicles
- indirect impacts from feral animals resulting in habitat destruction and competition for food resources
- indirect impacts from fugitive emissions (for example, dust), and altered fire regimes.

The issues raised during the public consultation about potential direct and indirect impacts to terrestrial fauna have been considered in this assessment.

2.1.6 Avoidance measures

The proponent has designed the proposal to avoid impacts to terrestrial fauna where possible.

The issue raised during the public consultation about potential impacts to conservation significant fauna has been considered through this avoidance measure.

2.1.7 Minimisation measures (including regulation by other DMAs)

The proponent has proposed measures to minimise impacts to terrestrial fauna:

1. Clearing will be undertaken only where required for construction and operation of the mine.
2. Restrictions on unauthorised access to undisturbed non-operational areas to prevent faunal injury.
3. On-site traffic management and limitation on speed limit of vehicles to prevent injuries to fauna.
4. Controls to minimise fugitive dust emissions.
5. Implementation of predator control at appropriate locations to minimise impact to conservation significant fauna.

The proponent has prepared a fauna management plan for management of impacts to fauna. The issue raised during the public consultation about potential impacts to conservation significant fauna has been considered through minimisation measures.

2.1.8 Rehabilitation measures

The land disturbance from the proposed mine will substantially increase relative to the approved proposal. The proponent has proposed that the disturbed areas will be rehabilitated with native vegetation. The rehabilitation works would include stockpiling topsoils for future use in rehabilitation and subsequently respreading stockpiled topsoil on disturbed areas to increase seedling establishment and propagule regeneration.

Additionally, the proponent has proposed the following measures for successful rehabilitation:

1. Progressive rehabilitation of the project area throughout the life of mine to encourage the return of native fauna.
2. Collecting viable native seeds with the native title holders for use in rehabilitation.
3. Application of weed control measures to minimise spread of weeds in rehabilitated areas.

In accordance with the *Mining Act 1978*, the proponent would be required to prepare a Mine Closure Plan consistent with the *Statutory Guidelines for Mine Closure Plans* (DMIRS 2020). In addition, the EPA notes that the proponent will need to comply with a radiation waste management plan and licence under the *Radiation Safety Act 1975*.

2.1.9 Assessment of impacts to environmental values

The EPA notes that there were no listed threatened species found during field surveys. The EPA therefore considers that the key environmental values likely to be impacted by the proposal are the habitats for the long-tailed dunnart and SREs

The EPA has assessed the proposal in the context of the approved proposal (MS 476) while having regard to the combined and cumulative effect that the implementation of the approved proposal and significant amendment may have on terrestrial fauna.

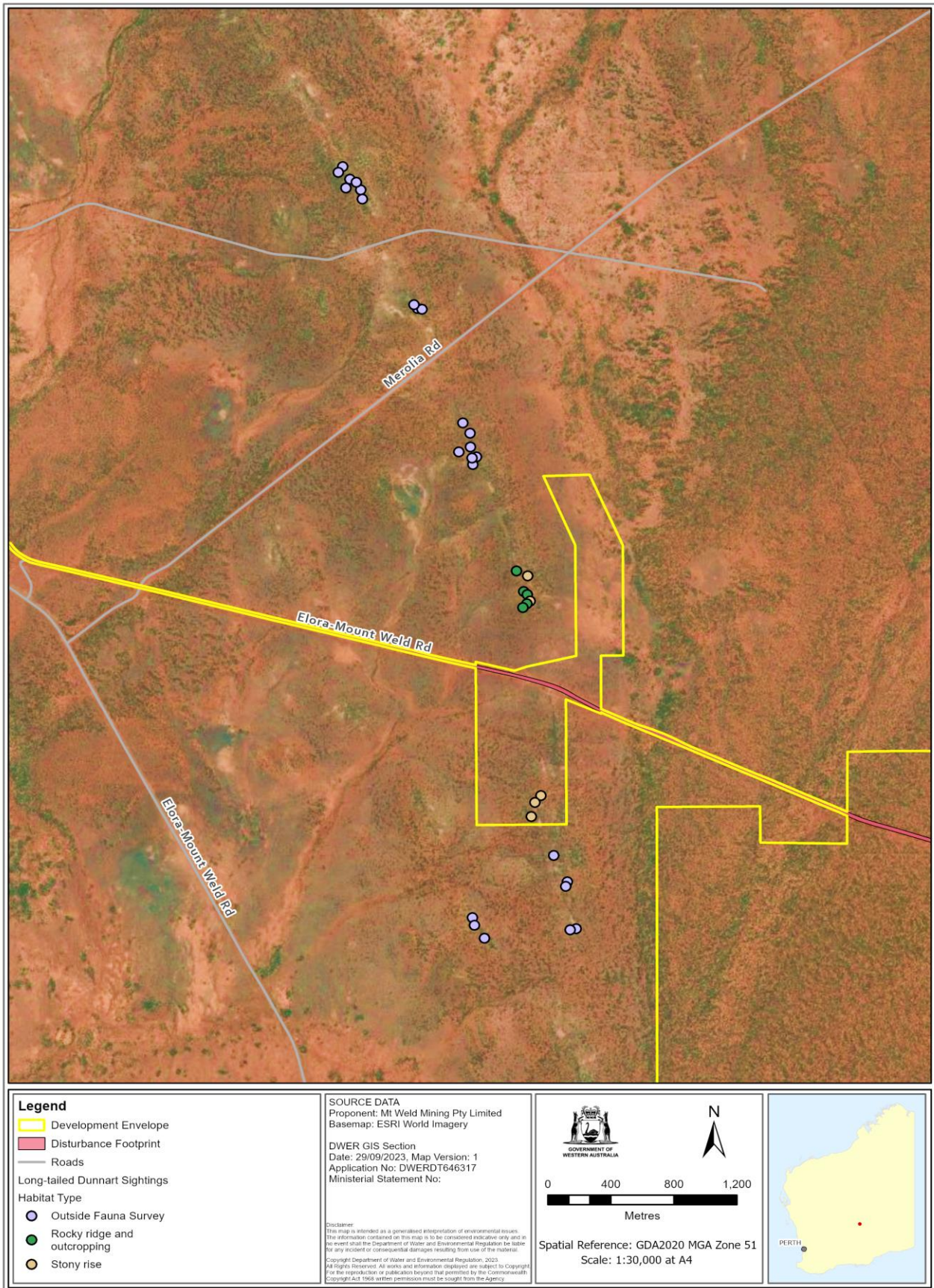
Long-tailed dunnart

The EPA advises that out of the 33 locations where the long-tailed dunnart was recorded within the survey area, only three were within the development envelope (Figure 3). The EPA notes that the species was found within the preferred stony rise habitat type within the development envelope and this habitat type is likely to be used for foraging and potentially breeding. The EPA notes that the species was also recorded within the rocky ridge and outcropping habitat but not within the development envelope, even though this habitat is present within the development envelope.

The EPA notes that the proposal would potentially impact up to 39.38 ha of ‘stony rise’ habitat and up to 1.85 ha of ‘rocky ridge and outcropping’ habitat. The EPA notes that both types of habitats are known to extend at least 5 km to the north-west from the proposal area (Figure 5) and are known to occur across the broader region, so are not considered limited in extent. The EPA notes that surveys (Stantec 2020, Stantec, 2023) for the long-tailed dunnart and SREs have extended outside the development envelope and confirm the habitat extensions. The EPA considers, as outlined below, that given the broader range of the species, and available habitat in the region, the impacts from the significant amendment are unlikely to change its conservation status. The EPA is of the view that measures to limit clearing of habitat and minimise impacts to this species would be reasonable.

Short-range endemics

The EPA notes that the potential SREs were predominantly recorded on ‘mulga on clay loam’ habitat. The ‘mulga on clay loam’ habitat type is a widespread habitat type, covering approximately 2,644.1 ha (81%) of the survey area, of which 2,233.5 ha (93%) of the mapped extent occurs within currently undisturbed areas of the development envelope. This habitat type is extensive and more importantly well connected within the surrounding survey area (KASA Consulting 2023). Given the



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Figure 5: Extent of ‘stony rise’ and ‘outcropping’ habitat types

potential impacts to the potential SRE taxa, the proponent undertook additional targeted survey including morphological and genetic analysis to better understand the potential distribution of these SRE taxa outside the proposed development envelope. The supplementary report confirmed that all of the nine potential SRE taxa have known distributions extending beyond the development envelope. Taking into consideration, the remaining extent of this habitat type, which is widespread across the region, and the potential distribution of SREs beyond the development envelope, it is unlikely that the impacts from the significant amendment are likely to be significant on SREs.

Cumulative Impacts

The proponent has assessed the cumulative impacts by considering the successive, incremental, and interactive impacts on the terrestrial fauna with past, present and reasonably foreseeable future activities associated with the proposal itself. The EPA has considered both the existing and reasonably foreseeable cumulative impacts to terrestrial fauna in the vicinity of the proposal within the Eastern Murchison subregion (MUR01). The EPA's cumulative impact assessment has considered the cumulative effects from the range of threats and pressures in the area of the proposal; and whether the environment affected by the proposal has significant value. The EPA notes that due to the lack of threatened species in the local area, the cumulative impacts to significant fauna habitat are not at a level that would result in a critical threshold being reached for this species.

The EPA initially evaluated three projects to assess cumulative effects by considering the impact of the proposal in addition to the Barrambie Vanadium Project, Yeelirrie Uranium Project, and Murrin Murrin Nickel-Cobalt Project Stage 2 Expansion. Subsequently, due to the considerable distance of approximately 300 km separating this significant amendment from the other proposals, the cumulative impact assessment focuses largely on the Murrin Murrin Nickel-Cobalt Project Stage 2 Expansion.

The impact of each project on fauna habitat values consistent with the proposal are shown in Table 2.

Table 2: Cumulative impact assessment on fauna habitat

Environmental value being impacted	Mt Weld Rare Earths Project – Life of Mine Proposal	Murrin Murrin Nickel-Cobalt Project Stage 2 Expansion
Long-tailed dunnart	<p>Approved proposal: Approximately 1.45 ha of potential long-tailed dunnart Habitat</p> <p>Significant amendment and approved proposal: Up to 39.78 ha of potential long-tailed dunnart habitat</p>	Approved proposal: Up to 201.71 ha of potential long-tailed dunnart habitat

The EPA considers that, on a bioregional scale, the implementation of this significant amendment would contribute to cumulate impacts on the abovementioned terrestrial fauna species due to habitat loss. Cumulatively, the impacts are not at a level that would alter the conservation status of the species. The long-tailed dunnart is a species with a broad distribution, inhabiting remote and disparate locations throughout the arid zone, often associated with rocky habitats. The EPA notes that they are not endemic to Western Australia and are distributed across a broader range of regions, including the Gibson Desert, southern Carnarvon Basin, Rangeland and Pilbara within Western Australia. Taking into consideration the larger habitat distribution, which extends 5 km northwest of the proposal area, their extensive geographical distribution within Western Australia, as well as the proponents minimisation and rehabilitation measures, the potential impact on the long-tailed dunnart, when assessed at both local and regional scales, is unlikely to be substantial and limits on clearing of habitat and minimisation measures are appropriate for this species.

The EPA considers the residual impact on long-tailed dunnart is unlikely to be significant, and can be regulated through recommended conditions A1-1 and Condition B1-2.

The EPA acknowledges the difficulty in considering the cumulative impacts on the individual SRE species. Therefore, the EPA has considered cumulative impacts on the ‘mulga on clay loam’ habitat type where SREs were predominantly recorded. Taking into consideration the remaining extent of this habitat type, which is widespread across the region and well connected within the surrounding survey area (KASA Consulting 2023), it is unlikely that the cumulative impacts on this habitat type will be substantial.

Rehabilitation and mine closure

The EPA considers there is a specific need to consider the environmental outcomes during closure of the mine after reviewing the current conditions on the approved proposal and the combined increase in land disturbance. The EPA notes that for long-lived mines, there is a specific need to ensure they are closure ready well in advance of decommissioning through appropriate research, field trials and progressive rehabilitation.

