AUDALIA RESOURCES LIMITED

OFFSET STRATEGY

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PREPARED FOR AUDALIA RESOURCES LIMITED
BY PRESTON CONSULTING PTY LTD

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DOCUMENT CONTROL

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1 INTRODUCTION

1.1 BACKGROUND

Audalia Resources Limited (Audalia) has applied for environmental approval under Section 38 of the *Environmental Protection Act 1986* (WA; EP Act) to construct and operate the Medcalf Project (the Proposal); a vanadium, titanium and iron mining operation with associated infrastructure. The Proposal is located in the Bremer Range, Lake Johnston region of Western Australia, approximately 470 kilometres (km) east south-east of Perth (Figure 1).

The proposed Development Envelopes (DEs) outline the boundaries for the Proposal (Figure 1), where all ground disturbance and indicative key Proposal elements listed below are proposed to occur. The Proposal consist of two distinct DEs; a Mine DE and a Haul Road DE. These DEs are located within a Mining Lease M63/656 and a Miscellaneous Licence L63/75 issued under the *Mining Act 1978* (WA; Figure 2).

The Mine DE will require clearing of no more than 300 ha within the 898 ha extent of the Mine DE in order to develop the mine pits and associated infrastructure (Figure 2). The Haul Road DE will require clearing of no more than 350 ha within the 1,633 ha extent of the Haul Road DE in order to develop the haul road and associated infrastructure (Figure 3 and Figure 4).

Access to the site is proposed to be via a 74 km unsealed private haul road from the mine site to an ore transfer hub adjacent to the Coolgardie-Esperance Highway (Figure 3 and Figure 4).

1.2 ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

Part IV of the EP Act makes provisions for the Environmental Protection Authority (EPA) to undertake Environmental Impact Assessment (EIA) of significant proposals, strategic proposals and land use planning schemes. The Proposal is considered to be a 'significant proposal' and as such requires assessment under Part IV of the EP Act.

The EPA uses environmental principles, factors and associated objectives as the basis for assessing whether a proposal or land use planning scheme's impact on the environment is acceptable. The environmental principles, factors and objectives, therefore, underpin the EIA process.

The Proposal was referred under Section 38 of the EP Act on 20 December 2017. The EPA released their decision to assess the Proposal as a Public Environmental Review (s. 40(2)(b) and s. 40(4)), with a public review period of eight weeks, on 19 March 2018. A proponent-prepared Environmental Scoping Document (ESD) was submitted to the EPA and approved on 1 April 2019.

Audalia prepared an Environmental Review Document (ERD), in accordance with the EPA's Procedures Manual (Part IV Division 1 and 2), describing the Proposal and its likely effects on the environment. A draft Offset Strategy presented as an appendix to the ERD. The ERD was available for a public review for a period of 8 weeks from Monday, 8 March, 2021, closing on Tuesday, 4 May 2021.

On 14 July 2021, EPA Services at the Department of Water and Environmental Regulation (DWER) provided Audalia with a summary of public submissions received during the public review period. A total of five submissions were received, some of which related to environmental offsets and the draft Offset Strategy.

Audalia prepared a Response to Submissions document, which included a revised draft Offset Strategy, and the Response to Submissions document was accepted by the EPA on 1 July 2022. Audalia was then advised on 28 April 2023 that a revision of the Offset Strategy would be required that included additional detail on how the offset will provide long term outcomes for the environmental values that are impacted.

This draft Offset Strategy has since been revised primarily to address this comment, and incorporated further recent informal comments received from EPA Services and other stakeholders, including the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) and the Department of Biodiversity, Conservation and Attractions (DBCA).

Figure 1: Regional setting of the Proposal

292500 295000 297500

6400000

6397500

6395000

M 63/656

L 63/75

E 63/1134

COOLGARDIE ESPERANCE HWY

Stennets Lake

Lake Gilmore

LAKE KING - NORSEMAN RD

0 2.5 km

292500 295000 297500

Legend

- Mine Development Envelope
- Haul Road Development Envelope
- Mine Disturbance Footprint
- Haul Road Indicative Disturbance Footprint
- Tenement

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS
- TENEMENTS SOURCED DMRS 2020
- LOCALITY MAP SOURCED LANDGATE 2006
- AERIAL PHOTOGRAPHY SOURCED LANDGATE

BOTANICA CONSULTING

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LOCALITY MAP

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ENVIRONMAPS	BOT1	18/06/2020	0

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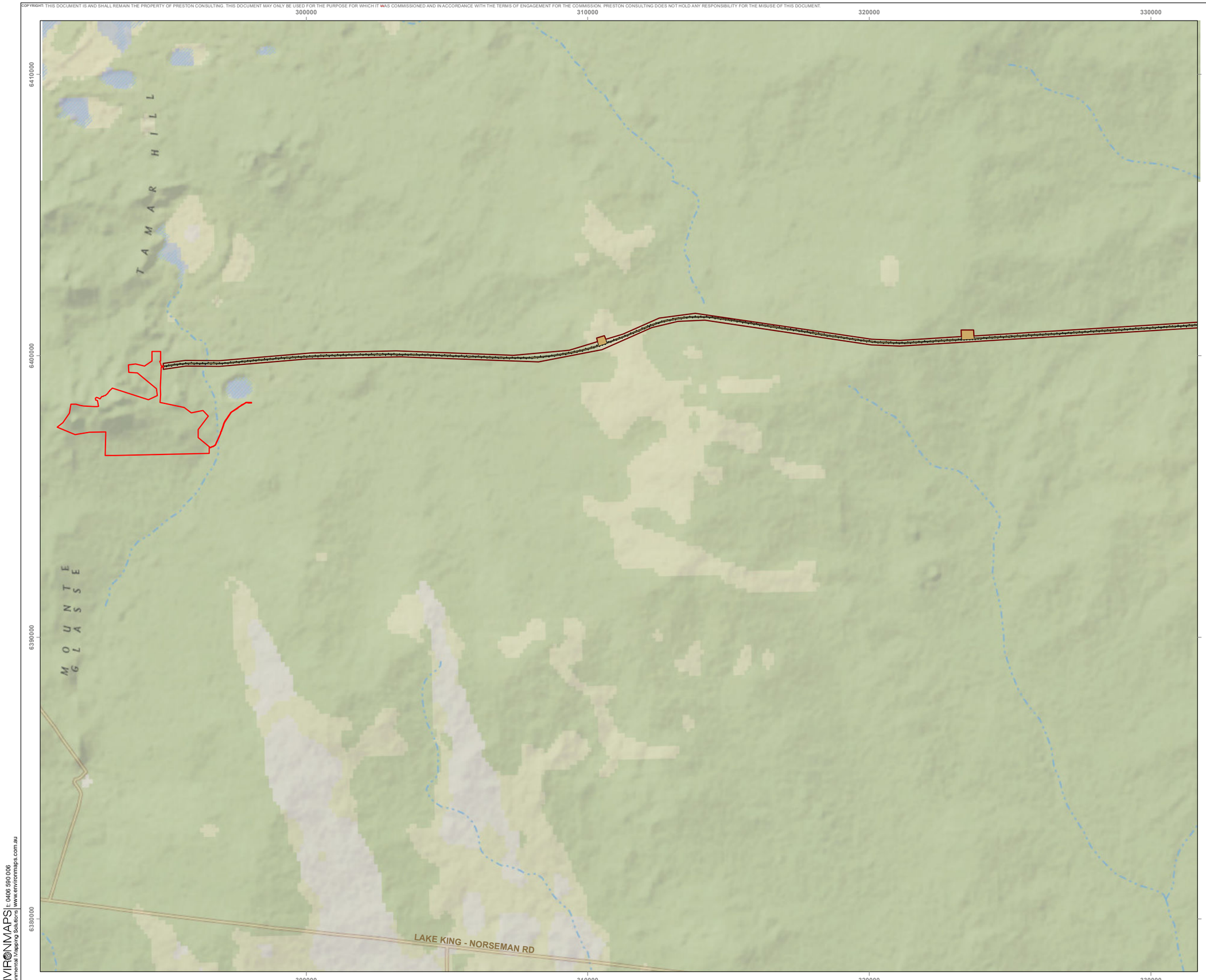
L:\GIS\Jobs\Preston Consulting\PC29000035 - Audalia Resources, Part IV Approvals ERD\F_Figures\BOT1_Figure 1-1 Medcalf Project Disturbance Footprint and Development Envelopes_200618.mxd

Figure 2: Mine DE and indicative disturbance footprint



Legend

- Mine Development Envelope
- Haul Road Development Envelope
- Haul Road Indicative Disturbance Footprint

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS
- LOCALITY MAP SOURCED LANDGATE
- BASE DATA OPEN SOURCE NATGEO WORLD MAP

