GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 5245/5
Permit Holder:	Northern Star (Hampton Gold Mining Area) Limited
Duration of Permit:	From 17 November 2012 to 17 November 2032

The permit holder is authorised to clear *native vegetation* subject to the following conditions of this permit.

PART I – CLEARING AUTHORISED

1. Clearing authorised (purpose)

The permit holder is authorised to clear *native vegetation* for the purpose of mineral exploration and production.

2. Land on which clearing is to be done

Lot 105 on Deposited Plan 40396, Karramindie

Lot 50 on Deposited Plan 184436, Karramindie

Lot 94 on Deposited Plan 220400, Karramindie

3. Clearing authorised

The permit holder must not clear more than 200 hectares of *native vegetation* within the area cross-hatched yellow in Figure 1 of Schedule 1.

4. Type of clearing authorised

The permit holder shall not clear native vegetation unless the purpose for the clearing is authorised is enacted within three (3) months of the authorised clearing being undertaken.

5. Period during which clearing is authorised

The permit holder must not clear any *native vegetation* after 17 November 2027.

6. Application

This Permit allows the permit holder to authorise persons, including employees, contractors and agents of the permit holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the permit holder.

PART II – MANAGEMENT CONDITIONS

7. Avoid, minimise, and reduce impacts and extent of clearing

In determining the *native vegetation* authorised to be cleared under this permit, the permit holder must apply the following principles, set out in descending order of preference:

(a) avoid the clearing of *native vegetation*;

(b) minimise the amount of *native vegetation* to be cleared; and

(c) reduce the impact of clearing on any environmental value.

8. Weed management

When undertaking any clearing authorised under this permit, the permit holder must take the following measures to minimise the risk of introduction and spread of *weeds*:

(a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;

(b) ensure that no known *weed*-affected soil, *mulch, fill*, or other material is brought into the area to be cleared; and

(c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

9. Vegetation management

(a) Where practicable the permit holder shall avoid clearing riparian vegetation; and

(b) Where a watercourse is to be impacted by clearing, the permit holder shall maintain the existing surface flow by use of culverts.

10. Conservation areas management

The permit holder shall ensure no clearing occurs within the area cross-hatched red in Figure 2A of Schedule 2 of this Permit unless first approved by the *CEO*.

11. Flora management

(a) Prior to undertaking any clearing authorised under this permit, the permit holder shall demarcate the clearing area authorised under this permit to avoid clearing of threatened and priority flora outside of the approved clearing area; and

(b) Where possible and confirmed populations of *Eucalyptus websteriana* subsp. *norsemanica, Ricinocarpos digynus* and *Lepidosperma* sp. Kambalda (A.A. Mitchell 5156) have been identified and their written locations provided to the CEO within reports *Mt Marion – Hamptons Tenement Detailed Flora & Vegetation Assessment, Prepared For: Mineral Resources Limited* (Spectrum Ecology Pty Ltd 2024) and Mt Marion – Minres & M15/717 Tenements Detailed Flora & Vegetation Assessment, Prepared For: Mineral Resources Limited (Spectrum Ecology Pty Ltd 2024), the permit holder shall ensure:

(i) No clearing of individuals of these species occurs; and

(ii) No clearing occurs within 20 metres of individuals of these species.

12. Fauna management – Pre-clearance survey

(a) Prior to undertaking any clearing authorised under this Permit, the permit holder shall engage a *fauna specialist* to undertake clearance surveys within the Permit Area to identify *Leipoa ocellata* (Malleefowl), including *active mounds* and inactive mounds, and Shield-backed trapdoor spider species (*Idiosoma* sp.), including burrows;

(b) The Shield-backed trapdoor spider and Malleefowl pre-clearance survey should also include searches for other conservation significant fauna.

(c) Prior to undertaking any clearing authorised under this Permit, the permit holder shall provide the results of the *fauna survey* in a report to the *CEO*.

(d) Where burrows and mounds are identified under condition 12(a) of this permit, the permit holder shall;

(i) flag the location of the burrow(s) and mound(s);

(ii) not clear within 50 metres of single Shield-backed trapdoor spider burrow(s);

(iii) not clear within 200 metres of matriarchal clusters of Shield-backed trapdoor spider burrow(s);

(iv) not clear within 50 metres of Malleefowl mound(s).

13. Fauna management – Malleefowl

The permit holder shall ensure no clearing occurs within the areas cross-hatched red in Figure 2B of Schedule 2 of this Permit unless approved by the *CEO*.

14. Fauna Management - Shield-backed trapdoor spider

The permit holder shall ensure no clearing occurs within the area cross-hatched red in Figure 2C of Schedule 2 of this Permit unless approved by the *CEO*.

15. Fauna management - habitat trees

The permit holder shall not clear *habitat trees* found within the area shaded yellow in Figure 1 of Schedule 1 unless approved by the *CEO*.

16. Fauna management – directional clearing

The permit holder must:

(a) conduct clearing activities in a slow, progressive manner towards adjacent *native vegetation*; and

(b) allow a reasonable time for fauna present within the area being cleared to move into adjacent *native vegetation* ahead of the clearing activity.

17. Retain vegetative material and topsoil, revegetation and rehabilitation

The permit holder shall:

(a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.