After careful review of the current conditions, the combined impacts and regulatory framework, the EPA considers that during operations and closure of the site, measures to improve environmental outcomes for mine closure are required. The EPA considers that the regulatory framework for radiation management and mine closure are appropriate (see Section 2.2. Human Health for more details) for radiation, geochemical weathering of materials within the pit and landform stability. There is, however, a need to have specific requirements on the return of native species, and pollution and environmental harm from landforms containing waste materials. The EPA advises that an outcomes-based condition on mine closure and rehabilitation with five yearly performance reporting would be appropriate for a mine of this size and a life of mine of 30 years. The EPA has recommended Condition B-2 for this purpose.

The analysis of cumulative impacts, closure outcomes and recommended conditions would ensure the proposal is likely to be consistent with the EPA objective for terrestrial fauna.

2.1.10 Summary of key factor assessment and recommended regulation

The EPA has considered the likely residual impacts of the proposal on terrestrial fauna environmental values. In doing so, the EPA has considered whether reasonable conditions could be imposed, or other decision-making processes can ensure consistency with the EPA factor objective. The EPA assessment findings are presented in Table 3.

The EPA has also considered the principles of the *Environmental Protection Act 1986* (see Appendix C) in assessing whether the residual impacts will be consistent with its environmental factor objective and whether reasonable conditions can be imposed (see Appendix A).

Table 3: Summary of assessment for terrestrial fauna

Residual impact or risk to environmental value	Assessment finding or Environmental outcome	Recommended conditions and DMA regulation
<p>1. <u>Existing impact</u> Direct impacts to the following habitat type that are of importance to the long-tailed dunnart:</p> <ul style="list-style-type: none"> • 1.45 ha of ‘stony rise’ habitat type. <p><u>(Proposed impact)</u> Direct impacts to:</p> <ul style="list-style-type: none"> • 37.93 ha of ‘stony rise’ habitat type and 1.85 ha of ‘rocky ridge and outcropping habitat type’ <p><u>(Combined impact)</u> Given the above, the combined impact on each habitat type is:</p> <ul style="list-style-type: none"> • 39.38 ha of ‘stony rise’ habitat type • 1.85 ha of ‘rocky ridge and outcropping habitat type’ 	<p>The proposal will result in loss of foraging and potentially breeding habitat for the long-tailed dunnart. Considering that the long-tailed dunnart’s habitat distribution extends 5 km north-west of the development envelope, the residual impacts are not likely to be significant at a local scale.</p> <p>The EPA advises that subject to the recommended condition A1 to limit the disturbance to terrestrial fauna habitat, the residual impacts can be managed so that the environmental outcome is likely to be consistent with the EPA objective for terrestrial fauna.</p>	<p>Condition A1 (Limitations and extent of proposal)</p> <p>Limit on the extent of the proposal including the direct disturbance to long tailed dunnart habitat.</p> <p>Condition B2 (Terrestrial Fauna and Human Health)</p> <p>Requirement to rehabilitate with native species.</p>

	Residual impact or risk to environmental value	Assessment finding or Environmental outcome	Recommended conditions and DMA regulation
2.	Fauna mortality or injury due to vehicle and machinery movements.	The EPA advises that minimisation measures are reasonable for managing indirect impacts to terrestrial fauna. The EPA considers that subject to the recommended conditions B1-2 to minimise the risk of physical injury or mortality, behavioural changes and health impacts, the environmental outcome is likely to be consistent with the EPA objective for terrestrial fauna.	<p>Condition A1 (Limitations and extent of proposal)</p> <p>Limit on the extent of the proposal including the development envelope and clearing extent.</p> <p>Condition B1 (Terrestrial Fauna)</p> <p>Requirement for management of indirect impacts on terrestrial fauna.</p>
3.	Indirect impact to terrestrial fauna associated with dust deposition, increased feral animal activity, and altered fire regimes.	The EPA advises that minimisation measures are reasonable for managing indirect impacts to terrestrial fauna. The EPA advises that subject to the recommended outcome B1-2 including the requirement to minimise the risk of adverse impacts and limit indirect disturbance to terrestrial fauna, the environmental outcome is likely to be consistent with the EPA objective for terrestrial fauna.	<p>Condition A1 (Limitations and extent of proposal)</p> <p>Limit on the extent of the proposal including the development envelope and clearing extent.</p> <p>Condition B1 (Terrestrial Fauna)</p> <p>Requirement for management of indirect impacts on terrestrial fauna.</p>

2.2 Human Health

2.2.1 Environmental objective

The EPA environmental objective for human health is *to protect human health from significant harm* (EPA 2016c).

2.2.2 Investigations and surveys

The proponent has undertaken monitoring and data gathering on the Mt Weld site since 2011 when the processing plant was commissioned. This data along with modelling of exposure scenarios has been used to derive exposure levels for works, and the public.

The EPA advises the following investigations and surveys were used to inform the assessment of the potential impacts to human health:

- Lynas (2022). *Radiation Management Plan – Mt Weld Mine Site*. (Appendix H of the Environmental Review Document)
- Mt Weld Mining Pty Ltd (2023). Response to Submissions. Mt Weld – Life of Mine Proposal.

The EPA considers that the information used to derive exposure scenarios and the exposure scenarios chosen are adequate for the assessment of human health. The EPA advises that data derived from over ten years of operations, provides a robust data set and more accurate exposure calculations than for greenfields sites.

2.2.3 Assessment context – existing environment

The nearest sensitive receptor to the Mt Weld mine site is Laverton 35 km to the north-west of the mine. As a result, the most likely exposure pathway for members of the public from would be following a transport vehicle or during spills or accidents. Public exposure from the Kalgoorlie Rare Earth Processing facility (REPF) was previously considered prior to the issue of Ministerial Statement 1181 (MS 1181).

The Rare Earth (RE) concentrate produced at Mt Weld site contains a low level of naturally occurring radioactive material (NORM) with a combined concentration exceeding one Becquerel per gram (Bq/g) (Lynas 2022). The concentrations of radionuclides in the RE concentrate are approximately 1630 parts per million (ppm) Thorium and 43 ppm Uranium and it has a total radioactivity level of 6.3 (Bq/g).

The RE concentrate will be transported to the REPF, regulated under the MS 1181 to produce a RE carbonate product, which will be transported to Fremantle Port for export to the Lynas downstream production facilities. Both the transport of the RE concentrate and product for export do not require regulation because they are below the threshold that requires regulation.

The post-treatment of RE concentrate at REPF will generate a by-product which includes Iron Phosphate (IP) and Gypsum, which are approved to be removed from the REPF to Mt Weld or an alternative approved facility for long-term storage under the conditions of MS 1181. IP contains Iron, Phosphate, Aluminium and residual RE concentrate and contains low level of NORM, while the Gypsum is a non-radioactive by-product and is similar to naturally occurring Gypsum.

The by-products from the REPF and wastes generated from producing RE concentrate are proposed to be disposed of into the by-product landforms at the Mt Weld site. The current Mt Weld mine (approved proposal) has been managing wastes from the production of the RE concentrate for over a decade. Background monitoring of groundwater and soils indicates that there are not elevated levels of radiation in the wider environment from the current operations (KASA Consulting 2023).

2.2.4 Consultation

The additional information required under section 40(2)(a) of the EP Act was advertised for four weeks public review. Matters raised during stakeholder consultation and the proponent's responses are provided in the response to submissions document (Mt Weld Mining Pty Ltd 2023).

The key issues raised during the public consultation on the proposal and how they have been considered in the assessment are described in sections 2.2.5, 2.2.6, 2.2.7 and 2.2.8.

2.2.5 Potential impacts from the proposal

The proposal has the potential to impact on human health from:

1. Radiation exposure during mining and mineral processing of NORM.
2. Radiation exposure to public and workers during transport and storage of NORM.

The issues raised during the public consultation about potential direct and indirect impacts to human health have been considered in this assessment.

2.2.6 Avoidance measures

The proponent has designed the proposal to avoid impacts to human health by:

1. Removing the exposure pathways by processing the RE concentrate at Kalgoorlie and returning the wastes to a remote site.

The issue raised during the public consultation about potential impacts to human health has been addressed through the avoidance measure above which ensures the safety of nearby residents from potential radiation risks. The return of the by-product containing NORMs to the mine site (source) limits any potential for public exposure at the processing plant near to Kalgoorlie. The by-products waste will be managed within the controlled environment of the mine site, where the by-products will be stored. These by-product landforms will be designed and engineered to ensure that radiation levels do not exceed background radiation levels and do not pose a risk to environmental values, following best practices and regulatory guidelines to protect the environment and human health. The mine's remote location further reduces the risk of radiation exposure for the general public.

2.2.7 Minimisation measures (including regulation by other DMAs)

Regulatory framework

The regulatory framework for the management and regulation of radiation in Western Australia is outlined by the proponent in section 1.6 of the environment review document (KASA Consulting 2023). The regulatory framework for regulation of radiation on mine sites involves several agencies with overlapping regulatory powers and specific legislation (for example, *Radiation Safety Act 1975*) and regulations (Part 16 – Radiation Safety – *Mine Safety and Inspection Regulations 1995*) which

implement national and international codes of practice for the storage, disposal, processing and transport of material determined to have a radiation level above a certain threshold. Importantly, the regulatory framework includes radiation limits for the public and workers which ensure human health would be protected. The estimated exposure of transport workers, mine site workers and the public from the significant amendment are substantially below the exposure limits determined by the Radiological Council of Western Australia and Part 16 of the *Mine Safety and Inspection Regulations 1995*.

Minimisation measures

The proponent has proposed the following measures to minimise impacts to human health:

1. Implementing the Transport Management Plan (TMP) to allow for the transport of RE concentrate IP between the Mt Weld mine and the Kalgoorlie REPF; the plan requires monitoring of driver exposure levels.
2. By-products returning from Kalgoorlie REPF would be managed by implementing the approved Radiation Management Plan (RMP) and Radioactive Waste Management Plan (RWMP).
3. Implementing the RMP to manage risks of radiation associated with NORMs including monitoring exposures to workers and the public, and implementing procedures (for example, employment of a radiation safety officer with specific expertise on rare earth mines, containment of material, rotation of staffing, personal protective equipment) to ensure exposure never exceeds the exposure limits.

The issue raised during the public consultation about potential impacts to human health has been considered through minimisation measures 1, 2 and 3.

2.2.8 Rehabilitation measures

The land disturbance from the proposed mine will substantially increase relative to the approved proposal. The proponent has proposed that the disturbed areas will be rehabilitated with native vegetation.

Additionally, the proponent has proposed the following measures for successful rehabilitation:

1. Progressive rehabilitation of the project area throughout the life of mine to encourage the return of native fauna.
2. Collecting viable native seeds with the native title holders for use in rehabilitation.
3. Application of weed control measures to minimise spread of weeds in rehabilitated areas.

In accordance with the *Mining Act 1978*, the proponent would be required to prepare a Mine Closure Plan consistent with the *Statutory Guidelines for Mine Closure Plans* (DMIRS 2020). The proponent's current Mine Closure Plan outlines that radiation levels in the tailings storage facilities would be covered to attenuate gamma radiation to background levels and trials are ongoing for the optimal design. In addition, the

EPA notes that the proponent will need to comply with a radiation waste management plan and licence under the *Radiation Safety Act 1975*.

2.2.9 Assessment of impacts to environmental values

The EPA has assessed the proposal in the context of the approved proposal (MS 476) while having regard to the combined and cumulative effect that the implementation of the approved proposal may have on human health.

The proponent's Radiation Management Plan (Appendix H of environmental review document) includes the description of the likely sources of radiation; exposure pathways; and an assessment of the potential of the proposal to impact on human health and the environment. The proponent's environmental review document also includes a range of scenarios for exposure of the public to radiation including for the highest likely normal exposure pathway, and during incidental spills. The EPA considers the scenarios considered to be appropriate for the assessment.