Preston Consulting

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LOCALITY MAP

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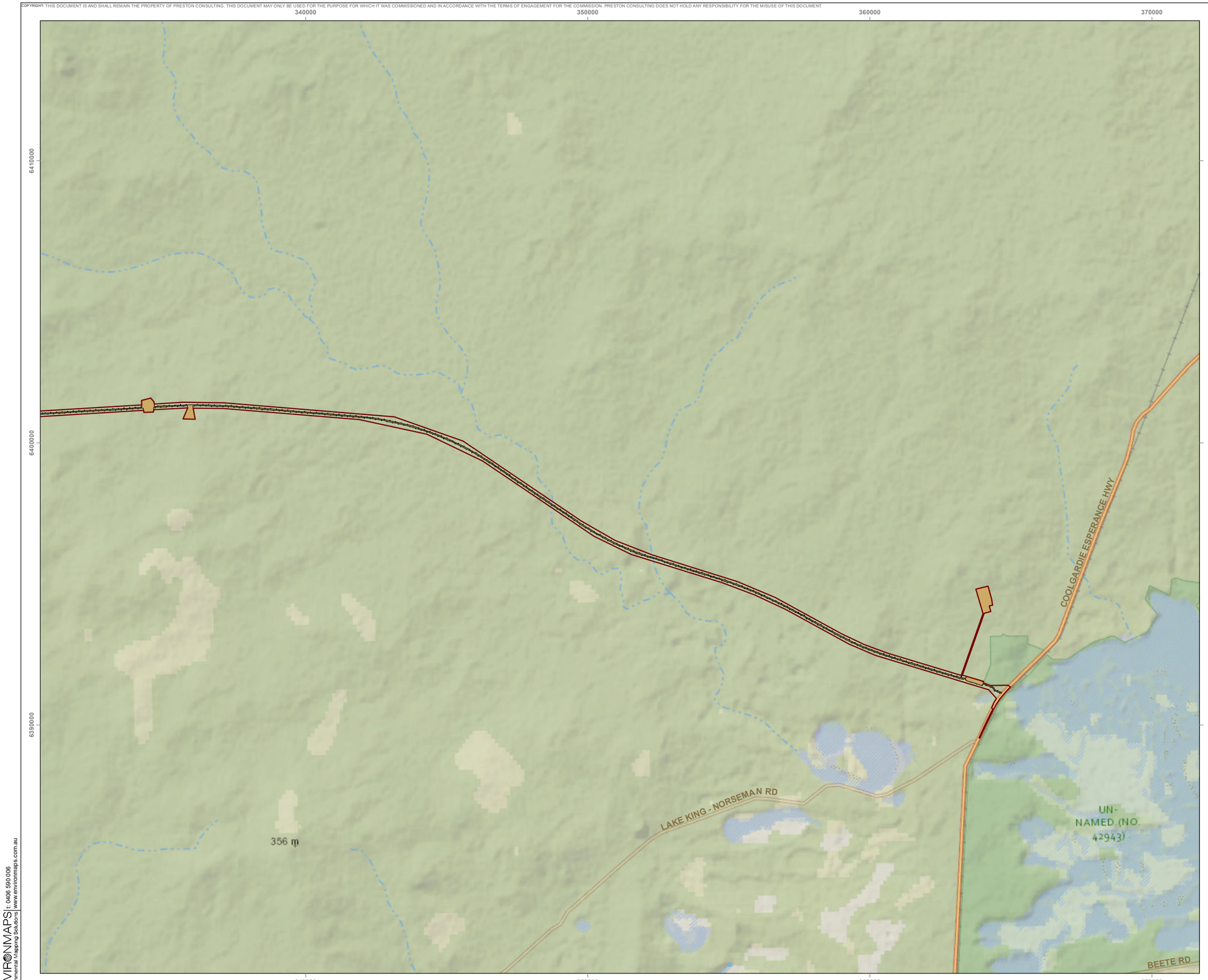
Figure 3: Haul Road DE and indicative layout (1 of 2)



Legend

- Mine Development Envelope
- Haul Road Development Envelope
- Haul Road Indicative Disturbance Footprint

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS
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Figure 4: Haul Road DE and indicative layout (2 of 2)

2 SCOPE AND PURPOSE

During their assessment of the Proposal, Audalia considered the Proposal could have a significant residual impact from the following actions:

- *M. aquilonaris* (T): disturbance of 1.51 ha of sub-optimal habitat;
- *Eucalyptus rhomboidea* (P4): disturbance of 768 individuals and 0.4 ha of population extent;
- *Stenanthemum bremerense* (P4): disturbance of 2,049 individuals and 21 ha of population extent; and
- Up to 285 ha of disturbance of the Bremer Range Vegetation Complexes Priority Ecological Community (Bremer Range PEC).

This position is conservative in that it has assessed impacts:

- To Priority Flora species on the assumption that they would meet the criteria for Threatened Flora; and
- To the Bremer Range PEC on the assumption that the PEC is under threat such that cumulative pressures would be considered significant.

If the Proposal is approved, Audalia predicts that an offset condition will be included in the Ministerial Statement (MS) to counterbalance the significant residual impacts of the Proposal listed above. This Offset Strategy has been prepared in anticipation of this offset condition, in order to detail potential suitable offset measures to counterbalance the significant residual impacts of the Proposal.

Detailed discussions have been held regarding offsets for the Proposal, including with EPA Services, DEMIRS and DBCA. This Offset Strategy will remain in draft form until accepted by EPA Services, who may be informed by further detailed discussions with DEMIRS and DBCA.

3 STAKEHOLDER CONSULTATION

Audalia has consulted extensively with a range of relevant external stakeholders throughout the planning and assessment phases of the Proposal, commencing in 2013. The core principle of the stakeholder engagement strategy is to identify relevant external stakeholders, and consult with them to identify their concerns, appropriate mitigation strategies and likely environmental outcomes.

A full stakeholder register summary is provided in the ERD, available on the EPA's website (https://www.epa.wa.gov.au/proposals/medcalf-vanadium-project). Only the stakeholder consultation that is relevant to this Offset Strategy is summarised in Table 1.

Table 1: Summary of relevant stakeholder engagement

Stakeholder	Date/s	Issues / topics raised relevant to offsets	Proponent response / outcome
Government Stakeholders			
DWER – EPA Services	October 2015 August (meeting), December 2017 March (letter), June, July (meeting), October (email), November (email), December (email) 2018 February (email, letter and meeting), March, July, August 2019 February, April, July, August, September, October, November, December 2020 (emails and meetings) January, February, March, May, June, July 2021 (emails and meetings) 2022 - 2024 (fortnightly / stand-alone meetings, site visit and EPA Board meeting)	• Environmental survey effort requirements and findings • Pre-referral discussions • Exploration activities • Priority and Threatened Flora populations • Section 38 Referral • ESD • Impacts to proposed Bremer Range Nature Reserve • Methodologies for *M. aquilonaris* studies • Review *M. aquilonaris* study results • *M. aquilonaris* critical habitat boundary • Review of draft ERD • Section 43A application • Summary of Submissions • Response to Submissions document • Site visit • Offset package • Offset site survey results • Liaison with DBCA and DEMIRS	• Studies conducted as per the requirements of the ESD • Concerns taken on board regarding adequacy of offsets • Audalia investigated additional offsets • Audalia liaised with DEMIRS and DBCA regarding the implementation of proposed offsets • Additional attempts made to liaise with DBCA regarding specific details of the management of the offsets
DEMIRS	June (letter), July (letter and meeting), August, October (letter) 2014 February (meeting), April (meeting), May (meeting), June (letter), July (meeting), December (meeting) 2015 March (meeting) 2016 September 2017	• Project overview and updates • Mining tenure applications • Priority and Threatened Flora populations • Mining Proposal and Mine Closure Plan (MCP) • Pre-referral discussions • Review of draft ERD • Comments on ERD • Potential Section 19 conservation (offset) area • Formal response to EPA Services regarding offset sites	• Mining Proposal and MCP to be prepared in accordance with DEMIRS guidelines • Audalia to liaise with DEMIRS regarding the implementation of proposed offsets

Stakeholder	Date/s	Issues / topics raised relevant to offsets	Proponent response / outcome
	July (email), November (meeting) 2018 March (teleconference) and August (via DWER) 2020 Comments on ERD (2021), September 2021 (meeting) 2022 / 2023 (emails), August 2023 (meeting)		
DBCA	July 2013 (letter) March (meeting), April (email), May (letter), August, October (letter) 2014 April (meeting), May (meeting), July (meeting and letter), October 2015 March (meeting), May (letter), June (letter) 2016 January, March, June (email), September (site visit), October (email), November (meeting) 2018 January (meeting), March, July, December 2019 February, July (meetings), August (via DWER) 2020 Comments on ERD (2021) September, November, December 2023 (meeting and correspondence via EPA Services)	• Project overview and updates • Priority and Threatened Flora populations • Permit to take Threatened Flora • Update on Mining Plan • Environmental study and survey effort requirements and findings • Pre-referral discussions • Impacts to proposed Bremer Range Nature Reserve • ESD • Methodologies for *M. aquilonaris* studies • Location of dust deposition gauges • Scope of proposed modelling of M. aquilonaris locations • Genetic study for *M. aquilonaris* • Review *M. aquilonaris* study results • *M. aquilonaris* critical habitat boundary • Proposed offsets • Review of draft ERD • Proposed off-tenement offset site, management rehabilitation, research	• Studies conducted as per the requirements of the ESD • Concerns taken on board during draft ERD preparation • Audalia to continue to liaise during Part IV approval process • Audalia to liaise with DBCA regarding the implementation of proposed offsets
Traditional Owners			
Ngadju People	September 2012 (meeting) January – May, September, October 2015 (meetings) July (letter), November 2017 (meeting) April 2019 (emails and meeting) July 2020 (letter) April, May 2021 (emails and meeting)	• Proposal overview and updates • Ethnographical survey • Ethnographic and Anthropological heritage surveys, including over M63/656 and L63/75, undertaken with the assistance of nominated Ngadju Native Title Holders • Negotiation and community meetings • Consultation of bush tucker and medicine • Project updates • ERD consultation briefing	Audalia may discuss management of the offset sites by the Ngadju ranger program if DBCA does not wish to or does not have resources to carry out that role.

4 SIGNIFICANT RESIDUAL IMPACTS

4.1 MITIGATION HIERARCHY

Offsets are the last of the four steps in the mitigation hierarchy (Avoid, Minimise, Rehabilitate and Offset). They are only applied to counterbalance residual significant impacts when the other steps have already been applied to a Proposal.

Audalia commissioned a significant amount of environmental surveys and studies for the Proposal over a period of ten years. The surveys determined that there were key environmental values that required protection, including significant flora and the Bremer Range PEC.

Audalia assessed the findings of the surveys and studies and made significant changes to the Proposal design. Some of these changes carried a significant cost (such as reducing the size of the Vesuvius mine pit) – affecting the unit costs of the Proposal. Changes were also made to avoid and minimise construction and operational impacts, such as implementing strict clearing controls, dust mitigation and surface water drainage controls. These changes were formally made via an application under Section 43A of the EP Act, which was approved on 4 November 2020.