Mine sites

The proponent has conducted a comprehensive evaluation of potential exposure pathways to assess radiation doses resulting from NORM exposure, which includes external radiation exposure (gamma radiation), inhalation of dust containing radionuclides, inhalation of Radon and Thoron, as well as ingestion of NORM through various routes, including drinking water, food, dust, and soil. Each of these potential exposure pathways has been assessed in terms of its potential contribution to the overall occupational radiation dose.

The source of NORM at the Mt Weld operation is the naturally occurring Uranium (^{238}U) and Thorium (^{232}T) contained within the lanthanide ore. Both Uranium and Thorium undergo continuous decay, producing other radioactive elements. The ore and concentrate from Mt Weld both contain radionuclides from Thorium and Uranium series, emitting gamma radiation, which poses a potential exposure source. The external dose rate is primarily determined by the concentration of Thorium and Uranium, the volume of the material, distance from the source and source area (Lynas 2022).

The primary source of radionuclides in airborne dust at the Mt Weld site originates from fugitive dust emissions from ore and concentrate stockpiles. Typically, the concentrations of NORM gases are significantly higher in mining areas (mining pit and ROM), compared to the concentration plant. This disparity arises from the larger volume of ore present in mining areas and the propensity for gas to accumulate in the pit (Lynas 2022). The radiation monitoring program undertaken by the proponent indicated that NORM has made an insignificant contribution to the total occupational radiation dose.

The proponent's historical radiation monitoring at the Mt Weld mine outlines that workers on-site experienced an average radiation dose of 0.9 milli Sieverts per year (mSv/yr), which is well below the 20 mSv/yr limit for workers. Whilst not applicable to workers, the exposure on site is also below the public exposure limit. The radiation monitoring program undertaken by the proponent recorded no indications of an

increase in gamma radiation at the Mt Weld site from mining operations (Kasa Consulting 2023). The EPA considers that there is a low risk to workers from radiation exposure from the operation of the mine and the current approach to regulation through a radiation management plan (RMP) is appropriate.

The nearest sensitive receptor to the Mt Weld mine site is Laverton 35 km to the north-west. The radiological exposure to members of the public at Laverton would be undetectable compared to background exposure levels. The EPA advises that it is unlikely the mine site would represent a significant source of radiation exposure to the public.

The by-product IP, which contains low level NORM, has been determined to have very low radionuclide mobility and leaching potential (KASA Consulting 2023). In contrast, gypsum, another component of the by-product, is non-radioactive. Radiometric tests have demonstrated that a 300 millimetre (mm) layer of cover material will effectively attenuate gamma radiation, preventing any increase in onsite radiation levels. Additionally, the proponent has proposed maintaining an approximate 15 metre (m) vertical separation between the base of the by-product stockpile and the groundwater level, as a precautionary measure to minimise the risk of groundwater contamination from potential seepage seeping from the by-product landform. Considering the proposed capping profile of 300 mm for IP and 15 m vertical separation between the base of by-product landform and groundwater level, the EPA is of the view that the long-term storage of IP at Mt Weld mine is unlikely to result in an increase in on onsite radiation levels and considers that the management and storage of IP in accordance with the approved RMP to be appropriate.

The EPA recommends an outcomes-based condition B-2-1(1), to ensure that the by-products landform does not pose a risk of environmental harm; condition B3-3(2) to enhance environmental protection in the context of radiation, geochemical weathering, and landform stability.

Transport

The proponent has undertaken an assessment of radiation exposure risk due to the transport of IP and RE concentrate to transport workers and member of the public. The most likely source of radiation exposure during transport is from gamma radiation due to the containment of material and shielding within the cabin of the vehicles. The estimated average radiation dose to a transport worker is expected to be 0.1 $\mu\text{Sv/hr}$ and are not expected to be exposed to gamma radiation above the natural background levels, which the proponent has measured along the transport route from the mine to the Kalgoorlie REPF. The EPA notes that transport workers would be monitored under the transport management plan but the risk from radiation exposure is reasonably low.

The radiation exposure to the public from transport was estimated using three scenarios. RE concentrate will be transported in sealed rotainers to Kalgoorlie REPF to minimise the risk of radiation exposure to public. In the worst scenario considered, where a car follows a truck closely containing RE concentrate for several hours, the radiation dose is expected to remain notably low (for example, 0.0007mSv/yr), and well below the regulatory threshold of 1 mSv/yr (KASA Consulting 2023). The EPA

notes that this level of radiation is unlikely to be measurable against background exposures in practice and monitoring of drivers is the most appropriate method to assess risks.

In addition to the scenario considered for exposure during transport, an exposure assessment for an incident causing a spill has been undertaken. The exposure assessment identified that a member of the public would need to be within five centimetres of the spill constantly for three weeks to exceed the public exposure limit. Hence, the likely risk from an incidental spill is considered to be low (Kasa Consulting 2023). The EPA notes that the proponent has a spill response plan it uses in conjunction with the transport management plan to minimise (exposure time) the impacts of any incidental spill.

The EPA has considered the exposure scenarios and likely doses to workers and the public. The EPA has reviewed the regulatory framework for radiation. The EPA notes that for none of the scenarios, the dose limits of the Radiological Council and Part 16 of the *Mines Safety and Inspection Regulations 1995* are exceeded. The EPA advises that the doses estimated through the assessment are mostly close to background or an order of magnitude below the dose limits.

The EPA considers that the risks associated with radiation will be co-regulated and managed by the Radiological Council and DMIRS under the *Radiation Safety Act 1975* (RS Act) and *Mines Safety and Inspection Act 1994* (MSIA Act). The Radiological Council and DMIRS would co-regulate minimisation of radiation exposure at the mine site and Radiological Council would regulate the transport of RE concentrate and IP using the Transport Management Plan required as a statutory obligation under the *Radiation Strategy (Transport of Radioactive Substances) Regulations 2002*. The EPA considers that the Radiation Management Plan and Radioactive Waste Management Plan, required under the RS Act are adequate to ensure the dose limits to workers and the public would not be exceeded. As a result the EPA advises that the significant amendment is likely to be consistent with the EPA objective for human health during construction and operations.

Mine closure

In addition to the above, the EPA has considered the closure of the mine site and radiation exposure. The EPA considers that the tailings storage facilities would be main potential source of radiation after mine closure and the proposed attenuation of radiation to background levels is appropriate. The EPA notes that trials are ongoing for the optimal cover design for the tailings storage facilities and has proposed a condition for the mine to cause no environmental harm (condition B2-1(1)) and five yearly performance reports on the progress of closure work on the mine site, including trials and research undertaken to inform final closure (condition B3-3(2)). As a result, the EPA advises that the significant amendment is likely to be consistent with the EPA objective for human health for closure of the mine.

2.2.10 Summary of key factor assessment and recommended regulation

The EPA does not consider that there is a significant residual impact to the key environmental factor of human health. The EPA notes that the impacts associated with radiation can be adequately managed through other decision-making processes and conditions to ensure consistency with the EPA factor objective. The EPA assessment findings are presented in Table 4.

The EPA has also considered the principles of the *Environmental Protection Act 1986* (see Appendix C) in assessing whether the residual impacts will be consistent with its environmental factor objective and whether reasonable conditions can be imposed (see Appendix A).

Table 4: Summary of assessment for human health

Residual impact or risk to environmental value	Assessment finding or Environmental outcome	Recommended conditions and DMA regulation
<p>1. Potential impact to human health from:</p> <ul style="list-style-type: none"> a) radiation exposure during mining and mineral processing of NORM b) radiation exposure to public and workers during transport and storage of NORM c) radiation risk from closure. 	<p>The EPA advises that the impacts on human health during operations are not likely to be significant and can be managed by other decision-making processes so that the environmental outcome is likely to be consistent with the EPA objective for human health.</p> <p>The EPA advises that subject to regulation by other decision – making processes and the recommended conditions B2-1 and B3-3 including the requirement for closure outcomes and performance reporting, the environmental outcome is likely to be consistent with the EPA objective for human health during closure.</p>	<p>Condition B2-1 and condition B3-3</p> <p>Requirement to cause no environmental harm and report on closure progress every five years.</p> <p>DMA legislation</p> <p>The proponent will need to implement the Radiation Management Plan, Radioactive Waste Management plan, Mine Closure Plan and Transport Management Plan.</p> <p>DMIRS will regulate mining and processing of radioactive material under the Part 16 of <i>Mines Safety and Inspection Regulations 1995</i> and mine closure under the Mining Act.</p> <p>The Radiological Council will regulate mining and the processing of radioactive material,</p>

Residual impact or risk to environmental value	Assessment finding or Environmental outcome	Recommended conditions and DMA regulation
		mine closure and transport of radioactive material. The proponent will need to obtain a license to operate under section 26 of RS Act.

3 Holistic assessment

While the EPA assessed the impacts of the proposal against the key environmental factors and environmental values individually in the key factor assessments above, given the link between the key environmental factors and other factors, the EPA also considered connections and interactions between them to inform a holistic view of impacts to the whole environment.

The connections and interactions between the key environmental factors and the relevant other environmental factors described in Appendix D, have been used to inform the EPA's holistic assessment. These include terrestrial fauna, flora and vegetation, inland waters, terrestrial environmental quality, human health and social surroundings.

Terrestrial fauna typically relies on the presence of specific flora and vegetation communities for habitat. Historical impacts to native vegetation within the proposal area have resulted in loss and degradation of fauna habitat. The EPA notes that the development envelope has been designed to avoid and minimise impacts from further clearing of remnant vegetation and fauna habitat, specifically for long-tailed dunnart and SRE habitats. Although the proposed clearing area is relatively small compared to the wide representation of vegetation community within the region, to align with the EPA environmental objectives, it is recommended to impose specific limitations on the proposal to mitigate impacts. Progressive rehabilitation of disturbed areas to re-establish self-sustaining native vegetation communities will enhance the habitat for terrestrial fauna and increase the overall health and resilience of remnant vegetation. The EPA considers that progressive rehabilitation will also reduce the potential for radiological impacts on non-human biota and human health during closure of the mine.

Similarly, the altered hydrological regimes within the development envelope can potentially impact flora and vegetation, whilst the unintended emission and discharges of leachates and spills during operation, has the potential to contaminate soil. Subsequent movement of rainfall or groundwater through the soil profile may carry contaminants and radionuclides that can impact on surface water or groundwater quality. The degraded water quality may in turn impact flora and vegetation, human health and terrestrial fauna.

The EPA considers that the regulation of proposed mitigation and management measures for impacts to flora and vegetation, inland waters, human health and terrestrial environmental quality by decision-making authorities will also mean the inter-related impacts to the health of terrestrial fauna are likely to be consistent with the EPA environmental factor objectives.

There is a direct link between Aboriginal culture heritage and the physical or biological aspects of the environment. Access to land, ability to carry out traditional Aboriginal customs and areas of cultural importance may be impacted through impacts to environmental factors of terrestrial fauna, terrestrial environmental quality, flora and vegetation, human health and inland waters.

The EPA considers that the proposed mitigation and management measures, regulation by other decision-making authorities and recommended conditions for impacts to terrestrial fauna will also mean the inter-related impacts to the health of social surroundings are likely to be consistent with the EPA environmental factor objectives.

Summary of holistic assessment

When the separate environmental factors and values affected by the proposal were considered together in a holistic assessment, the EPA formed the view that the impacts from the proposal would not alter the EPA's views about consistency with the EPA factor objectives as assessed in Section 2.

4 Recommendations

The EPA has taken the following into account in its assessment of the proposal:

- environmental values which may be significantly affected by the proposal
- assessment of key environmental factors, separately and holistically (this has included considering cumulative impacts of the proposal where relevant)
- likely environmental outcomes which can be achieved with the imposition of conditions
- consistency of environmental outcomes with the EPA objectives for the key environmental factors
- EPA's confidence in the proponent's proposed mitigation measures
- whether other statutory decision-making processes can mitigate the potential impacts of the proposal on the environment
- principles of the EP Act.

The EPA recommends that the proposal may be implemented subject to the conditions recommended in Appendix A.

5 Other advice

The EPA may, if it sees fit, include other information, advice or recommendations relevant to the environment in its assessment reports, even if that information has not been taken into account by the EPA in its assessment of a proposal.

The EPA provides the following information for consideration by the Minister.

1. The DWER administers the *Rights in Water and Irrigation Act 1914*, which provides for the granting of licenses and permits to abstract groundwater and surface water. The EPA notes that abstraction of groundwater from Mt Weld aquifer required for this proposal will be managed by DWER under the proponent's existing groundwater licence (GWL17130(2)), which contains conditions to ensure that drawdown is monitored and impacts on nearby groundwater users are controlled.
2. Emissions and discharges associated with the prescribed premises, defined under Schedule 1 of the *Environmental Protection Regulation 1997* can be regulated by the DWER under the Division 3, Part V of the EP Act.
3. The EPA notes that regulation of waste rock and by-product landforms management is via the continued application and implementation of Mining Proposal and a Mine Closure Plan, required under the *Mining Act 1978*. The Department of Mines, Industry Regulation and Safety is responsible for ensuring the waste landforms are physically safe and radiologically safe, geotechnically stable, and geochemically non-polluting and non-contaminating.
4. DMIRS administers the *Mine Safety and Inspection Regulations 1995* and is responsible for ensuring the proponent is compliant with Part 16 requiring the proposal to comply with the Radiation Management Plan and Radiation Waste Management Plan.
5. The Radiological Council of Western Australia administers the *Radiation Safety Act 1975* and its regulations. This will include the approval and review of compliance with the Radiation Management Plan, Radiation Waste Management Plan and Transport Management Plan to allow for the mining and transport of RE concentrate and IP.

Appendix A: Recommended conditions

Section 44(2)(b) of *Environmental Protection Act 1986* specifies that the EPA's report must set out (if it recommends that implementation be allowed) the conditions and procedures, if any, to which implementation should be subject. This appendix contains the EPA's recommended conditions and procedures.

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED (*Environmental Protection Act 1986*)

MT WELD RARE EARTHS PROJECT – LIFE OF MINE PROPOSAL

Proposal: The proposal is a significant amendment to the existing Mt Weld Rare Earths Project, proposed for the mining and beneficiation, and processing of a rare earths deposit at Mt Weld to its life of mine extent. The proposal includes the expansion of the development envelope to allow the extension of mining activities and supporting infrastructure.

Proponent: Mt Weld Mining Pty Ltd
Australian Company Number 053 160 400

Proponent address: Level 4, 1 Howard St
PERTH WA 6000

Assessment number: 2350

Report of the Environmental Protection Authority: 1752

Introduction: The Proposal is a significant amendment to the existing Mt Weld Rare Earths Project which was agreed to be implemented under Ministerial Statement 476. The EPA's Report for the existing Mt Weld Rare Earths Project is Report 884, EPA Assessment Number 1194.

Pursuant to section 45 of the *Environmental Protection Act 1986*, it is now agreed that:

1. the significant amendment proposal described and documented in the proponent's Proposal Content Document (25 August 2022), may be implemented;
2. Ministerial Statement 476 for the existing Mt Weld Rare Earths Project proposal is superseded under section 40AA (6) (b) of the *Environmental Protection Act 1986*; and
3. the implementation of the significantly amended proposal (being the existing approved proposal as amended by the significant amendment proposal) is subject to the following implementation conditions and procedures.

Conditions and procedures

Part A: Proposal extent

Part B: Environmental outcomes, prescriptions and objectives

Part C: Environmental management plans and monitoring

Part D: Compliance and other conditions

PART A: PROPOSAL EXTENT

A1 Limitations and Extent of Proposal

A1-1 The proponent must ensure that the proposal is implemented in such a manner that the following limitations or maximum extents / capacities / ranges are not exceeded:

Proposal element	Location	Maximum extent
Physical elements		
Development envelope comprising of: <ul style="list-style-type: none"> • Mine pit • Beneficiation plant • Evaporation ponds • Waste/low grade ore stockpiles • Waste rock and by-product landforms • Hybrid power station • Extended borefield network • Accommodation village • Associated infrastructures (water supply, roads, etc) 	Figure 1	No more than 2,241.6 ha within the development envelope of 2,802 ha .
Tailings dam area	Figure 1	No more than 170 ha within the development envelope of 2,802 ha .
Direct disturbance of native vegetation	Figure 1	No more than 2,241.6 ha within the development envelope of 2,802 ha .
Direct disturbance of long-tailed dunnart (<i>Sminthopsis longicaudata</i>) habitat		No more than 39.38 ha of 'stony rise' habitat type within the development envelope of 2,802 ha .
Direct disturbance of long-tailed dunnart (<i>Sminthopsis longicaudata</i>) habitat		No more than 1.85 ha of 'rocky ridge and outcropping' habitat type within the development envelope of 2,802 ha .
Greenhouse gas emissions		
Total	Scope 1	81,357 t CO₂-e/yr
Timing elements		

Proposal time	Maximum project life	Up to thirty (30) years from the date of this statement
	Decommissioning phase	Up to two (2) years

PART B – ENVIRONMENTAL OUTCOMES, PRESCRIPTIONS AND OBJECTIVES

1. Terrestrial Fauna

B1-1 The proponent must implement the proposal to meet the following environmental **outcomes**:

- (1) the known populations of the long-tailed dunnart (*Sminthopsis longicaudata*) within the surrounding area of the development envelope remains viable;
- (2) directly **disturb** no more than:
 - 39.38 ha of **stony rise** habitat type;
 - 1.85 ha of **rocky ridge and outcropping** habitat type;
- (3) ensure that surface water flow regimes are maintained compared to pre-construction conditions and do not cause **adverse impacts** to native fauna habitats outside the development envelope; and
- (4) ensure there are no **adverse impacts** from the introduction and / or spread of **environmental weeds** compared with analogue or reference sites.

B1-2 The proponent must implement the proposal to meet the following environmental **objectives**:

- (1) **minimise the risk** of physical injury or mortality from **construction activities** on native fauna;
- (2) **minimise the risk** of **adverse impacts** including mortality, physical injury, behavioural changes and health impacts from **operations** on native fauna; and
- (3) ensure there is no long-term increase in population of feral animals as a result of implementing the proposal.

B1-3 Prior to **ground disturbing activities**, the proponent shall undertake the following actions:

- (1) within seven (7) days prior to **clearing**, using a suitably qualified or licensed **fauna spotter**, undertake **pre-clearance surveys** to detect the presence of long-tailed dunnart (*Sminthopsis longicaudata*) within:
 - the **stony rise** habitat type; and
 - **rocky ridge and outcropping** habitat type.

B1-4 The proponent shall undertake the following actions during **construction activities**:

- (1) ensure the presence of **fauna spotters** during **clearing** activities occurring within:
 - the **stony rise** and **rocky ridge and outcropping** habitat.
- (2) cease **construction activities** in any area where the long-tailed dunnart (*Sminthopsis longicaudata*) is identified until either:
 - the individual has been removed by a **fauna spotter**; or
 - the individual has moved on from the area to adjoining suitable habitat.

B1-5 The proponent shall undertake the following actions during **construction activities**:

- (1) remove trapped vertebrate fauna from within open **trenches**, using a suitably trained or licenced **fauna handler**;
 - at least twice daily, with the first daily **clearing** to be completed no later than three (3) hours after sunrise and the second **clearing** to be completed between the hours of 3:00 pm and 6:00 pm of that same day, unless otherwise agreed to by the **CEO**; and
 - within one (1) hour prior to backfilling of **trenches**.

B1-6 During construction, the proponent shall ensure open **trench** lengths shall not exceed a length capable of being inspected and cleared by the requirements set out in condition B1-5.

B1-7 During construction, the proponent shall ensure ramps providing egress points and/or fauna refuges providing suitable shelter from the sun and predators for trapped vertebrate fauna are to be placed in the **trench** at intervals not exceeding fifty (50) metres.

B1-8 In the event of substantial rainfall and following the **clearing** of vertebrate fauna from the **trench**, pump out any pooled water in the open **trench** and discharge it to adjacent vegetated areas in a manner that does not cause erosion.

B1-9 Produce and provide a report on fauna management for construction activities that occur in known long-tailed dunnart (*Sminthopsis longicaudata*) no later than sixty (60) days after the completion of **construction activities** to the **CEO**. The report shall include the following:

- (1) details of fauna inspections;
- (2) the number and type of fauna cleared from **trenches** and actions taken;
- (3) **fauna spotter**;
- (4) results of **pre-clearance survey**; and
- (5) vertebrate fauna mortalities.

B1-10 During construction vehicle and machinery speed limits shall not exceed:

- (1) 40 **km/hr** on roads within the **stony rise**, and rocky ridge with outcropping habitats.

B1-11 The proponent must review and update the Fauna Management Plan (MTW-EN-PLA-0014_2, July 2023) that demonstrates how achievement of the **Terrestrial Fauna** environmental **outcomes** in condition B1-1, will be monitored, substantiated and satisfies the requirements of C4, how the **Terrestrial Fauna objectives** in condition B1-2 will be achieved, and satisfies the requirements of conditions C5, and submit it to the **CEO**.

2. Terrestrial Fauna and Human Health

B2-1 The proponent must implement the proposal to meet the following environmental **outcomes**:

- (1) rehabilitated landforms **do not cause environmental harm**, including do not exceed background levels of radiation;
- (2) rehabilitated vegetation is self-sustaining;
- (3) rehabilitated areas are consistent with the species diversity and abundance of native vegetation within comparative analogue or reference sites; and
- (4) demonstrate that closure planning and rehabilitation are being undertaken in a **progressive manner** consistent with achievement of the above **outcomes** during **operations**, where practicable, and as soon as practicable upon closure.

B2-2 The proponent must include the environmental **outcomes** of condition B2-1, and the ongoing results of the environment performance reporting required under condition B3, in the Mine Closure Plan required under the *Mining Act 1978*, and submitted for approval to the Department of Mines, Industry Regulation and Safety.

3. Environmental Performance Reporting

B3-1 The proponent shall submit an Environmental Performance Report to the **CEO** every five (5) years.

B3-2 The first Environmental Performance Report shall be submitted within three months after five (5) years from the date the statement is issued, or such other time as may be approved by the **CEO**.

B3-3 Each Environmental Performance Report shall report on the following:

- (1) the state of terrestrial fauna impacted by the proposal;
- (2) results of actions undertaken for progressive rehabilitation of the mine site, including research and field trials on the optimum tailings storage facility cover to attenuate radiation, research, field trials and on the ground works that better inform mine closure, and other actions or research to ensure the environmental **outcomes** in condition B2 will be met; and
- (3) the state of native vegetation, including those used in progressive rehabilitation, and those that a remnant native vegetation on the mine site.

B3-4 The Environmental Performance Report must include:

- (1) a comparison of the matters identified in condition B3-3 at the end of the five (5) year period; against the state of each matter at the beginning of the five (5) year period;
- (2) a comparison of the environmental values identified in condition B3-3(1) and B3-3(3) at the end of the five (5) year period; against the state of the environmental values identified in first Environmental Performance Report submitted in accordance with condition B3-2; and
- (3) proposed adaptive management and continuous improvement strategies.

B3-5 The Environmental Performance Report may be in whole, or part prepared in conjunction with other proponents where there are cumulative impacts from their proposals.

PART C – ENVIRONMENTAL MANAGEMENT PLANS AND MONITORING

C1 Environmental Management Plans: Conditions Related to Commencement of Implementation of the Proposal

C1-1 The proponent must:

- (1) After the completion of **construction**, not undertake **operations** associated with the **significant amendment** of the **Mt Weld Rare Earths Project – Life of Mine Proposal** until the **CEO** has confirmed in writing that the environmental management plan required by condition B1-11 meets the requirements of that condition and condition C4 and condition C5.