The application of these avoidance and minimisation mechanisms in Proposal design and operations has meant that impacts to many key environmental values have been avoided or significantly reduced. Audalia understands that this conclusion is in part based on studies and modelling, and as such monitoring has been committed to in order to verify the study and model outputs.

4.2 SUMMARY OF SIGNIFICANT RESIDUAL IMPACTS

The assessments conducted in the ERD and Response to Submissions document have utilised the findings of the numerous surveys and studies completed for the Proposal.

The WA Environmental Offsets Guidelines (EPA, 2014) states:

> "In general, significant residual impacts include those that affect rare and endangered plants and animals (such as declared rare flora and threatened species that are protected by statute), areas within the formal conservation reserve system, important environmental systems and species that are protected under international agreements (such as Ramsar listed wetlands) and areas that are already defined as being critically impacted in a cumulative context. Impacts may also be significant if, for example, they could cause plants or animals to become rare or endangered, or they affect vegetation which provides important ecological functions".

Audalia has assessed the residual impacts of the Proposal against the residual impact significance model provided in the WA Environmental Offsets Guidelines (EPA, 2014). The findings of this assessment are provided in Table 2.

Table 2: Assessment against residual impact significance model

Relevant Part IV Environmental Factors	Vegetation and Flora						
				Terrestrial Fauna			
Part V Clearing Principles	**c -** Rare flora	**d -** TECs	**e -** Remnant vegetation	**f -** Wetlands and waterways	**h -** Conservation areas	**a -** High biological diversity	**b -** Habitat for fauna
Residual impact that is environmentally unacceptable and cannot be offset	No residual impacts are considered to meet this criteria						
Significant residual impacts that will require an offset – *all significant residual impacts to species and ecosystems are protected by statute or where the cumulative impact is already at a critical level*	It is considered likely that the residual impacts to *M. aquilonaris* would meet this criteria	No residual impacts are considered to meet this criteria - no TECs were recorded within the DEs	No residual impacts are considered to meet this criteria – all remaining vegetation will have 97% or more of their pre-European extent remaining	No residual impacts are considered to meet this criteria as no wetlands or waterways that are protected by statute lie within the DEs or would be indirectly impacted by the Proposal	No residual impacts are considered to meet this criteria as no conservation areas that are protected by statute lie within the DEs or would be indirectly impacted by the Proposal	The Bremer Range PEC is known to contain a high level of biological diversity and as such residual impacts to this PEC are considered to meet this criteria.	No residual impacts are considered to meet this criteria as no restricted habitats for Threatened Fauna will be impacted and suitable intact habitat will remain outside the DEs.
Significant residual impacts that may require an offset – *any significant residual impacts to potentially threatened species and ecosystems, areas of high environmental value or where the cumulative impact may reach critical levels if not managed*	It is considered likely that the residual impacts to *E. rhomboidea* and *S. bremerense* would meet this criteria.	It is considered likely that the residual impacts to the Bremer Range PEC would meet this criteria.	No residual impacts are considered to meet this criteria – refer above	No residual impacts are considered to meet this criteria – refer above	No residual impacts are considered to meet this criteria – refer above	No other residual impacts are considered to meet this criteria. While the broader Great Western Woodlands are known to have high ecological significance, the residual impacts are not considered significant given the relatively small footprint of the Proposal in the context of the large area of intact habitat outside the DEs.	No residual impacts are considered to meet this criteria – refer above
Residual impacts that are not significant	Impacts to other priority flora are not considered to be at a level that would be considered significant.	No other TECs or PECs were recorded within the DEs	Vegetation in the area is relatively undisturbed. All remaining vegetation will have 97% or more of their pre-European extent remaining	No wetlands or waterways that are protected by statute lie within the DEs or would be indirectly impacted by the Proposal	No conservation areas that are protected by statute lie within the development envelopes or would be indirectly impacted by the Proposal	While the broader Great Western Woodlands are known to have high ecological significance, the residual impacts to remnant vegetation is not considered significant given the relatively small footprint of the Proposal in the context of the large area of intact habitat outside the DEs.	No restricted habitats for Threatened Fauna will be impacted and suitable intact habitat will remain outside the DEs.

After the implementation of mitigation measures described in the Proposal ERD, the Proposal is predicted to have a residual impact on the following environmental values:

- *M. aquilonaris* (T): disturbance of 1.51 hectares (ha) of sub-optimal habitat;
- *E. rhomboidea* (P4): disturbance of 768 individuals and 0.4 ha of population extent;
- *S. bremerense* (P4): disturbance of 2,049 individuals and 21 ha of population extent; and
- Up to 285 ha of disturbance of the Bremer Range PEC.

This position is conservative in that it has assessed impacts:

- To Priority Flora species on the assumption that they would meet the criteria for Threatened Flora; and
- To the Bremer Range PEC on the assumption that the PEC is under threat such that cumulative pressures would be considered significant.

5 PROPOSED OFFSETS

5.1 DETAILS OF PROPOSED OFFSETS

Table 3 describes the measures proposed to offset the residual impacts to these values. These measures have been informed by detailed discussions with DBCA, DEMIRS and DWER and may be further refined prior to implementation.

Table 3: Proposed offsets

Offset	Type	Details	Relevant Values
Provision of a 427 ha exclusion zone for areas within Audalia's *Mining Act 1978* tenure (Figure 5) to protect: • *M. aquilonaris* sub-populations 1a and 1d • 3.37 ha of *M. aquilonaris* sub-population extent • 11.9 ha of *M. aquilonaris* optimal habitat • 31.4 ha of *M. aquilonaris* sub-optimal habitat • 38.7 ha of *M. aquilonaris* critical habitat • 1 *E. rhomboidea* sub-population (7.4 ha) • *S. bremerense* sub-populations (11.0 ha) • 427 ha of the Bremer Range PEC The exclusion zone is to be excluded from all mining activity for the period specified in the MS (if approved), expected to be 20 years. Land management costs for a period of 20 years are included in this proposed offset.	Direct – preservation of existing habitat	The majority of the *M. aqulionaris* critical habitat lies on Audalia's *Mining Act 1978* tenure and as such Audalia has a suitable understanding of the mineralisation of the proposed area and the economic implications of a protected area. It is Audalia's position that given the current lack of germination knowledge on the species, several *M. aquilonaris* sub-populations should be protected from mining activities and the development of an exclusion zone would reduce the likelihood of this occurring in the future. Audalia proposes an exclusion area over *M. aquilonaris* sub-populations 1a and 1d, and surrounding critical habitat extents, for the period specified in the MS (if approved), expected to be 20 years. Note that DEMIRS did not support any other form of protection over this area due to the presence of mineralisation. The offset would ensure protection of 71.9% of known individuals across two of the five current sub-populations. Audalia notes that sub-population 1b and 1c lie on top of known mineralised ore therefore these sub-populations have been excluded from the proposed exclusion zone. Sub-population 1e lies outside of Audalia's Mining Act tenements and therefore could not be included in the exclusion zone.	*M. aquilonaris, E. rhomboidea, S. bremerense,* Bremer Range PEC

Offset	Type	Details	Relevant Values
		The exclusion zone also would ensure protection for: • 3.37 ha of *M. aquilonaris* sub-population extent (74.7% of total extent) • 11.9 ha of *M. aquilonaris* optimal habitat (70.7%) • 31.4 ha of *M. aquilonaris* sub-optimal habitat (59.7%) • 38.7 ha of *M. aquilonaris* critical habitat extent (60.0%) *E. rhomboidea* and *S. bremerense* sub-populations also lie within the proposed exclusion zone (Figure 5). The offset would ensure protection of only 164 (1.1%) of known local *E. rhomboidea* individuals however will include one of the six local sub-populations (16.7%) and 7.4 ha of the 12 ha of local population extent (61.7%). The offset would ensure protection of 12,200 (30.4%) of known local *Stenanthemum bremerense* individuals and will include 11.0 ha of the 56 ha of local population extent (19.6%). The exclusion zone will also include 427 ha of the Bremer Range PEC (0.5% of the total extent).	
Provision of an estimated 7,000 ha off-tenement offset site (Figure 6) to protect significant flora values: • *Balaustion grandibracteatum* subsp. *meridionale* (P2) • *Conospermum sigmoideum* (P2) • *Dampiera orchardii* (P1) • *Eremophila succinea* (P3) • *Eucalyptus rhomboidea* (P4) • *Hibbertia pachyphylla* (P3) • 2 flora species of interest It is also possible or probable that a further 5 Priority flora and one species of interest are also present due to their known occurrences outside the offset package on soils and landforms that extend into the offset package: • *Brachyloma nguba* (P1) • *Brachyloma stenolobum* (P1) • *Rinzia rubra* (P3) • *Seringia adenogyna* (P4) (post fire only) • *Teucrium diabolicum* (P3) • One species of interest The offset site is to be converted into conservation	Direct – preservation of existing habitat	The majority of the area surrounding Bremer Range is covered by tenements issued under the Mining Act, which demonstrates the mining pressures present in the area. The implementation of the offset will ensure that a large area of native vegetation, with known and likely significant flora values, will be protected and managed for at least 20 years. The offset would ensure protection of known *E. rhomboidea* individuals, as well as ensure protection for other know significant flora and their habitats. The offset site also preserves a connection between Frank Hann National Park and the proposed Bremer Range Nature Reserve.	*E. rhomboidea,* other significant flora species

Offset	Type	Details	Relevant Values
estate (preferred option, subject to DBCA) or excluded from land clearing activities for 20 years via a condition in the MS (if approved). Land management costs for a period of 20 years are included in this proposed offset.			
Provision of $500,000 (based on similar offset requirements per hectare for PEC impacts in WA) for ongoing conservation management within the Bremer Range PEC, including significant flora populations	Direct – management of conservation values	Audalia proposes to contribute $100,000 per year for 5 years, with the first payment made within 12 months of the commencement of operations. The funding is to be paid to an independent and transparent management authority which will be developed in consultation with EPA, DBCA and local landcare groups. The management authority will be responsible for allocating the funds to manage conservation values within the Bremer Range PEC and associated values it contains, such as significant flora populations.	*M. aquilonaris, E. rhomboidea, S. bremerense,* Bremer Range PEC
Ongoing *M. aquilonaris*, *E. rhomboidea* and *S. bremerense* research: • Germination trials • Regional searches after fire events • Population health monitoring • Rehabilitation trials • Genetic studies	Indirect – improvement of scientific knowledge of the species	Audalia has commissioned significant research work on these species to inform this ERD. It is proposed to continue the longer-term portions of this research such as germination, changes to population numbers, health and rehabilitation trials. This information will inform the recovery and preservation planning for these species.	*M. aquilonaris, E. rhomboidea, S. bremerense*
Attempted establishment in rehabilitation areas of *E. rhomboidea* and *S. bremerense* individuals impacted by the Proposal	Direct – replacement of existing population	Germination trials for *E. rhomboidea* and *S. bremerense* have been undertaken by DBCA to allow the replacement of any individuals that are required to be disturbed for the Proposal. These germination trials will continue to inform the target regrowth and establishment of *E. rhomboidea* and *S. bremerense* individuals. Audalia notes that this offset carries some risk as long-term germination success has not yet been confirmed for either species. Audalia commissioned Botanica to prepare a Rehabilitation Plan (Botanica, 2021). The Rehabilitation Plan provides additional detail about how this offset will be achieved.	*E. rhomboidea*, *S. bremerense*

An assessment of the adequacy of these offsets is provided in Section 5.

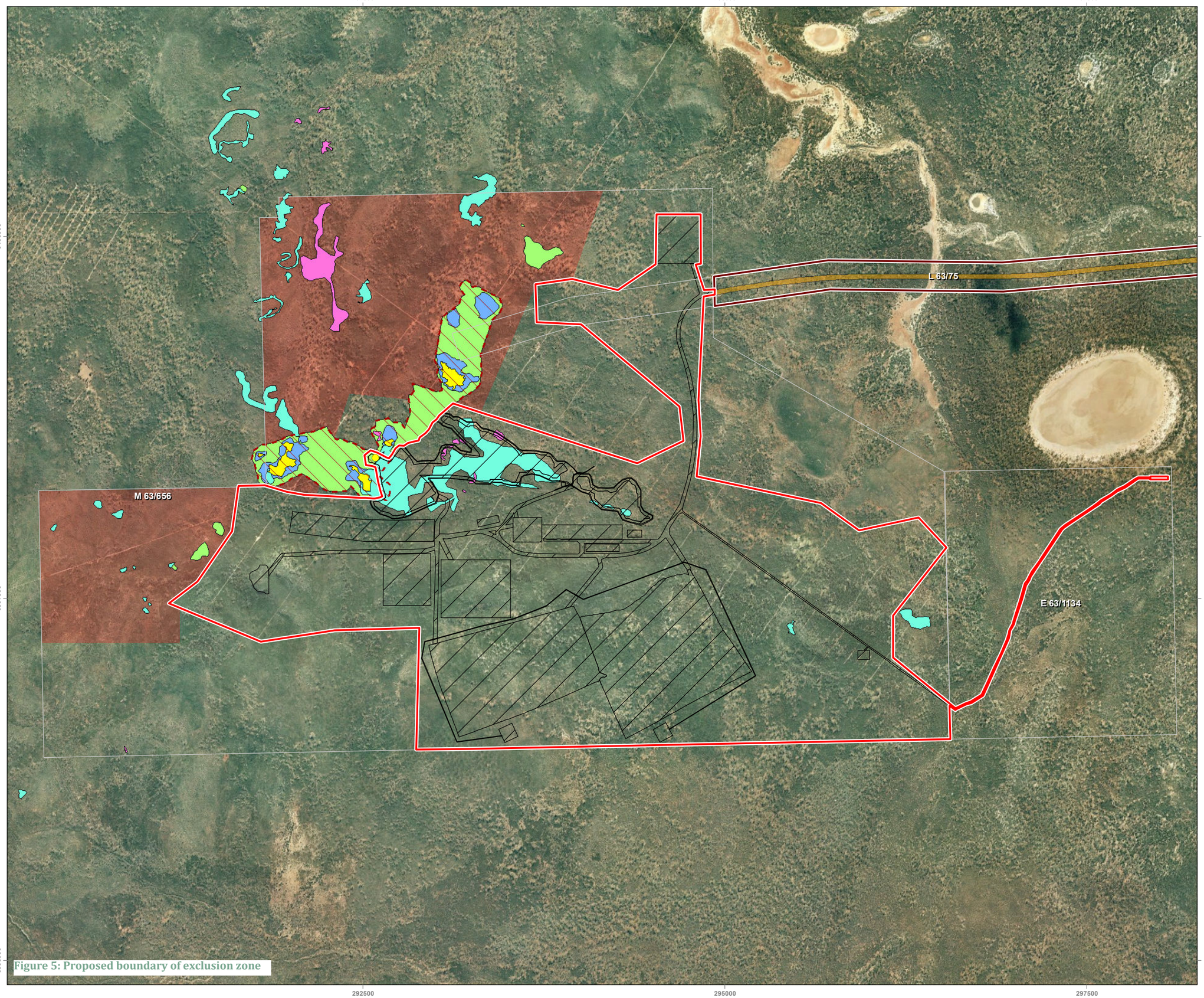

Figure 5: Proposed boundary of exclusion zone

Legend

- Mine Development Envelope
- Haul Road Development Envelope
- Mine Disturbance Footprint
- Haul Road Indicative Disturbance Footprint
- Tenement
- Exclusion Zone
- *Marianthus* Critical Habitat
- *Marianthus aquilonaris* Population - January 2019
- *Marianthus* Optimal Habitat
- *Marianthus* Sub-optimal Habitat

Priority Flora

- *E. rhomboidea* Population - June 2019
- *S. bremerense* Population June 2019

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS
- TENEMENTS SOURCED DMIRS
- AERIAL PHOTOGRAPHY OPEN SOURCE

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LOCALITY MAP

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ENVIRONMAPS	PC2900035	3/01/2024	0

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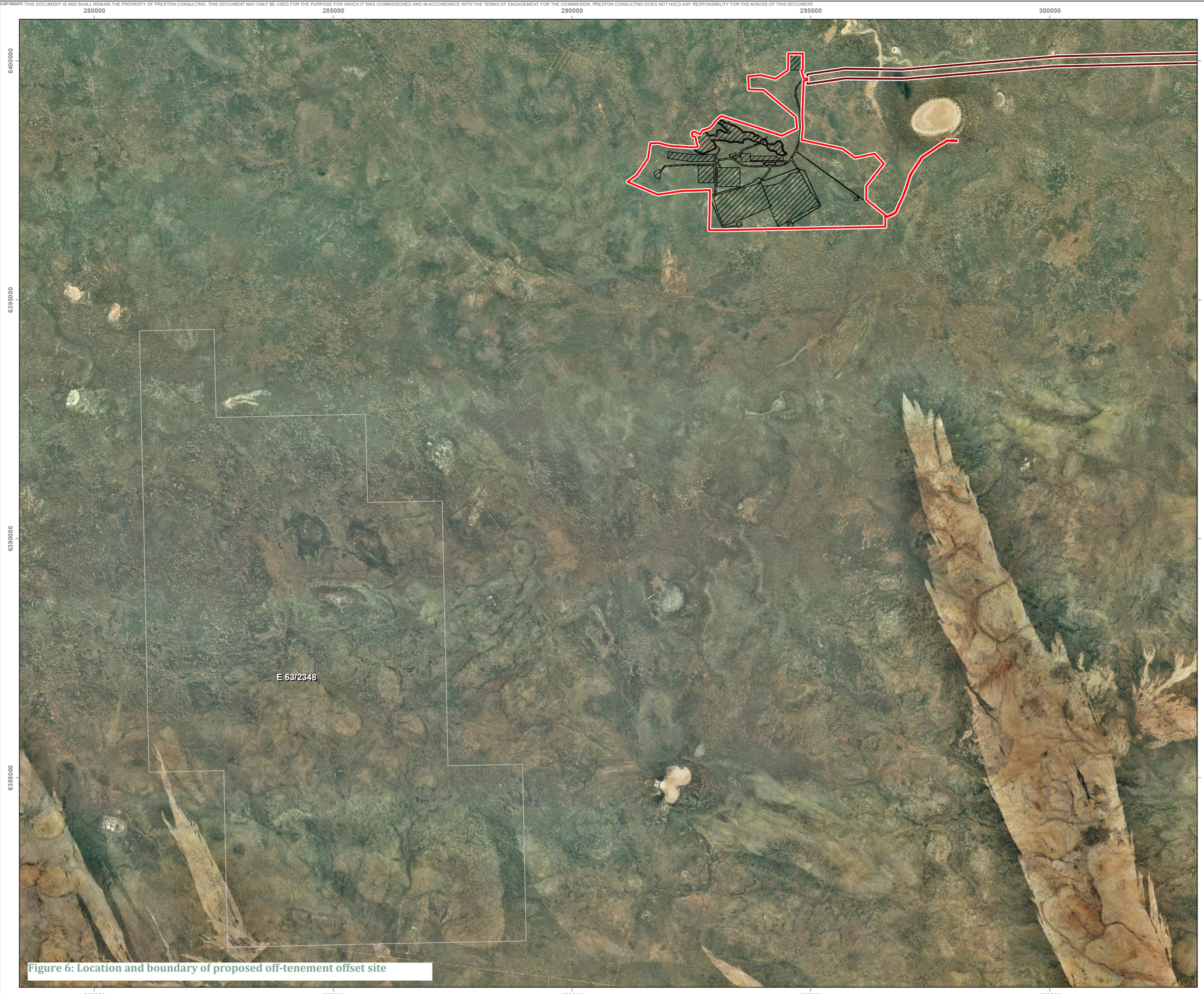

Figure 6: Location and boundary of proposed off-tenement offset site

Legend

- Mine Development Envelope
- Haul Road Development Envelope
- Mine Disturbance Footprint
- E 63/2348 Tenement

- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS
- TENEMENTS SOURCED DMIRS
- AERIAL PHOTOGRAPHY OPEN SOURCE

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5.2 Off-Tenement Offset Site

5.2.1 Vegetation Condition

The Offset Site is almost entirely native vegetation identified as being in excellent condition (Geoff Cockerton, pers comm, 2023). Some small areas were noted to have been cleared historically for tracks (i.e., not by Audalia), however these comprise a very small portion of the offset site.