C2 Environmental Management Plans: Conditions Relating to Approval, Implementation, Review and Publication

C2-1 Upon being required to implement an environmental management plan under Part B, or after receiving notice in writing from the **CEO** under condition C1-1 that the environmental management plan(s) required in Part B satisfies the relevant requirements, the proponent must:

- (1) implement the most recent version of the **confirmed** environmental management plan; and
- (2) continue to implement the **confirmed** environmental management plan referred to in condition C2-1(1), other than for any period which the **CEO** confirms by notice in writing that it has been demonstrated that the relevant requirements for the environmental management plan have been met, or are able to be met under another statutory decision-making process, in which case the implementation of the environmental management plan is no longer required for that period.

C2-2 The proponent:

- (1) may review and revise a **confirmed** environmental management plan provided it meets the relevant requirements of that environmental management plan, including any consultation that may be required when preparing the environmental management plan;
- (2) must review and revise a **confirmed** environmental management plan and ensure it meets the relevant requirements of that environmental management plan, including any consultation that may be required when preparing the environmental management plan, as and when directed by the **CEO**; and
- (3) must revise and submit to the **CEO** the **confirmed** Environmental Management Plan if there is a material risk that the **outcomes** or

objectives it is required to achieve will not be complied with, including but not limited to as a result of a change to the proposal.

C2-3 Despite condition C2-1, but subject to conditions C2-4 and C2-5, the proponent may implement minor revisions to an environmental management plan if the revisions will not result in new or increased **adverse impacts** to the environment or result in a risk to the achievement of the limits, **outcomes** or **objectives** which the environmental management plan is required to achieve.

C2-4 If the proponent is to implement minor revisions to an environmental management plan under condition C2-3, the proponent must provide the **CEO** with the following at least twenty (20) business days before it implements the revisions:

- (1) the revised environmental management plan clearly showing the minor revisions;
- (2) an explanation of and justification for the minor revisions; and
- (3) an explanation of why the minor revisions will not result in new or increased **adverse impacts** to the environment or result in a risk to the achievement of the limits, **outcomes** or **objectives** which the environmental management plan is required to achieve.

C2-5 The proponent must cease to implement any revisions which the **CEO** notifies the proponent (at any time) in writing may not be implemented.

C2-6 **Confirmed** environmental management plans, and any revised environmental management plans under condition C2-4(1), must be published on the proponent's website and provided to the **CEO** in electronic form suitable for on-line publication by the Department of Water and Environmental Regulation within twenty (20) business days of being implemented, or being required to be implemented (whichever is earlier).

C3 Conditions Related to Monitoring

C3-1 The proponent must undertake monitoring capable of:

- (1) substantiating whether the proposal limitations and extents in Part A are exceeded; and
- (2) detecting and substantiating whether the environmental **outcomes** identified in Part B are achieved (excluding any environmental **outcomes** in Part B where an environmental management plan is expressly required to monitor achievement of that **outcome**).

C3-2 The proponent must submit as part of the Compliance Assessment Report required by condition D2-1, a compliance monitoring report that:

- (1) outlines the monitoring that was undertaken during the implementation of the proposal;
- (2) identifies why the monitoring was capable of substantiating whether the proposal limitation and extents in Part A are exceeded;
- (3) for any environmental **outcomes** to which condition C3-1(2) applies, identifies why the monitoring was scientifically robust and capable of detecting whether the environmental **outcomes** in Part B are met;
- (4) outlines the results of the monitoring;
- (5) reports whether the proposal limitations and extents in Part A were exceeded and (for any environmental **outcomes** to which condition C3-1 (2) applies) whether the environmental **outcomes** in Part B were achieved, based on analysis of the results of the monitoring; and
- (6) reports any actions taken by the proponent to remediate any potential non-compliance.

C4 Environmental Management Plans: Conditions Relating to Monitoring and Adaptive Management for Outcomes Based Conditions

C4-1 The environmental management plan required under condition B1-11 must contain provisions which enable the substantiation of whether the relevant **outcomes** of those conditions are met, and must include:

- (1) **threshold criteria** that provide a limit beyond which the environmental **outcomes** are not achieved;
- (2) **trigger criteria** that will provide an early warning that the environmental **outcomes** are not likely to be met;
- (3) monitoring parameters, sites, control/reference sites, methodology, timing and frequencies which will be used to measure **threshold criteria** and **trigger criteria**. Include methodology for determining alternate monitoring sites as a contingency if proposed sites are not suitable in the future;
- (4) baseline data;
- (5) data collection and analysis methodologies;
- (6) adaptive management methodology;
- (7) **contingency measures** which will be implemented if **threshold criteria** or **trigger criteria** are not met; and
- (8) reporting requirements.

C4-2 Without limiting condition C3-1, failure to achieve an environmental **outcome**, or the exceedance of a **threshold criteria**, regardless of whether threshold **contingency measures** have been or are being implemented, represents a non-compliance with these conditions.

C5 Environmental Management Plans: Conditions Related to Management Actions and Targets for Objective Based Conditions

C5-1 The environmental management plan required under condition B1-11 must contain provisions which enable the achievement of the relevant **objectives** of those conditions and substantiation of whether the **objectives** are reasonably likely to be met, and must include:

- (1) **management actions**;
- (2) **management targets**;
- (3) **contingency measures** if **management targets** are not met; and
- (4) reporting requirements.

C5-2 Without limiting condition C5-1, the failure to achieve an environmental objective, or implement a **management action**, regardless of whether **contingency measures** have been or are being implemented, represents a non-compliance with these conditions.

PART D – COMPLIANCE, TIME LIMITS, AUDITS AND OTHER CONDITIONS

D1 Non-compliance Reporting

D1-1 If the proponent becomes aware of a potential non-compliance, the proponent must:

- (1) report this to the **CEO** within seven (7) days;
- (2) implement **contingency measures**;
- (3) investigate the cause;
- (4) investigate environmental impacts;
- (5) advise rectification measures to be implemented;
- (6) advise any other measures to be implemented to ensure no further impact; and
- (7) provide a report to the **CEO** within twenty-one (21) days of being aware of the potential non-compliance, detailing the measures required in conditions D1-1(1) to D1-1(6) above.

D1-2 Failure to comply with the requirements of a condition, or with the content of an environmental management plan required under a condition, constitutes a non-compliance with these conditions, regardless of whether the **contingency measures**, rectification or other measures in condition D1-1 above have been or are being implemented.

D2 Compliance Reporting

D2-1 The proponent must provide an annual Compliance Assessment Report to the **CEO** for the purpose of determining whether the implementation conditions are being complied with.

D2-2 Unless a different date or frequency is approved by the **CEO**, the first annual Compliance Assessment Report must be submitted within fifteen (15) months of the date of this Statement, and subsequent reports must be submitted annually from that date.

D2-3 Each annual Compliance Assessment Report must be endorsed by the proponent's Chief Executive Officer, or a person approved by proponent's Chief Executive Officer to be delegated to sign on the Chief Executive Officer's behalf.

D2-4 Each annual Compliance Assessment Report must:

-
- (1) state whether each condition of this Statement has been complied with, including:
 - (a) exceedance of any proposal limits and extents;
 - (b) achievement of environmental **outcomes**;
 - (c) achievement of environmental **objectives**;
 - (d) requirements to implement the content of environmental management plans;
 - (e) monitoring requirements;
 - (f) implement **contingency measures**;
 - (g) requirements to implement adaptive management; and
 - (h) reporting requirements;
 - (2) include the results of any monitoring (inclusive of any raw data) that has been required under Part C in order to demonstrate that the limits in Part A, and any **outcomes** or any **objectives** are being met;
 - (3) provide evidence to substantiate statements of compliance, or details of where there has been a non-compliance;
 - (4) include the corrective, remedial and preventative actions taken in response to any potential non-compliance;
 - (5) be provided in a form suitable for publication on the proponent's website and online by the Department of Water and Environmental Regulation;
 - (6) be prepared and published consistent with the latest version of the Compliance Assessment Plan required by condition D2-5 which the **CEO** has confirmed by notice in writing satisfies the relevant requirements of Part C and Part D.

D2-5 The proponent must prepare a Compliance Assessment Plan which is submitted to the **CEO** at least six (6) months prior to the first Compliance Assessment Report required by condition D2-2.

D2-6 The Compliance Assessment Plan must include:

- (1) what, when and how information will be collected and recorded to assess compliance;
- (2) the methods which will be used to assess compliance;

- (3) the methods which will be used to validate the adequacy of the compliance assessment to determine whether the implementation conditions are being complied with;
- (4) the retention of compliance assessments;
- (5) the table of contents of Compliance Assessment Reports, including audit tables; and
- (6) how and when Compliance Assessment Reports will be made publicly available, including usually being published on the proponent's website within sixty (60) days of being provided to the **CEO**.

D3 Contact Details

D3-1 The proponent must notify the **CEO** of any change of its name, physical address or postal address for the serving of notices or other correspondence within twenty-eight (28) days of such change. Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State.

D4 Time Limit for Proposal Implementation

D4-1 The proposal must be substantially commenced within five (5) years from the date of this Statement.

D4-2 The proponent must provide to the **CEO** documentary evidence demonstrating that they have complied with condition D4-1 no later than fourteen (14) days after the expiration of period specified in condition D4-1.

D4-3 If the proposal has not been substantially commenced within the period specified in condition D4-1, implementation of the proposal must not be commenced or continued after the expiration of that period.

D5 Public Availability of Data

D5-1 Subject to condition D5-2, within a reasonable time period approved by the **CEO** upon the issue of this Statement and for the remainder of the life of the proposal, the proponent must make publicly available, in a manner approved by the **CEO**, all validated environmental data collected before and after the date of this Statement relevant to the proposal (including sampling design, sampling methodologies, monitoring and other empirical data and derived information products (e.g. maps)), environmental management plans and reports relevant to the assessment of this proposal and implementation of this Statement.

D5-2 If:

- (1) any data referred to in condition D5-1 contains trade secrets; or

- (2) any data referred to in condition D5-1 contains particulars of confidential information (other than trade secrets) that has commercial value to a person that would be, or could reasonably be expected to be, destroyed or diminished if the confidential information were published,

the proponent may submit a request for approval from the **CEO** to not make this data publicly available and the **CEO** may agree to such a request if the **CEO** is satisfied that the data meets the above criteria.

- D5-3 In making such a request the proponent must provide the **CEO** with an explanation and reasons why the data should not be made publicly available.

D6 Independent Audit

- D6-1 The proponent must arrange for an independent audit of compliance with the conditions of this statement, including achievement of the environmental **outcomes** and/or the environmental **objectives** and/ or environmental performance with the conditions of this statement, as and when directed by the **CEO**.
- D6-2 The independent audit must be carried out by a person with appropriate qualifications who is nominated or approved by the **CEO** to undertake the audit under condition D6-1.
- D6-3 The proponent must submit the independent audit report with the Compliance Assessment Report required by condition D2-1, or at any time as and when directed in writing by the **CEO**. The audit report is to be supported by credible evidence to substantiate its findings.
- D6-4 The independent audit report required by condition D6-1 is to be made publicly available in the same timeframe, manner and form as a Compliance Assessment Report, or as otherwise directed by the **CEO**.