5.2.2 Significant Flora Values

The Offset Site is comprised almost entirely of native vegetation that represents habitat for up to 14 significant flora species. Western Botanical (2024; Appendix 1) identified six species known from the offset site:

- *Eucalyptus rhomboidea* (P4);
- *Balaustion grandibracteatum* subsp. *meridionale* (P2);
- *Conospermum sigmoideum* (P2);
- *Dampiera orchardii* (P1);
- *Eremophila succinea* (P3);
- *Hibbertia pachyphylla* (P3); and
- *Lepidosperma* sp. Bremer Range (G. Cockerton 809) (Species of Interest); and
- *Persoonia* sp. Parker Range (D. Lievense-153a) (Species of Interest).

It is also possible or probable that a further five Priority flora and one species of interest are also present due to their known occurrences outside the offset package on soils and landforms that extend into the offset package:

- *Brachyloma nguba* (P1);
- *Brachyloma stenolobum* (P1);
- *Rinzia rubra* (P3);
- *Seringia adenogyna* (P4) (post fire only);
- *Teucrium diabolicum* (P3); and
- *Acacia neurophylla* subsp. resinous veins (G. Cockerton-797) (Species of Interest).

5.2.3 Habitat Connectivity

The offset site connects the Frank Hann National Park with the proposed Bremer Range Nature Reserve, and will extend the area protected by the Frank Hann National Park by approximately 7,000 ha.

5.2.4 Management

Audalia proposes conservation (via land tenure change or exclusion areas listed in the MS) and on-ground management of the Offset Site as a portion of the offset for the residual impacts of the Proposal. On-ground management includes protection and maintenance activities to maintain (and potentially improve some small areas) the condition of the native vegetation and reduce the threats to significant flora and other environmental values within the Offset Site. Protection and maintenance activities may include but are not limited to:

1. Access restrictions into the Offset Site to minimise damage from off-road vehicles;
2. Regular monitoring for signs of weed propagation and changes in vegetation condition;

3. Removal / treatment of weeds (if present);
4. Removal of any rubbish / refuse if present;
5. Removal of internal fencing to allow unrestricted movement of fauna;
6. Regular monitoring for signs of feral animals that may be predators or affect the quality of the low-lying habitat (including Fox, Cat, Dog, Pig);
7. Feral animal trapping and management with a particular focus on Foxes and Cats; and
8. Develop and implement a Ranger Program if appropriate.

Audalia proposes to fund and implement the on-ground management of the Offset Site for the 20 years.

Implementation of the management mechanisms listed above is expected to protect the Offset Site from any impacts that may lower the value of the site and ensure that extensive areas of very high value significant flora habitat remain available. The protection mechanisms listed above may have the added benefit of reducing predator numbers and improving the quality of the habitat.

5.2.5 PROTECTION

Audalia is proposing to use the offset site to protect and maintain an estimated 7,000 ha of Excellent quality vegetation that provides high value significant flora habitat. The land is currently Unallocated Crown Land, therefore the land will either be protected by a transfer of land tenure to conservation (likely would need to be enacted within Government) or an exclusion zone may be applied over the area as part of the MS. Audalia will liaise with DBCA to determine their preferred method.

Management of the offset site is proposed to be undertaken for an anticipated maximum of 20 years. Audalia intends to either:

- Engage a suitable local land management organisation (preferably with Traditional Owner engagement);
- Engage an experienced landcare contractor; or
- Fund DBCA to undertake this work (if preferred by DBCA and subject to agreement with DBCA).

6 ASSESSMENT OF THE PROPOSED OFFSETS

As described in Section 4, based on the findings of the Environmental Impact Assessment in the ERD, Audalia considers that the Proposal's residual impacts to significant flora the Bremer Range PEC may be considered significant and require offsets.

6.1 WA ENVIRONMENTAL OFFSETS GUIDELINES

As described in Table 2, based on the findings of the Environmental Impact Assessment in the ERD, Audalia considers that the Proposal's residual impacts to *M. aquilonaris*, *E. rhomboidea*, *S. bremerense* and the Bremer Range PEC may be considered significant and require offsets.

During the assessment Audalia noted some uncertainty about whether the Proposal impacts on *E. rhomboidea*, *S. bremerense* and the Bremer Range PEC constituted a significant residual impact that would require offsets. The WA Environmental Offsets Guidelines (EPA, 2014) notes that:

> "There may be cases where there is some uncertainty about whether a significant residual impact will occur, and/or the extent of the impact. An offset may apply in some cases based on an assessment of the risk using a normal risk-based approach, that is considering the 'likelihood' of the impact occurring and the 'consequences' of the impact if it did occur, based on the evidence and information available. Offsets would normally only be applied in cases where there was a significant risk that the impact was likely to occur and there was likely to be a significant consequence".

The indirect impacts described in the ERD are deliberately conservative (appropriately based on the precautionary principle) however it is unlikely that the full scale of indirect impacts would occur. Based on the above, Audalia has committed to ongoing monitoring that will inform and ultimately verify the scale of these residual indirect impacts. The key monitoring is considered to be the dust deposition monitoring and the ongoing Significant Flora Management Plan.

The dust deposition monitoring and Significant Flora Management Plan are committed to in the ERD in Section 5 and in the Response to Submissions document. These monitoring programmes are designed to monitor and compare dust deposition against model predictions, and monitor the health of significant flora populations over the life of the Proposal.

6.2 WA OFFSETS TEMPLATE

Audalia has completed a WA Offsets Template as per the requirements of the WA Environmental Offsets Guideline (EPA, 2014), provided in Table 4. Note that only the values that were deemed to require offsets are included (refer to the ERD for the complete list).

Table 4: WA offsets policy template

Existing Environment / Impact	Mitigation			Significant Residual Impact	Offset Calculation Methodology				
	Avoid and Minimise	Rehabilitation Type	Likely Rehab Success		Type	Risk	Likely Offset Success	Time Lag	Offset Quantification
***M. aquilonaris* (T)** – Disturbance of 1.51 ha of sub-optimal habitat within the critical habitat boundary Reduction in flora and/or habitat health as a result of indirect impacts Disturbance and indirect impacts to pollinator habitat	**Avoid**: DEs were revised to avoid: • All current individuals • All current areas of occupancy (sub-populations) • All optimal habitat • All catchment areas upslope of current areas of occupancy **Minimise**: • Implement industry best practice management measures for flora and vegetation • Ensure ground disturbance does not exceed the 1.51 ha of sub-optimal habitat limit proposed in the Key Proposal Characteristics • Implement additional ground disturbance measures for any ground disturbance within critical habitat • Implement the Dust Management Plan • Implement preventive measures to minimise the risk and impact of hydrocarbon spills • Comply with Water Quality Protection Guidelines and guidance notes • Implement additional controls upslope of *M. aquilonaris* critical habitat • Implement Significant Flora Management Plan • Implement Rehabilitation Plan • Conduct an additional *M. aquilonaris* pollinator survey during peak flowing season	Refer to Rehabilitation Plan (Botanica, 2021).	<u>Can the environmental values be rehabilitated/Evidence?</u> No - disturbance is limited to mine pit and abandonment bund which cannot be rehabilitated back to previous value <u>Operator experience in undertaking rehabilitation?</u> N/A <u>What is the type of vegetation being rehabilitated?</u> N/A <u>Time lag?</u> N/A <u>Credibility of the rehabilitation proposed (evidence of demonstrated success)</u> N/A	<u>Extent</u> 1.51 ha of sub-optimal habitat <u>Quality</u> • Vegetation is in good to very good condition • Sub-optimal habitat <u>Conservation Significance</u> Threatened species <u>Land Tenure</u> Mining Act tenure <u>Time Scale</u> N/A According to the significance framework, residual impact is considered to be significant because a specially protected species under the *Biodiversity Conservation Act* (BC Act) is impacted.	Provision of a 427 ha exclusion zone for areas within Audalia's *Mining Act 1978* tenure (Figure 5) to protect: • Sub-populations 1a and 1d • 3.37 ha of sub-population extent • 11.9 ha of optimal habitat • 31.4 ha of sub-optimal habitat • 38.7 ha of critical habitat The exclusion zone is to be excluded from all mining activity for 20 years or when Audalia relinquishes the associated *Mining Act 1978* tenements, whichever is the latter. Land management costs for a period of 20 years are included in this proposed offset.	Low – exclusion zone would become a regulated boundary under the MS if the Proposal is approved	<u>Can the values be defined and measured?</u> Yes - value to *M. aquilonaris* can be measured <u>Operator experience/Evidence?</u> Varied – DBCA may undertake the offset if preferred, or Audalia consultants or local land care groups may be engaged <u>What is the type of vegetation being revegetated?</u> N/A	Secures critical habitat upon issue of MS and prior to implementation – no time delay	Offset would ensure protection of 71.9% of known individuals across two of the five current sub-populations, as well as improve / maintain the quality of all current sub-populations and Bremer Range PEC and expand current knowledge on the species. The offset meets all required criteria, with individuals, sub-population extent and optimal habitat being included in the offset package despite no direct impacts, and sub-optimal and critical habitat impacts are offset by areas 21 and 26 times larger than the impacted area.
					Provision of $500,000 for ongoing conservation management within the Bremer Range PEC, including significant flora populations	Low - an independent and transparent management authority is proposed to be developed in consultation with EPA, DBCA and local landcare groups.	<u>Can the values be defined and measured?</u> Yes - value to *M. aquilonaris* can be measured <u>Operator experience/Evidence?</u> The funding is to be paid to an independent and transparent management authority which will be developed in consultation with EPA, DBCA and local landcare groups. The management authority will be responsible for allocating the funds to manage conservation values within the Bremer Range PEC and associated values it contains, such as significant flora populations. <u>What is the type of vegetation being revegetated?</u> Bremer Range PEC	Approximately 2 years - the first payment is be made within 12 months of the commencement of operations	

Existing Environment / Impact	Mitigation			Significant Residual Impact	Offset Calculation Methodology				
	Avoid and Minimise	Rehabilitation Type	Likely Rehab Success		Type	Risk	Likely Offset Success	Time Lag	Offset Quantification
					Ongoing research: • Ongoing germination trials • Annual plant counts • Regional searches after fire events • Sub-population health monitoring • Rehabilitation trials	Low - sites occur on Audalia Mining Act tenure and UCL	<u>Can the values be defined and measured?</u> No - value to *M. aquilonaris* cannot be measured in this case <u>Operator experience/Evidence?</u> Varied – DBCA may undertake some of the offset, Audalia consultants or local land care groups may also be engaged <u>What is the type of vegetation being revegetated?</u> N/A	Expected to be several years before the results provide data that is useful for the protection of the species.	
***E. rhomboidea* (P4)** – Disturbance of 768 individuals and 0.4 ha of population extent Reduction in flora and/or habitat health as a result of indirect impacts	**Avoid**: DEs were revised to avoid more than 79% of records within the study areas **Minimise**: • Implement industry best practice management measures for flora and vegetation • Ensure ground disturbance does not exceed the limit proposed in the Key Proposal Characteristics: 0.4 ha of population extent • Conduct additional significant flora searches of final proposed mine and infrastructure disturbance footprints • Implement Significant Flora Management Plan • Implement Rehabilitation Plan • Implement additional ground disturbance measures for any ground disturbance within population boundaries • Implement the Dust Management Plan • Implement preventive measures to minimise the risk and impact of hydrocarbon spills • Comply with Water Quality Protection Guidelines and guidance notes • Implement additional controls upslope of population boundaries	Refer to Rehabilitation Plan (Botanica, 2021).	<u>Can the environmental values be rehabilitated/Evidence?</u> No - disturbance is limited to mine pit and abandonment bund which cannot be rehabilitated back to previous value <u>Operator experience in undertaking rehabilitation?</u> N/A <u>What is the type of vegetation being rehabilitated?</u> N/A <u>Time lag?</u> N/A <u>Credibility of the rehabilitation proposed (evidence of demonstrated success)</u> N/A	<u>Extent</u> 768 individuals (out of 15,606 or 4.9%) and 0.4 ha of population extent. <u>Quality</u> Vegetation is in good to very good condition <u>Conservation Significance</u> Priority 4 species but may meet the criteria for a Threatened Flora species <u>Land Tenure</u> Mining Act tenure <u>Time Scale</u> N/A According to the significance framework, residual impact is considered to be significant because a potential future specially protected species under the BC Act is impacted.	Attempted establishment in rehabilitation areas of individuals.	Medium – suitable germination trials not yet completed however this species is expected to be able to be germinated (Western Botanical, 2018)	<u>Can the values be defined and measured?</u> Yes - value can be measured <u>Operator experience/Evidence?</u> Varied – DBCA may undertake the offset if preferred, or Audalia consultants or local land care groups may be engaged <u>What is the type of vegetation being revegetated?</u> Woodland / shrubland	Expected to be ten years before any new individuals / populations become established	The combination of the exclusion zone and the offset site provide significant offset value for this species, protecting and maintaining the health of known populations of this species. These two offsets are predicted to meet offset requirements for this species. The proposed research offset will also provide useful information about population extent, recovery from recent fires and rehabilitation methods for this species. This information will be able to be used to guide the ongoing conservation of this species.
					Provision of a 427 ha exclusion zone for areas within Audalia's *Mining Act 1978* tenure (Figure 5) to protect 7.4 ha of sub-population extent The exclusion zone is to be excluded from all mining activity for 20 years or when Audalia relinquishes the associated *Mining Act 1978* tenements, whichever is the latter. Land management costs for a period of 20 years are included in this proposed offset.	Low – exclusion zone would become a regulated boundary under the MS if the Proposal was approved	<u>Can the values be defined and measured?</u> Yes - value to *E. rhomboidea* can be measured <u>Operator experience/Evidence?</u> Varied – DBCA may undertake the offset if preferred, or Audalia consultants or local land care groups may be engaged <u>What is the type of vegetation being revegetated?</u> N/A	Secures habitat upon issue of MS – no time delay	
					Provision of an estimated 7,000 ha off-tenement offset site (Figure 6) to protect known	Low – conservation estate or if an exclusion zone is applied it would become a	<u>Can the values be defined and measured?</u> Yes - value to *E. rhomboidea* can be measured <u>Operator experience/Evidence?</u>	Secures habitat upon issue of MS – no time delay. Predicted 12 – 24 months if to be transferred to	

Existing Environment / Impact	Mitigation			Significant Residual Impact	Offset Calculation Methodology				
	Avoid and Minimise	Rehabilitation Type	Likely Rehab Success		Type	Risk	Likely Offset Success	Time Lag	Offset Quantification
					records of *E. rhomboidei.* The offset site is to be converted into conservation estate (subject to DBCA) or excluded from land clearing activities for 20 years. Land management costs for a period of 20 years are included in this proposed offset.	regulated boundary under the MS if the Proposal was approved	N/A – protected area only, refer below for management <u>What is the type of vegetation being revegetated?</u> N/A	conservation estate.	
					Provision of $500,000 for ongoing conservation management within the Bremer Range PEC, including significant flora populations	Low - an independent and transparent management authority is proposed to be developed in consultation with EPA, DBCA and local landcare groups.	<u>Can the values be defined and measured?</u> Yes - value to *E. rhomboidea* can be measured <u>Operator experience/Evidence?</u> The funding is to be paid to an independent and transparent management authority which will be developed in consultation with EPA, DBCA and local landcare groups. The management authority will be responsible for allocating the funds to manage conservation values within the Bremer Range PEC and associated values it contains, such as significant flora populations. <u>What is the type of vegetation being revegetated?</u> Bremer Range PEC	Approximately 2 years - the first payment is be made within 12 months of the commencement of operations	
					Ongoing research: • Germination trials • Regional searches after fire events • Population health monitoring • Rehabilitation trials • Genetic studies	Low – research sites would be located on Audalia Mining Act tenure and UCL	<u>Can the values be defined and measured?</u> Yes, there is limited information about population extent, recovery from recent fires and rehabilitation methods for this species therefore the research will provide value for ongoing conservation of this species. <u>Operator experience/Evidence?</u> Varied – DBCA may undertake some of the offset, Audalia consultants or local land care groups may also be engaged <u>What is the type of vegetation being revegetated?</u> N/A	Expected to be several years before the results provide data that is useful for the protection of the species.	
***S. bremerense* (P4)** – Disturbance of 2,049	**Avoid**:	Refer to Rehabilitation Plan (Botanica, 2021).	<u>Can the environmental values be rehabilitated/Evidence?</u>	<u>Extent</u> 2,049 individuals (out of 35,823 or	Attempted establishment in	Medium – suitable germination trials not yet	<u>Can the values be defined and measured?</u> Yes - value can be measured	Expected to be ten years before any new individuals / populations	The exclusion zone provides a predicted 40% offset value for this

Existing Environment / Impact	Mitigation			Significant Residual Impact	Offset Calculation Methodology				
	Avoid and Minimise	Rehabilitation Type	Likely Rehab Success		Type	Risk	Likely Offset Success	Time Lag	Offset Quantification
individuals and 21 ha of population extent Reduction in flora and/or habitat health as a result of indirect impacts	DEs were revised to avoid more than 88% of records within the study areas **Minimise**: • Implement industry best practice management measures for flora and vegetation • Ensure ground disturbance does not exceed the limit proposed in the Key Proposal Characteristics: 21 ha of population extent • Conduct additional significant flora searches of final proposed mine and infrastructure disturbance footprints • Implement additional ground disturbance measures for any ground disturbance within population boundaries • Implement the Dust Management Plan • Implement preventive measures to minimise the risk and impact of hydrocarbon spills • Comply with Water Quality Protection Guidelines and guidance notes • Implement additional controls upslope of population boundaries		No - disturbance is limited to mine pit and abandonment bund which cannot be rehabilitated back to previous value Operator experience in undertaking rehabilitation? N/A What is the type of vegetation being rehabilitated? N/A Time lag? N/A Credibility of the rehabilitation proposed (evidence of demonstrated success) N/A	5.7%) and 21 ha of population extent. Quality Vegetation is in good to very good condition Conservation Significance Priority 4 species Land Tenure Mining Act tenure Time Scale N/A According to the significance framework, residual impact is considered to be significant because a potential future specially protected species under the BC Act is impacted.	rehabilitation areas of individuals.	completed however this species is expected to be able to be germinated (Western Botanical, 2018)	Operator experience/Evidence? Varied – DBCA may undertake the offset if preferred, or Audalia consultants or local land care groups may be engaged What is the type of vegetation being revegetated? Woodland / shrubland	become established	species based on the WA Offset Calculator. The other primary offsets for this species are the establishment of individuals in rehabilitation and the provision of funds for the management of the Bremer Range PEC, which provides habitat for this species. These two other offsets are predicted to meet the remaining offset requirements for this species, based on the EPBC offset calculator. The proposed research offset will also provide useful information about population extent, recovery from recent fires and rehabilitation methods for this species. This information will be able to be used to guide the ongoing conservation of this species.
					Provision of a 427 ha exclusion zone for areas within Audalia's *Mining Act 1978* tenure (Figure 5) to protect 7.4 ha of sub-population extent. The exclusion zone is to be excluded from all mining activity for 20 years or when Audalia relinquishes the associated *Mining Act 1978* tenements, whichever is the latter. Land management costs for a period of 20 years are included in this proposed offset.	Low – exclusion zone would become a regulated boundary under the MS if the Proposal was approved	Can the values be defined and measured? Yes - value to *S. bremerense* can be measured Operator experience/Evidence? Varied – DBCA may undertake the offset if preferred, or Audalia consultants or local land care groups may be engaged What is the type of vegetation being revegetated? N/A	Secures habitat upon issue of MS – no time delay	
					Provision of $500,000 for ongoing conservation management within the Bremer Range PEC, including significant flora populations	Low - an independent and transparent management authority is proposed to be developed in consultation with EPA, DBCA and local landcare groups.	Can the values be defined and measured? Yes - value to *S. bremerense* can be measured Operator experience/Evidence? The funding is to be paid to an independent and transparent management authority which will be developed in consultation with EPA, DBCA and local landcare groups. The management authority will be responsible for allocating the funds to manage conservation values within the Bremer Range PEC and associated values it contains, such as significant flora populations. What is the type of vegetation being revegetated? Bremer Range PEC	Approximately 2 years - the first payment is be made within 12 months of the commencement of operations	
					Ongoing research:	Low – research sites would be	Can the values be defined and measured?	Expected to be several years	