Table 1: Abbreviations and definitions

Acronym or abbreviation	Definition or term
Adverse impact / adversely impacted	Negative change that is neither trivial nor negligible that could result in a reduction in health, diversity or abundance of the receptor/s being impacted, or a reduction in environmental value. Adverse impacts can arise from direct or indirect impacts, or other impacts from the proposal such as (but not limited to) introduction of invasive species, altered fire regimes.
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the <i>Environmental Protection Act 1986</i> , or the CEO's delegate.
Cleared/Clearing	Has the same meaning as in section 51A of the <i>Environmental Protection Act 1986</i> .
Confirmed	<p>In relation to a plan required to be made and submitted to the CEO, means, at the relevant time, the plan that the CEO confirmed, by notice in writing, meets the requirements of the relevant condition.</p> <p>In relation to a plan required to be implemented without the need to be first submitted to the CEO, means that plan until it is revised, and then means, at the relevant time, the plan that the CEO confirmed, by notice in writing, meets the requirements of the relevant condition.</p>
Construction activities	Activities that are associated with the substantial implementation of a proposal including but not limited to, earthmoving, vegetation clearing , grading or construction of right of way. Construction activities do not include Geotechnical investigations (including potholing for services and the installation of piezometers) and other preconstruction activities where no clearing of vegetation is required.
Contingency measures	Planned actions for implementation if it is identified that an environmental outcome, environmental objective, threshold criteria, or management target are likely to be, or are being, exceeded. Contingency measures include changes to operations or reductions in disturbance or adverse impacts to reduce impacts and must be decisive actions that will quickly bring the impact to below any relevant threshold, management target and to ensure that the environmental outcome and/or objective can be met.
Disturb	Means directly has or materially contributes to the disturbance effect on health, diversity or abundance of the receptor/s being impacted or on an environmental value.

	<p>In relation to flora, vegetation or fauna habitat, includes to result in the death, destruction, removal, severing or doing substantial damage to.</p> <p>In relation to fauna, includes to have the effect of altering the natural behaviour of fauna to its detriment.</p>
Environmental weeds	Any plant declared under section 22(2) of the <i>Biosecurity and Agriculture Management Act 2007</i> , any plant listed on the Weeds of National Significance List and any weeds listed on the Department of Biodiversity, Conservation and Attractions.
Fauna handler	A person who is qualified and has attained the appropriate licence/s and authorisation/s under the <i>Biodiversity Conservation Act 2016</i> and the Biodiversity Conservation Regulation 2018.
Fauna Spotter	A person who is suitably trained in species identification, who does not perform any handling of animals where a licence to do so is required
Ground disturbing activities	Any activity or activities undertaken in the implementation of the proposal, including any clearing , civil works or construction.
Ha	Hectare
Indirect impacts/disturbance	Any potential impacts outside the development envelope as a result of the clearing and disturbance authorised in this Statement. This includes but is not limited to: hydrological change, spread or introduction of environmental weeds, altered fire regimes, introduction or spread of disease, changes in erosion/deposition/accretion and edge effects.
km/hr	Kilometre per hour.
Management action	The identified actions implemented with the intent of to achieving the environmental objective.
Management target	A type of indicator to evaluate whether an environmental objective is being achieved.
Minimise the risk	Taking proactive measures to reduce the likelihood and magnitude of adverse impacts or harm to native fauna during construction or operation activities to the lowest practicable level.
Mt Weld Rare Earths Project – Life of Mine Proposal	The proposal which is or includes the amendment of an approved Mt Weld Rare Earths Project.
Objective	An objective is the proposal-specific desired state for an environmental factor/s to be achieved from the implementation of management actions.
Operations	Operation of infrastructure for the proposal.

Outcome	A proposal-specific result to be achieved when implementing the proposal.
Pre-clearance surveys	Surveys designed to identify the presence or evidence of fauna prior to ground disturbing activities .
Rocky ridge and outcropping	A habitat of Long-tailed Dunnart (<i>Sminthopsis longicaudata</i>) as defined in the Mt Weld Rare Earths Project – Life of Mine Proposal.
Significant amendment	Has the same meaning as in section 3(1) of the <i>Environmental Protection Act 1986</i> .
Stony rise	A habitat of Long-tailed Dunnart (<i>Sminthopsis longicaudata</i>) as defined in the Mt Weld Rare Earths Project – Life of Mine Proposal.
t CO₂-e/yr	Tonnes Carbon dioxide equivalent per year.
Trench /Trenches	Any excavation that is of sufficient depth that would cause vertebrate fauna to be become trapped and unable to escape and would include, but not be limited to, trenches or pits for utilities, pipelines, dewatering pits or bell holes.
Trigger criteria	Indicators that have been selected for monitoring to provide a warning that if exceeded the environmental outcome may not be achieved. They are intended to forewarn of the approach of the threshold criteria and trigger response actions.
Threshold criteria	The indicators that have been selected to represent limits of impact beyond which the environmental outcome is not being met.
Viable	The known populations of the long-tailed dunnart remain capable of sustaining their population without immediate risk of significant decline due to the proposed Mt Weld Rare Earths Project – Life of Mine Proposal.

Figures (attached)

Figure 1 Development envelope (This map is a representation of the co-ordinates referenced in Schedule 1)

Figure 2 Habitat mapping within the development envelope (This map is representation of the co-ordinates referenced in Schedule 1)

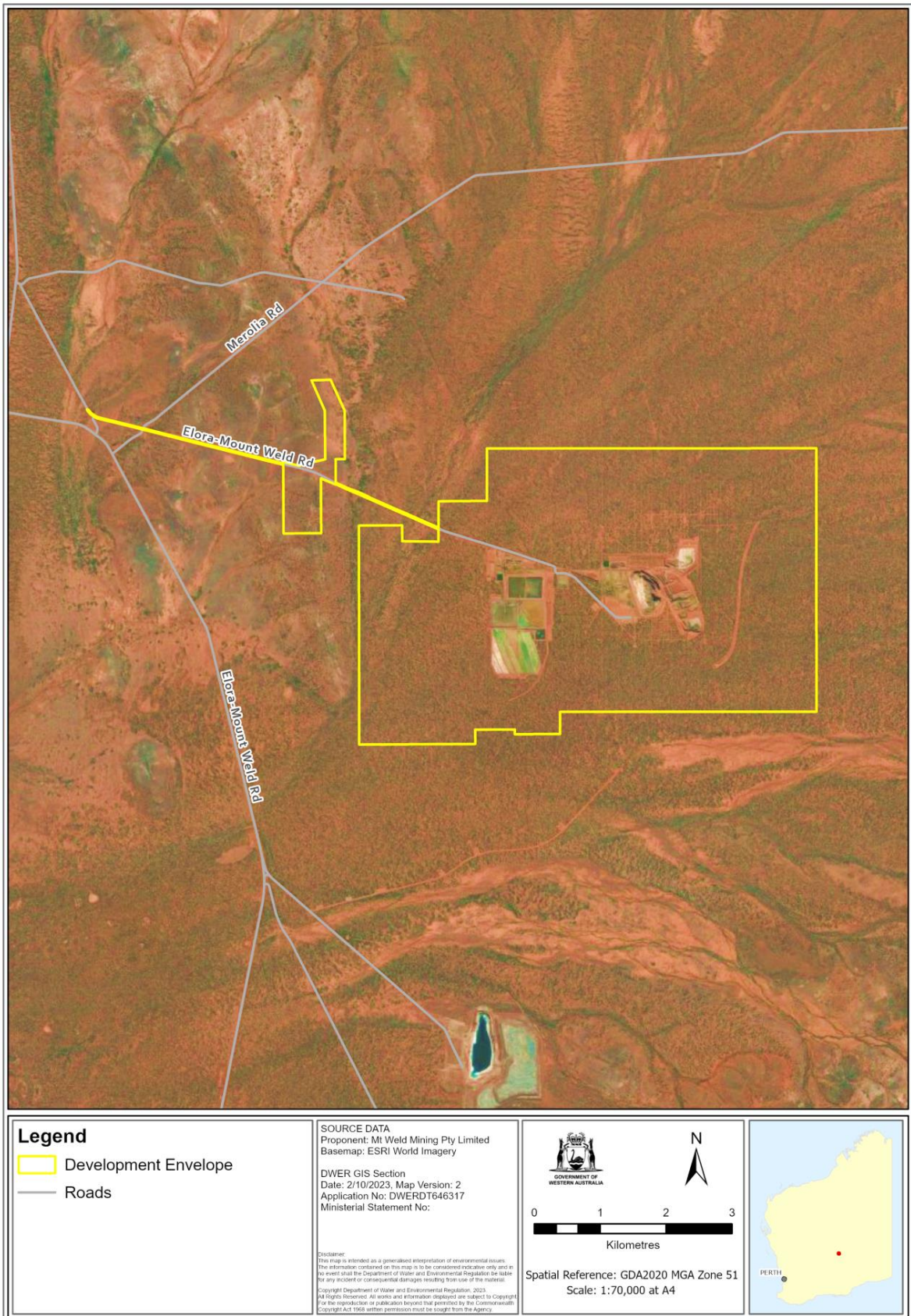
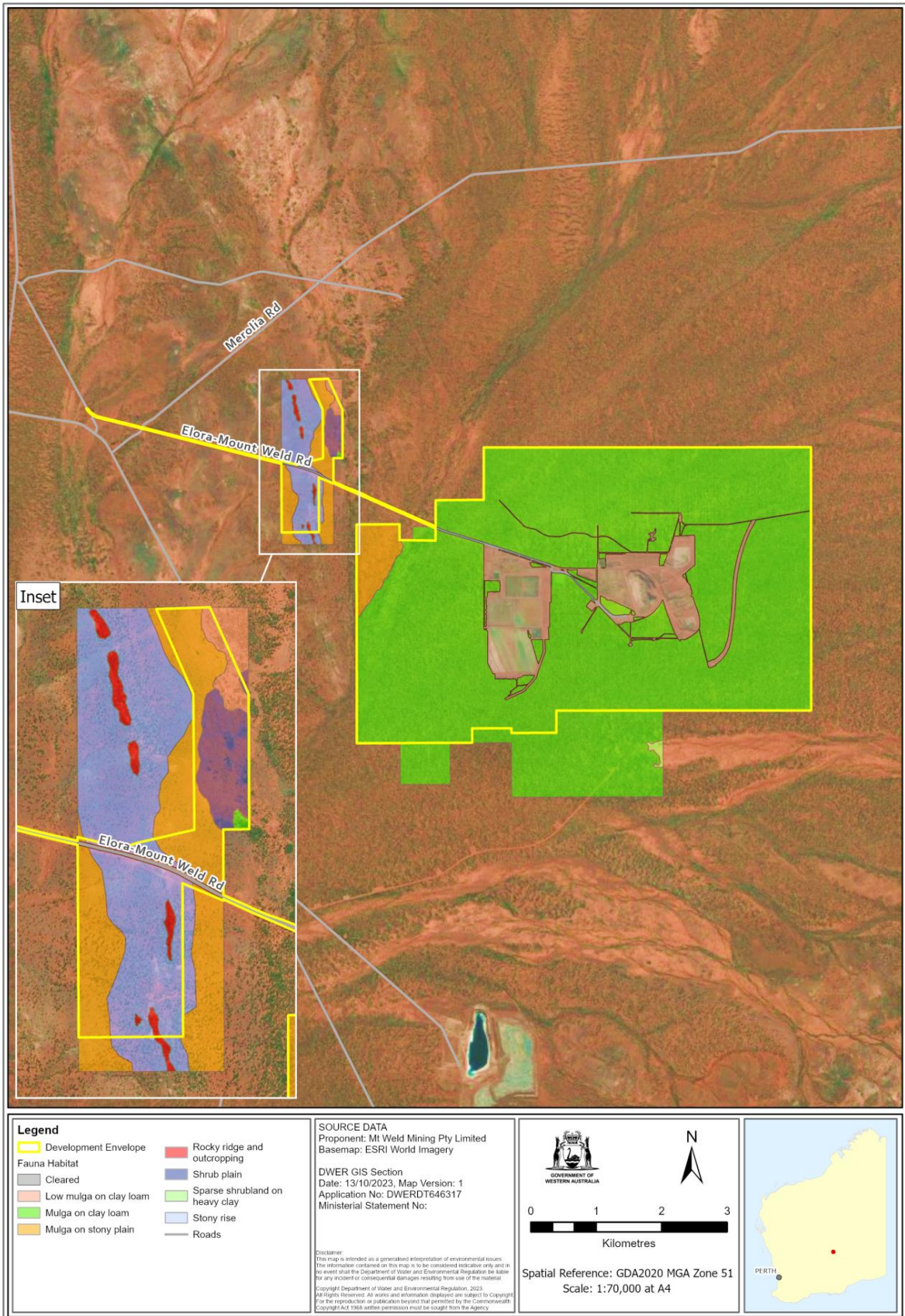


Figure 1: Development envelope



Path: S:\Projects\EA\38\2022_DWERT646317_MtWeldRareEarthsLoM\3_Assessment\AccGIS Pro\Projects\MtWeldRareEarthsLoM\MtWeldRareEarthsLoM.aprx

Figure 2. Habitat mapping within the development envelope

Schedule 1

All co-ordinates are in metres, listed in Map Grid of Australia Zone 51 (MGA Zone 51), datum of Geocentric Datum of Australia 2020 (GDA 2020).