Existing Environment / Impact	Mitigation			Significant Residual Impact	Offset Calculation Methodology				
	Avoid and Minimise	Rehabilitation Type	Likely Rehab Success		Type	Risk	Likely Offset Success	Time Lag	Offset Quantification
					• Germination trials • Regional searches after fire events • Population health monitoring • Rehabilitation trials • Genetic studies	located on Audalia Mining Act tenure and UCL	Yes, there is limited information about population extent, recovery from recent fires and rehabilitation methods for this species therefore the research will provide value for ongoing conservation of this species. Operator experience/Evidence? Varied – DBCA may undertake some of the offset, Audalia consultants or local land care groups may also be engaged What is the type of vegetation being revegetated? N/A	before the results provide data that is useful for the protection of the species.	
Bremer Range PEC - 285 ha of disturbance Reduction in PEC health as a result of indirect impacts	**Avoid**: Not able to avoid impacts **Minimise**: • Implement industry best practice management measures for flora and vegetation • Conduct additional significant flora searches of final proposed mine and infrastructure disturbance footprints • Implement the Dust Management Plan • Ensure all surface water crossings are designed to minimise the potential for erosion or sedimentation of downstream vegetation • Implement preventive measures to minimise the risk and impact of hydrocarbon spills • Comply with Water Quality Protection Guidelines and guidance notes	• Implement Rehabilitation Plan • Implement MCP • All disturbance areas apart from the mine pit and TSF slopes will be will be respread with topsoil (or ripped and seeded if topsoil is no longer viable) and rehabilitated • Other Priority Flora will be included in the rehabilitation seed mix if seed is available and germination is likely to be successful • Flowering plants will be included in seeding to ensure pollinator habitat is adequately reinstated • All depressions will be shaped to prevent the formation of new semi-permanent water sources • All surface water drainage diversions will be rehabilitated to a natural form • All surface water crossings will be reinstated by removing drainage infrastructure and reshaping as required	Can the environmental values be rehabilitated/Evidence? Partially - disturbance of mine pit and abandonment bund cannot be rehabilitated back to previous value, however remaining disturbance (>235 ha) is expected to be able to be rehabilitated such that the values of the PEC is reinstated Operator experience in undertaking rehabilitation? Audalia will utilise experienced operators to conduct the rehabilitation works What is the type of vegetation being rehabilitated? Woodland and shrubland Time lag? Expected to be up to ten years before any rehabilitation areas become established Credibility of the rehabilitation proposed (evidence of demonstrated success) There are very few rehabilitation sites in the area however mine site rehabilitation methods are well established	Extent 285 ha (0.32% of extent) Quality Vegetation is in good to very good condition Conservation Significance PEC Land Tenure Mostly UCL Time Scale 13 – 23 years According to the significance framework, residual impact is considered to be significant because a proposed nature reserve is impacted.	Provision of a 427 ha exclusion zone for areas within Audalia's *Mining Act 1978* tenure (shown in Figure 5) to protect 427 ha of the PEC The exclusion zone is to be excluded from all mining activity for 20 years or when Audalia relinquishes the associated *Mining Act 1978* tenements, whichever is the latter.	Low – exclusion zone would become a regulated boundary under the MS if the Proposal was approved	Can the values be defined and measured? Yes - value to PEC can be measured Operator experience/Evidence? N/A – exclusion zone only What is the type of vegetation being revegetated? N/A	Secures habitat upon issue of MS – no time delay	The exclusion zone provides a predicted 21% offset value for this PEC based on the WA Offset Calculator. The other primary offset for this species is the provision of funds for the management of the PEC. This offset is predicted to meet the remaining offset requirements for this PEC, based on similar funding requirements placed on PEC offsets in other parts of WA.
					Provision of $500,000 for ongoing conservation management within the Bremer Range PEC	Low - an independent and transparent management authority is proposed to be developed in consultation with EPA, DBCA and local landcare groups.	Can the values be defined and measured? Yes - value to PEC can be measured Operator experience/Evidence? The funding is to be paid to an independent and transparent management authority which will be developed in consultation with EPA, DBCA and local landcare groups. The management authority will be responsible for allocating the funds to manage conservation values within the Bremer Range PEC and associated values it contains, such as significant flora populations. What is the type of vegetation being revegetated? Bremer Range PEC	Approximately 2 years - the first payment is be made within 12 months of the commencement of operations	

6.3 OFFSET PRINCIPLES

In WA, government decision making processes in relation to the use of environmental offsets are underpinned by six principles. These are set out in the Environmental Offsets Policy (Government of WA, 2011). The Proposal and proposed offset has been assessed against each of these principles, provided in Table 5.

Table 5: Assessment of the proposed offset against the six principles

No.	Principle	Assessment outcome
1	Environmental offsets will only be considered after avoidance and mitigation options have been pursued.	Audalia has applied the mitigation hierarchy by identifying measures to avoid, minimise and rehabilitate. Audalia's primary measure to meet this policy requirements was site selection and design, which avoided an minimised disturbance within several key flora habitat areas. The Mine DE was reduced via a Section 43A accepted by the EPA on the 4 November 2020.
2	Environmental offsets are not appropriate for all projects.	It is acknowledged that offsets are not appropriate for all projects. As the Proposal may result in significant residual impacts on threatened and priority flora species and the Bremer Range PEC, environmental offsets are considered to be required. The offsets proposed are significant and are considered to be appropriate to counterbalance the residual impacts on these environmental values.
3	Environmental offsets will be cost effective, as well as relevant and proportionate to the significance of the environmental value being impacted.	The proposed offsets have been designed to be cost-effective by targeting the retention, conservation and management of existing environmental values, and re-establishment of *E. rhomboidei* and *S. bremerense*. The offsets are cost-effective as Audalia will be active in the area during the duration of the offset implementation so logistical costs will be minimal. The required germination studies and implementation is an extension of germination work already commissioned by Audalia (through DBCA) therefore Audalia has reasonable knowledge of the associated costs. The use of the proposed offsets for the Proposal is considered to be relevant and proportionate to the significance of the environmental value being impacted.
4	Environmental offsets will be based on sound environmental information and knowledge.	The proposed offsets have been designed to be cost-effective by targeting the retention, conservation and management of existing environmental values, and re-establishment of *E. rhomboidei* and *S. bremerense*. The local and regional values of the areas to be retained for conservation are well known given the level of ecological surveys and studies that Audalia have completed in the area. Although initial advice from Western Botanical (2018) indicates that germination is likely to be achievable, Audalia has committed to additional germination trials to ensure the re-establishment of *E. rhomboidei* and *S. bremerense* is based on sound environmental knowledge.
5	Environmental offsets will be applied within a framework of adaptive management.	The offset combination of exclusion zone / protected areas, management funding, re-establishment of flora species and research will provide significant opportunities within the framework of adaptive management. The research will inform management and re-establishment planning and the implementation of an independent expert management authority will allow new, more effective management techniques to be incorporated as these become best practice.
6	Environmental offsets will be focused on longer term strategic outcomes.	The proposed offsets have been designed to utilise improved information as it becomes available during the first years of operation at the Proposal. This allows information and knowledge captured during operation (regarding germination and revegetation) to be used to inform strategies to achieve solid strategic outcomes. The proposed funding for the management of the Bremer Range PEC is intended to address both immediate and long-term protection concerns for the PEC.

7 OBJECTIVES, TARGETS AND COMPLETION CRITERIA

Table 6 sets out the objectives, targets and completion criteria for the proposed offsets.