Spatial data depicting the figures are held by the Department of Water and Environmental regulation. Record no. DWER-801164602-5379

- Figure 1: Development envelope for the proposal – DWER-801164602-104672
- Figure 2: Habitat mapping of the proposal – DWER-801164602-104673

Appendix B: Decision-making authorities

Table B1: Identified relevant decision-making authorities for the proposal

Decision-Making Authority	Legislation (and approval)
1. Minister for Aboriginal Affairs	<i>Aboriginal Heritage Act 1972</i> - section 18 consent to impact a registered Aboriginal heritage site
2. Minister for Mines and Petroleum	<i>Mining Act 1978</i> - granting of a new mining lease
3. Minister for Water	<i>Rights in Water and Irrigation Act 1914</i> - groundwater abstraction licence - licence to construct bores - dewatering licence
4. Chief Executive Officer, Department of Biodiversity, Conservation and Attractions	<i>Biodiversity Conservation Act 2016</i> - authority to take flora and fauna (other than threatened species)
5. Chief Dangerous Goods Officer Department of Mines, Industry Regulation and Safety	<i>Dangerous Goods Safety Act 2004</i> - storage and handling of dangerous goods
6. Executive Director Resource and Environmental Compliance, Department of Mines, Industry Regulation and Safety	<i>Mining Act 1978</i> - mining proposal
7. Department of Mines, Industry Regulation and Safety	<i>Mining Act 1978</i> - miscellaneous license
8. State Mining Engineer, Department of Mines, Industry Regulation and Safety	<i>Mines Safety and Inspection Act 1994</i> - mine safety - approval to commence mining operations
9. Chief Executive Officer, Department of Water and Environmental Regulation	<i>Environmental Protection Act 1986</i> - part V works approval and licence
10. Secretary, Radiological Council	<i>Radiation Safety Act 1975</i> - permit to mine radioactive materials - permit to transport radioactive materials
11. Chief Executive Officer Shire of Laverton	<i>Local Government Act 1995</i> - development approval <i>Health Act 1911</i> - permit for treatment of sewage <i>Health Act 1911 and Health (Treatment of Sewage and Disposal of Effluent and Liquid Waste) Regulation 1974</i>

	<i>Building Act 2011</i> - permit for worker accommodation
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Appendix C: Environmental Protection Act principles

Table C1: Consideration of principles of the *Environmental Protection Act 1986*

EP Act principle	Consideration
<p>1. The precautionary principle</p> <p><i>Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.</i></p> <p><i>In application of this precautionary principle, decisions should be guided by –</i></p> <p>(a) <i>careful evaluation to avoid, where practicable, serious or irreversible damage to the environment; and</i></p> <p>(b) <i>an assessment of the risk-weighted consequences of various options.</i></p>	<p>The EPA has considered the precautionary principle and has had particular regard to this principle in its assessment of terrestrial fauna and human health. The assessment of these impacts is provided in this report.</p> <p>The proponent has provided appropriate avoidance measures for the short-range endemic taxa and minimisation and management measures for terrestrial fauna, and to manage any potential exceedances of radiation limits.</p> <p>The EPA has recommended conditions that reflect the proponent requirements to implement the avoidance, minimisation and management measures, and considered the role of other decision-making authorities.</p> <p>The EPA is satisfied that these measures, if implemented, would mean that the significant amendment and approved proposal is likely to be consistent with the EPA objectives and that the measures are consistent with the precautionary principle.</p>
<p>The principle of intergenerational equity</p> <p><i>The present generation should ensure that the health, diversity and productivity of the environment is maintained and enhanced for the benefit of future generations.</i></p>	<p>The EPA has considered the principle of intergenerational equity and has had particular regard to this principle in its assessment of terrestrial fauna and human health.</p> <p>The EPA notes that the proponent has identified measures to avoid and minimise impacts to the key environmental factor. The EPA has considered the current and future land use of the site, and identified if the measures proposed by the proponent to avoid and minimise impacts during operations and closure are appropriate. The EPA has identified environmental outcomes for the progressive rehabilitation and closure of the site.</p> <p>The EPA has considered these measures during assessment and has recommended conditions to ensure the appropriate measures are implemented. The EPA has concluded that the key environmental values will be protected, and the health, diversity and productivity of the environment is maintained and enhanced for the benefit of future generations.</p>

EP Act principle	Consideration
<p>The principle of the conservation of biological diversity and ecological integrity</p> <p><i>Conservation of biological diversity and ecological integrity should be a fundamental consideration.</i></p>	<p>The EPA has considered the principle of conservation of biological diversity and ecological integrity and has had particular regard to this principle in its assessment of terrestrial fauna. The EPA notes that there have been no listed Threatened species or communities found on the proposed mine, and the proponent has proposed suitable avoidance, minimisation, rehabilitation and management measures for terrestrial fauna and native vegetation.</p> <p>The EPA has considered to what extent the potential impacts from the proposal to terrestrial fauna can be ameliorated to ensure consistency with the principle of conservation of biological diversity and ecological. The EPA has concluded that the actions proposed by the proponent will be likely to conserve biological diversity and ecological integrity, so the environmental outcomes are achieved.</p>
<p>Principles relating to improved valuation, pricing and incentive mechanisms</p> <p>(1) <i>Environmental factors should be included in the valuation of assets and services.</i></p> <p>(2) <i>The polluter pays principle — those who generate pollution and waste should bear the cost of containment, avoidance or abatement.</i></p> <p>(3) <i>The users of goods and services should pay prices based on the full life cycle costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any wastes.</i></p> <p>(4) <i>Environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, which enable those best placed to maximise benefits and/or minimise costs to develop their own solutions and responses to environmental problems.</i></p>	<p>In considering this principle, the EPA notes that the proponent will bear the costs relating to implementing the proposal to achieve environmental outcomes, and management and monitoring of environmental impacts during construction, operation and decommissioning of the proposal.</p> <p>The EPA has had particular regard to this principle in considering terrestrial fauna and human health by requiring the proponent to show progress towards closure of the tailings storage facilities, and monitor and manage its waste, so it is contained in an appropriate manner.</p> <p>The EPA notes the proponent's commitment to implement a framework which encourages design and construction of innovative solutions to environmental and sustainability problems, and considers that the proponent has demonstrated innovative with the management of its tailings waste during operation of the mine site. The EPA considers that the recycling of water from the tailings, consolidation of waste and containment of contaminants and radionuclides shows that the solution is both protective of the environment and reduces resource usage.</p>
<p>The principle of waste minimisation</p> <p><i>All reasonable and practicable measures should be taken to minimise the generation of waste and its discharge into the environment.</i></p>	<p>The EPA has considered and has had particular regard to the of waste minimisation in its assessment.</p> <p>The EPA notes the proponent is proposing to minimise the discharge of waste into the environment by:</p>

EP Act principle	Consideration
	<ul style="list-style-type: none">• optimising on-site water treatment and recycling measures to reduce the overall project water intensity and to reduce abstraction of groundwater• recovering supernatant water from tailings for treatment and reuse in the concentration plant to minimise accumulation of water in TSF, reducing reliance on aquifer sources• segregating storage of tailing streams to enable future tailings reprocessing. <p>Accordingly, the Mt Weld Rare Earths Project- Life of Mine Proposal is considered to meet the objectives of the 'Principle of Waste Minimisation'.</p>

Appendix D: Other environmental factors

Table D1: Evaluation of other environmental factors

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
Land			
<p>Flora and vegetation</p>	<p>Flora and Vegetation may be impacted by:</p> <ul style="list-style-type: none"> • direct impacts from additional clearing of up to 1,812.6 ha native vegetation • potential impacts of altered hydrology • indirect impacts from introduction of weeds • indirect impacts from construction and operation activities. 	<p><u>Public comments</u></p> <ul style="list-style-type: none"> • direct impacts on flora and vegetation. <p><u>Agency comments</u></p> <ul style="list-style-type: none"> • potential indirect impacts on flora and vegetation. 	<p>Flora and vegetation was identified as a preliminary key environmental factor when the EPA decided to assess the proposal.</p> <p>However, in considering the potential impacts to flora and vegetation, the EPA had regard to the following:</p> <ul style="list-style-type: none"> • no threatened or priority ecological communities were found within the development envelope • no conservation significant flora, rare or geographically restricted plant species were recorded during the surveys • the proponent will apply appropriate herbicides and weed control measures to minimise introduction and spread weeds • all the disturbed areas will be progressively rehabilitated to re-establish self-sustaining native vegetation. <p>Given the lack of conservation listed species or communities and that native vegetation are well represented in the area, the EPA did not consider flora and vegetation to be a key environmental factor at the conclusion of its assessment and considered that any additional impact on flora and vegetation is unlikely to be significant. In addition, the EPA considers that the proposed conditions for terrestrial fauna will inadvertently protect flora and vegetation.</p>

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
<p>Terrestrial environmental quality</p>	<p>Terrestrial environmental quality may be impacted by:</p> <ul style="list-style-type: none"> • seepage from the waste structures and potential chemicals and hydrocarbon spill and leaks • construction of waste rock landforms has the potential to oxidise and leach contaminants. 	<p><u>Public comments</u></p> <ul style="list-style-type: none"> • concerns regarding the return of radioactive Iron Phosphate (IP) waste from the Kalgoorlie REPF to Mt Weld • concerns regarding long-term waste disposal, storage, processing and transport arrangements • significant threat to local communities and the environment from waste storage structures, and seepage. <p><u>Agency comments</u></p> <ul style="list-style-type: none"> • Ni.l 	<p>Terrestrial environmental quality was identified as preliminary key environmental when the EPA decided to assess the proposal.</p> <p>In considering the potential impacts to terrestrial environmental quality, the EPA had regard to the following:</p> <ul style="list-style-type: none"> • most of the soil materials at Mt Weld are likely to be physically and chemically benign • the by-product Iron Phosphate (IP) has minimal potential for acid generation as there are no metal sulphides present to undergo oxidation • the other by-product Gypsum is very similar in composition to naturally occurring Gypsum and is not radioactive • waste structures including TSFs and by-product landforms will be designed to ensure they will be physically safe, geotechnically stable, and geochemically non-polluting and non-contaminating, consistent with the <i>Statutory Guidelines for Mine Closure Plans</i> (DMIRS 2020) • risk associated with waste structures, including tailings storage facilities (TSFs) and by-product landforms will be regulated under the Mining Act; ensuring the waste structures meet closure objectives so that the environmental outcomes from potential impacts meet the EPA's objectives for terrestrial environmental quality. • the risk of contamination of soils and groundwater from emission and discharges of sediments, contaminated stormwater, hydrocarbons and chemicals, seepage of leachates, and tailings

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
			<p>discharges can be adequately regulated under Part V of the EP Act.</p> <p>The EPA considers the environmental impacts to this factor to not be significant and can be regulated by other legislation. Accordingly, the EPA did not consider terrestrial environmental quality to be a key environmental factor at the conclusion of its assessment.</p>
People			
<p>Social surroundings</p>	<p>Potential impacts to Social surroundings includes:</p> <ul style="list-style-type: none"> direct and indirect impacts on heritage sites from ground disturbance activities. 	<p><u>Public comments</u></p> <ul style="list-style-type: none"> impacts to Aboriginal Heritage Sites <p><u>Agency comments</u></p> <p>Department of Planning, Lands and Heritage (DPLH)</p> <ul style="list-style-type: none"> The DPLH has reviewed the ERD and notes that Aboriginal heritage has been adequately addressed and provided following comments: <ul style="list-style-type: none"> the proposal area intersects the boundaries of Registered aboriginal sites the proponent is committed to establishing Social Surrounds and Cultural Heritage Management Plan (SSCHMP) in consultation with Nyalpa Pirniku Native Title Claimant Group (NTC) to mitigate any potential impact Aboriginal sites and Aboriginal heritage places. 	<p>Social surroundings (Aboriginal Heritage) was identified as preliminary key environmental factor when the EPA decided to assess the proposal.</p> <p>In considering the potential impacts to social surroundings (Aboriginal Heritage), the EPA had regard to the following:</p> <ul style="list-style-type: none"> the project area is largely absent of landscape features which would be considered likely to contain aboriginal sites (KASA Consulting 2023) the proponent advised that the consultation process provided traditional owners with the opportunity to address social and environmental concerns, both within and outside the development envelope; no concerns were raised during the process the proponent is unlikely to impact on any sites of significance and the Nyalpa Pirniku (NTC) confirmed that the proposal area was likely travelled through and was unlikely to be occupied for long periods the proponent will implement SSCHMP to mitigate and manage potential impacts to aboriginal heritage sites in consultation with traditional owners (TOs)

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
			<ul style="list-style-type: none"> to date, three Section 18 approvals under the ACH Act have been granted in consultation and agreement with the TOs if required, an additional Section 18 consent for disturbance to registered Aboriginal Heritage sites or places will be submitted. <p>Given current uncertainty about the application of Aboriginal heritage legislation, the EPA has not assessed the proposal with any expectations of the protection which may be provided by it. The EPA notes in the meantime that the proponent has committed that any approvals would be sought together with TOs and considers this is likely to reduce the significance of any potential impact.</p> <p>Accordingly, the EPA did not consider social surroundings to be a key environmental factor at the conclusion of its assessment.</p>
Water			
Inland Waters	<p>Potential impacts to inland waters includes:</p> <ul style="list-style-type: none"> potential contamination of groundwater and surface water from seepage seeping from the waste structures increased sediment levels in runoff altered hydrological regimes due to 	<p><u>Public comments</u></p> <ul style="list-style-type: none"> disruption of water supply in local area from abstraction of 2.8 Giga litre per year from carbonatite aquifer 	<p>Inland waters was identified as key environmental factor in the original EPA's assessment.</p> <p>In considering the potential impacts to inland waters, the EPA had regard to the following:</p> <ul style="list-style-type: none"> the carbonatite aquifer whereby the abstraction occurs is a semi-confined aquifer that is disconnected from any public drinking water resources groundwater abstraction from the carbonatite aquifer is not expected to disrupt water supply for the local

Environmental factor	Description of the proposal's likely impacts on the environmental factor	Government agency and public comments	Evaluation of why the factor is not a key environmental factor
	<p>construction of project infrastructures.</p>		<p>area and will not have any impact on community water resources</p> <ul style="list-style-type: none"> • the proponent is establishing a water recycling plant to significantly increase tailings supernatant water recycling from 30% to over 90%, thereby significantly reducing groundwater abstraction • no significant dewatering of the pit is required for the expansion, and no water would be discharged to the environment • the groundwater abstraction rates from the carbonatite aquifer will remain within existing limit of 2.8 GL/yr • no significant impacts on overlying vegetation or downstream hydrology are evident from groundwater abstraction over a 12-year operational period • the residual impacts of abstraction of groundwater can be adequately regulated under the conditions of the groundwater license issued under RiWI Act and any emissions and discharges will be regulated under Part V of the EP Act to meet EPA's objective for inland waters. <p>Accordingly, the EPA considers that potential impacts to inland waters can be managed through the RiWI Act and did not consider inland waters to be a key environmental factor at the conclusion of its assessment.</p>

Appendix E: Relevant policy, guidance and procedures

The EPA had particular regard to the policies, guidelines and procedures listed below in the assessment of the proposal.

Environmental factor guideline – Air quality (EPA 2020)

Environmental factor guideline – Flora and vegetation (EPA 2016)

Environmental factor guideline – Greenhouse gas emissions (EPA 2023)

Environmental factor guideline – Human health (EPA 2016)

Environmental factor guideline – Inland waters (EPA 2018)

Environmental factor guideline – Social surroundings (EPA 2023)

Environmental factor guideline – Terrestrial environmental quality (EPA 2016)

Environmental factor guideline – Terrestrial fauna (EPA 2016)

Environmental impact assessment (Part IV Divisions 1 and 2) procedures manual (EPA 2021)

Statement of environmental principles, factors, objectives and aims of EIA (EPA 2021)

Environmental impact assessment (Part IV Divisions 1 and 2) administrative procedures 2021 (State of Western Australia 2021)

Technical guidance – Flora and vegetation surveys for environmental impact assessment (EPA 2016)

Technical guidance – Sampling of short-range endemic invertebrate fauna (EPA 2016)

Technical guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment (EPA 2020).

Appendix F: List of submitters

7-day comment on referral

Organisations and public

- 3 public submissions were received from individuals.
- 2 public submissions were received from organisations.

Government agencies

- None

Public review of proponent information

Organisations and public

- 1 public submission was received from organisation.

Government agencies

- Department of Biodiversity, Conservation and Attractions
- Department of Mines, Industry Regulation and Safety
- Department of Planning, Lands and Heritage
- Department of Water and Environmental Regulation
- Radiological Council

Appendix G: Assessment timeline

Date	Progress stages	Time (weeks)
4 October 2022	EPA decided to assess – level of assessment set	
14 November 2022	EPA requested additional information	6
7 December 2022	EPA received additional information	3
5 May 2023	EPA accepted additional information	21
15 May 2023	EPA released additional information for public review	1
11 June 2023	Public review period for additional information closed	4
20 July 2023	EPA received final information for assessment	6
14 August 2023	EPA accepted Response to Submission	4
21 September 2023	EPA completed its assessment	6
6 November 2023	EPA provided report to the Minister for Environment	6
9 November 2023	EPA report published	1
30 November 2023	Appeals period closed	3

Timelines for an assessment may vary according to the complexity of the proposal and are usually agreed with the proponent soon after the EPA decides to assess the proposal and records the level of assessment.

In this case, the EPA met its timeline objective to complete its assessment and provide a report to the Minister.

Appendix H: Contemporising of Ministerial Statement 476

Ministerial Condition	Environmental factor	Proposed changes	Assessment and Evaluation of proposed changes: will the change ensure the combined proposal can be implemented consistently with EPA objectives?
Condition 1 Implementation	N/A	Delete condition and replace with consolidated contemporary style condition.	<p>Recommended condition A1</p> <p>EPA recommends condition 1 is replaced with a new condition setting the maximum limits on proposal characteristics which will ensure the implementation of the proposal is consistent with EPA objectives. This condition reflects a contemporary condition setting approach recommended by the EPA.</p>
Condition 2 Proponent Commitments	N/A	Delete condition (commitments) and replace with consolidated contemporary style condition.	<p>Condition 2 relates to environmental management commitments attached to MS 476. The EPA has reviewed each proponent commitment and considers they fall into three categories:</p> <ul style="list-style-type: none"> • duplicate requirements addressed by the proposed implementation conditions D1 and D2 (Schedule 2 – commitments 1(2) (Annual Reporting)) • other decision-making authorities addressing the requirements of the Schedule 2 commitments: <ul style="list-style-type: none"> ○ Commitment 1 ‘General’ – 1(1), 1(3), ○ Commitment 2 Mt Weld Operations – 2(5) to 2(11) ○ Commitment 4 ‘Transport Options’ – 4(18)

Ministerial Condition	Environmental factor	Proposed changes	Assessment and Evaluation of proposed changes: will the change ensure the combined proposal can be implemented consistently with EPA objectives?
			<ul style="list-style-type: none"> ○ Commitment 5 'Environmental Management Procedures, Objectives and Strategies' – 5(19) to 5(22), 5(29) to 5(31) ● commitment 3 and commitments 5(23) to 5(28) (Meenaar Operations) are longer required as the Meenaar Operations are no longer part of the proposal.
Condition 3 Environmental Management System	N/A	Delete condition	The proponent is required to comply with the regulatory framework for mining operations and will need to comply with specific outcomes-based conditions (such as those under Part IV and V of the EP Act) as well as range of environmental management plans such as those mentioned throughout this report. It is therefore not considered necessary to prepare a separate environmental management system.
Condition 4 Environmental Management Program	N/A	Delete condition	<p>The EPA has reviewed the requirements of Condition 4 of MS 476 and considers that:</p> <ul style="list-style-type: none"> ● Radiation Management Plan – can be adequately regulated by the Radiological Council under the <i>Radiation Safety Act 1975</i> and its regulations. ● Surface and Groundwater Management Plan – can be adequately regulated under the Part V of the EP Act and RiWI Act. ● Flora Management Plan – No longer required as there are no Threatened, priority or conservation significant flora or geographically

Ministerial Condition	Environmental factor	Proposed changes	Assessment and Evaluation of proposed changes: will the change ensure the combined proposal can be implemented consistently with EPA objectives?
			restricted vegetation communities. A condition (condition B2) on closure does require the proponent to progressively rehabilitate with native vegetation.
Condition 5 Surface and Ground Water Management Plan	Inland Waters	Delete condition	No longer required as the inland waters is not a key environmental factor and the risk to inland waters can be adequately regulated under the Part V of the EP Act and RiWI Act.
Condition 6 Greenhouse Gas Emissions Management Plan	Greenhouse Gas	Delete condition	No longer required as the proposal greenhouse gas emissions are well below the 100,000 threshold in the EPA's factor guidance.
Condition 7 Noise Management Plan	Social Surroundings	Delete condition	No longer required as the Social Surroundings is not a key environmental factor and potential risk from noise can be adequately regulated under the Part V of the EP Act and the Environmental Noise Regulations.
Condition 8 Decommissioning Management Plan	N/A	Delete condition and replace with consolidated contemporary style condition.	<p>A Decommissioning Management Plan is no longer required as the proponent is required to prepare a more contemporary mine closure plan under the Mining Act.</p> <p>An outcomes-based Condition B-2 is recommended to improve environmental outcomes for mine closure and rehabilitation, and five yearly performance report against this condition is required.</p>

Ministerial Condition	Environmental factor	Proposed changes	Assessment and Evaluation of proposed changes: will the change ensure the combined proposal can be implemented consistently with EPA objectives?
Condition 9 Performance Review	N/A	Delete condition and replace with consolidated contemporary style condition.	<p>Recommended condition D3 requires performance reporting and review.</p> <p>The requirements of this condition are still relevant and will be retained consistent with contemporary condition setting approach recommended by the EPA.</p>
Condition 10 Proponent	N/A	Delete condition and replace with consolidated contemporary style condition.	<p>Recommended condition D4.</p> <p>The requirements of this condition are still relevant and will be retained consistent with contemporary condition setting approach recommended by the EPA.</p>
Condition 11 Commencement	N/A	Delete condition and replace with consolidated contemporary style condition.	<p>Recommended condition D5.</p> <p>The requirements of this condition are still relevant and will be retained consistent with contemporary condition setting approach recommended by the EPA.</p>
Condition 12 Compliance Auditing	N/A	Delete condition and replace with consolidated contemporary style condition.	<p>Recommended condition D1 and D2</p> <p>The requirements of this condition are still relevant and will be retained consistent with contemporary condition setting approach recommended by the EPA.</p>

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