Table 6: Objectives, targets and completion criteria

Objective	Target	Completion Criteria
Counterbalance the significant residual impact to *M. aquilonaris* as a result of implementation of the Proposal.	The proposed on-tenement exclusion zone is established prior to implementation of the Proposal	Exclusion zone included in MS if the Proposal is approved
	To maintain and / or improve *M. aquilonaris* critical habitat	• Approval of Offset Strategy • Independent management authority developed and accepted by EPA and DBCA • DBCA agreement on proposed management actions
	Improve the scientific knowledge of *M. aquilonaris*	The following ongoing *M. aquilonaris* research is conducted over the life of the Proposal (unless completed earlier): • Ongoing germination trials • Annual plant counts • Regional searches after fire events • Sub-population health monitoring • Rehabilitation trials • Genetic studies
Counterbalance the significant residual impacts to *E. rhomboidea* and *S. bremerense* as a result of implementation of the Proposal.	The proposed on-tenement exclusion zone is established prior to implementation of the Proposal	Exclusion zone included in MS if the Proposal is approved
	The proposed off-tenement offset site is established prior to implementation of the Proposal OR land transferred to conservation estate	Exclusion zone included in MS if the Proposal is approved. If transferred to conservation estate, then this is to occur within 24 months of Proposal implementation.
	To maintain and / or improve the quality of on-tenement exclusion zone and off-tenement offset site	• Approval of Offset Strategy • Independent management authority developed and accepted by EPA and DBCA • EPA / DBCA agreement on proposed management actions
	Improve the scientific knowledge of *E. rhomboidea* and *S. bremerense*	The following ongoing *E. rhomboidea* and *S. bremerense* research is conducted over the life of the Proposal (unless completed earlier): • Germination trials • Regional searches after fire events • Sub-population health monitoring • Rehabilitation trials • Genetic studies
	E. rhomboidea and *S. bremerense* individuals established within rehabilitated areas	Successful establishment of *E. rhomboidea* and *S. bremerense* individuals to rehabilitation areas
Counterbalance the significant residual impact to the Bremer Range PEC as a result of implementation of the Proposal.	To maintain and / or improve the values of the Bremer Range PEC	• Approval of Offset Strategy • Independent management authority developed and accepted by EPA and DBCA (if not DBCA) • DBCA agreement on proposed management actions

8 MONITORING

Routine monitoring is necessary to ensure the proposed offsets are effective in counterbalancing the significant residual impacts on the environmental values. Table 7 provides a framework for the monitoring required, however final monitoring requirements and timings will be determined during agreements with the Conservation and Parks Commission / DBCA or other relevant parties.

Table 7: Offset monitoring schedule

Offset	Monitoring	Timing
Development and management of on-tenement exclusion zone and off-tenement offset site (Figure 5 and Figure 6)	Searches to determine fire impacts on the extent and number of individuals within *M. aquilonaris*, *E. rhomboidea* and *S. bremerense* populations	Approximately 12 months after a fire event
	M. aquilonaris, *E. rhomboidea* and *S. bremerense* population health monitoring	Annually during mining activities then every 3 years during rehabilitation
	Weed infestation, including: • Area of impact • Species list • Location of weed infestation	Annually
	Evidence of access by public or introduced fauna	Annually
	Evidence of unauthorised disturbance (access etc.)	Annually
Provision of $500,000 for ongoing conservation management within the Bremer Range PEC, including significant flora populations	To be developed by independent management authority on advice from DBCA	To be developed by independent management authority on advice from DBCA
Ongoing *M. aquilonaris*, *E. rhomboidea* and *S. bremerense* research	Germination trials – reporting results	At least annually
	Searches to determine fire impacts on the extent and number of individuals within known populations	Approximately 12 months after a fire event
	Local sub-population health monitoring	Annually during mining activities then every 3 years during rehabilitation
	Rehabilitation trial area health monitoring	At least every 6 months for the duration of the trial
	Genetic studies – reporting results	At completion
Attempted restablishment of *E. rhomboidea* and *S. bremerense* individuals to rehabilitation areas	Germination trials – reporting results	At least annually
	Rehabilitation trial area health monitoring	At least every 6 months for the duration of the trial
	Target plant counts and species composition within each re-established sub-population	Annually
	Translocated sub-population health monitoring	At least every 6 months until established, then annually
	Weed infestation, including: • Area of impact • Species list • Location of weed infestation	Every 6 months for the first 3 years following seeding, then annually
	Evidence of access by public or introduced fauna	Annually
	Evidence of unauthorised disturbance (access etc.)	Annually

9 FUNDING ARRANGEMENTS

Audalia will provide funding for the following:

- Costs associated with the development of the on-tenement exclusion zone and off-tenement offset site (including costs associated with a transfer to conservation estate if determined by DBCA) shown in Figure 5 and Figure 6 and ongoing land management for a maximum of 20 years;
- $500,000 (based on similar offset requirements for PEC impacts in WA per hectare) for ongoing conservation management within the Bremer Range PEC, including significant flora populations. Audalia proposes to contribute $100,000 per year for 5 years, with the first payment made within 12 months of the commencement of operations. The funding is to be paid to an independent and transparent management authority which will be developed in consultation with EPA, DBCA and local landcare groups;
- Administration costs associated with establishment of the management authority described above;
- Ongoing *M. aquilonaris*, *E. rhomboidea* and *S. bremerense* research, including:
    - Germination trials;
    - Regional searches after fire events;
    - Sub-population health monitoring;
    - Rehabilitation trials;
    - Genetic studies; and
- The re-establishment of *E. rhomboidea* and *S. bremerense* individuals to rehabilitation areas.

10 MANAGEMENT, ROLES AND RESPONSIBILITIES

Table 8 details the management structure proposed for each offset.

Table 8: Management of proposed offsets

Offset	Management / Responsibility
Development and management of on-tenement exclusion zone and off-tenement offset site (Figure 5 and Figure 6)	Audalia will be responsible for demarcating the on-tenement exclusion zone as defined in the MS if the Proposal is approved. DBCA will be responsible for transferring the off-tenement offset site to conservation estate if they determine this to be the desired outcome. Audalia is to assist in this transfer wherever appropriate. Audalia will be responsible for determining the most appropriate management structure, in consultation and agreement with EPA Services and DBCA. It is expected that funding is to be paid to an independent and transparent management authority which will be developed in consultation with EPA, DBCA and local landcare groups. The management authority will be responsible for allocating the funds to manage conservation values within the exclusion zone and offset site and associated values they contain, such as significant flora populations.
Provision of $500,000 for ongoing conservation management within the	The funding is to be paid to an independent and transparent management authority which will be developed in consultation with EPA, DBCA and local landcare groups.

Offset	Management / Responsibility
Bremer Range PEC, including significant flora populations	The management authority will be responsible for allocating the funds to manage conservation values within the Bremer Range PEC and associated values it contains, such as significant flora populations.
Ongoing *M. aquilonaris*, *E. rhomboidea* and *S. bremerense* research: • Ongoing germination trials • Annual plant counts • Regional searches after fire events • Sub-population health monitoring • Rehabilitation trials • Genetic studies	Audalia has commissioned significant research work on these species to inform the EIA for the Proposal. It is proposed that Audalia continue to manage the longer-term portions of this research (under direction and with advice from DBCA) such as germination, changes to plant numbers, health and rehabilitation trials.
Attempted establishment in rehabilitation areas of *E. rhomboidea* and *S. bremerense* individuals	Audalia have previously commissioned germination trials for *E. rhomboidea* and *S. bremerense* to allow the reinstatement of individuals during rehabilitation. These germination trials will continue to inform the target regrowth and establishment of these species. It is proposed that Audalia would manage the rehabilitation process on site in accordance with their Rehabilitation Plan and MCP (under direction and with advice from DBCA)

Table 9 identifies the key roles and responsibilities for the implementation of offsets.

Table 9: Roles and responsibilities

Role	Responsibility
Audalia (corporate)	Finalisation and reviews / revisions of the Offset Strategy, funding of offset works and preserving the exclusion zone, offset site.
Independent management authority (to be developed)	Developing and implementing management and monitoring actions for the usage of the management funds
DBCA or suitable landcare group	Provision of advice and guidance on management and monitoring actions as required
Audalia Environment / Conservation Manager	Overseeing the monitoring, management and reporting on the status of the proposed offsets under Audalia's management
Audalia Site Manager	Onsite compliance with the Offset Strategy
Technical Officers	Carrying out routine monitoring and management

11 REVIEW AND REVISION

This Offset Strategy is to be reviewed at least every five years, or more frequently under the following circumstances:

- Following a significant environmental incident that threatens the success of the proposed offsets;
- When there is a need to improve performance in an area of environmental conservation;
- When there are changes to activities that are being managed under this Offset Strategy; or
- When there are new activities that should be managed under this Offset Strategy.

The review is to assess whether the Offset Strategy is achieving its objectives and the requirements of approval conditions. The review is to consider environmental monitoring records, response actions taken and the results of any internal and external audits. During the review process, the reasons for varying the Offset Strategy are to be documented. The review may

be initiated by any party that has a management responsibility for the implementation of the offsets.

12 CONCLUSION

Audalia has assessed the impacts of the Proposal against the Residual Impact Significance Model (EPA, 2014a) and has determined that the Proposal may result in a significant residual impact to several environmental values.

If approved, Audalia predicts that offset conditions will be included in the MS to counterbalance the significant residual impacts of the Proposal. This draft Offset Strategy provides detail regarding the offsets proposed by Audalia for the Proposal.

The suitability of the proposed offsets have been assessed against the six offset principles set out in the Environmental Offsets Policy (Government of WA, 2011) and the WA Offsets Template. The WA offsets calculator was used where relevant to provide some context to the scale of the offsets. Based on this assessment the proposed offsets are considered to be relevant and proportionate to the significance of the environmental value being impacted.

13 ABBREVIATIONS

Term	Meaning
Audalia	Audalia Resources Limited
BC Act	*Biodiversity Conservation act 2016* (WA)
DBCA	Department of Biodiversity, Conservation and Attractions
DE	Development Envelope
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety
DWER	Department of Water and Environmental Regulation
EIA	Environmental Impact Assessment
EP Act	*Environmental Protection Act 1986* (WA)
EPA	Environmental Protection Authority
ERD	Environmental Review Document
ESD	Environmental Scoping Document
ha	Hectare
km	Kilometre
MCP	Mine Closure Plan
MS	Ministerial Statement
PEC	Priority Ecological Community
UCL	Unallocated Crown Land
WA	Western Australia

14 APPENDICES

Appendix 1: Western Botanical (2024). Review of Conservation Values, E63/2348, Potential Offset Package.