(b) at an optimal time within 12 months following completion of geotechnical investigations, *revegetate* and *rehabilitate* areas no longer required for the purpose for which they were cleared, by:

(i) ripping the ground on the contour to remove soil compaction; and

(ii) laying the vegetative material and topsoil retained under condition 17(a) on the cleared area(s).

(c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 17(b) of this Permit:

(i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and

(ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 17(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.

(d) where additional *planting* or *direct seeding* of *native vegetation* is undertaken in accordance with condition 17(c)(ii) of this permit, the permit holder shall repeat condition 17(c)(i) and 17(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of *native vegetation*.

(e) where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 17(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 14(c)(ii), the CEO may require the permit holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 17(c)(ii).

PART III - RECORD KEEPING AND REPORTING

18. The permit holder must maintain records relating to the listed relevant matters in accordance with the specifications detailed in Table 1.

Table 1: Records that must be kept

No.	Relevant matter	Specifications
1.	In relation to the authorised clearing activities generally	(a) the species composition, structure, and density of the cleared area; (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings; (c) the date that the area was cleared; (d) the size of the area cleared (in hectares); (e) actions taken to avoid, minimise, and reduce the impacts and extent of clearing in accordance with condition 7; and (f) actions taken to minimise the risk of the introduction and spread of *weeds* in accordance with condition 8. (g) actions taken in accordance with condition 9. (h) actions taken in accordance with condition 10.
2.	In relation to flora management pursuant to condition 11.	(a) actions taken to avoid the clearing of priority flora species; (b) the name and location of each priority flora species taken, recorded using a Global Positioning System (GPS) unit set to GDA2020, expressing the geographical coordinates in Eastings and Northings.
3.	In relation to the fauna survey undertaken for fauna management pursuant to condition 12, 13, 14, 15 and 16.	(a) the time (s) and date(s) that the survey was undertaken (b) the name and qualification of the *fauna specialist* performing the survey (c) the methodology used to survey the Permit Area and to identify the mound/s; burrows (d) the location of each *Leipoa ocellata* (malleefowl) mound, delineated as either an *active mound* or an inactive mound, and *Idiosoma* sp. burrow, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings. (e) actions taken in accordance with condition 13; (f) actions taken in accordance with condition 14; (g) actions taken in accordance with condition 15; and (h) actions taken in accordance with condition 16.
4.	In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 17 of	(a) the location of any areas *revegetated* and *rehabilitated,* recorded using a Global Positioning System (GPS) unit set to

No.	Relevant matter	Specifications
	this Permit	Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees; (b) a description of the *revegetation* and *rehabilitation* activities undertaken; (c) the size of the area *revegetated* and *rehabilitated* (in hectares). (d) the date(s) on which the revegetation and rehabilitation was undertaken; and (e) actions and timing of remedial actions undertaken within the area(s) that was revegetated and rehabilitated in accordance with conditions 17(c)(ii) and 17(e).

19. Reporting

(a) The permit holder must provide to the CEO on or before 30 June of each year, a written report:

(i) of records required under condition 18 of this Permit; and

(ii) concerning activities done by the permit holder under this permit between 1 January to 31 December of the preceding calendar year.

(b) If no clearing authorised under this permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.

(c) The permit holder must provide to the CEO, no later than 90 calendar days prior to the expiry date of the permit, a written report of records required under condition 18, where these records have not already been provided under condition 19(a).

DEFINITIONS

In this permit, the terms in Table 2 have the meanings defined.

Table 2: Definitions

Term	Definition
active mound/s	means malleefowl mounds which appear to exhibit characteristics associated with normal nesting/breeding activity. This may include a nest mounded up, litter trails leading to mound, extensive soil and litter disturbance, and/or birds seen actively digging.
CEO	Chief Executive Officer of the department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*.
clearing	has the meaning given under section 3(1) of the EP Act.
condition	a condition to which this clearing permit is subject under section 51H of the EP Act.
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
direct seeding	means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species
environmental specialist	means a person who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the CEO as a suitable environmental specialist.

Term	Definition
EP Act	*Environmental Protection Act 1986* (WA)
fauna specialist	means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna license issued under the Wildlife Conservation Act 1950.
fill	means material used to increase the ground level, or fill a hollow.
habitat tree	means trees that have a diameter, measured at 130 centimetres from the base of the tree, of 30 centimetres or greater.
local provenance	means native vegetation seeds and propagating material from natural sources within 50 kilometres and and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared.
mulch	means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation.
native vegetation	has the meaning given under section 3(1) and section 51A of the EP Act.
planting	means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species.
Priority flora	means those plant taxa described as priority flora classes 1, 2, 3, or 4 in the *Department of Biodiversity, Conservation and Attractions Threatened and Priority Flora List for Western Australia* (as amended).
regenerate/ed/ion	means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing *mulch.*
rehabilitate/ed/ion	means actively managing an area containing native vegetation in order to improve the ecological function of that area.
Threatened flora	means a threatened flora species as defined in: (a) the *Biodiversity Conservation Act 2016* section 5(1); or (b) the Commonwealth Environment Act section 528.
weeds	means any plant – (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or (b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or (c) not indigenous to the area concerned.

END OF CONDITIONS

Jessica Burton
MANAGER
NATIVE VEGETATION REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

4 June 2025

Schedule 1

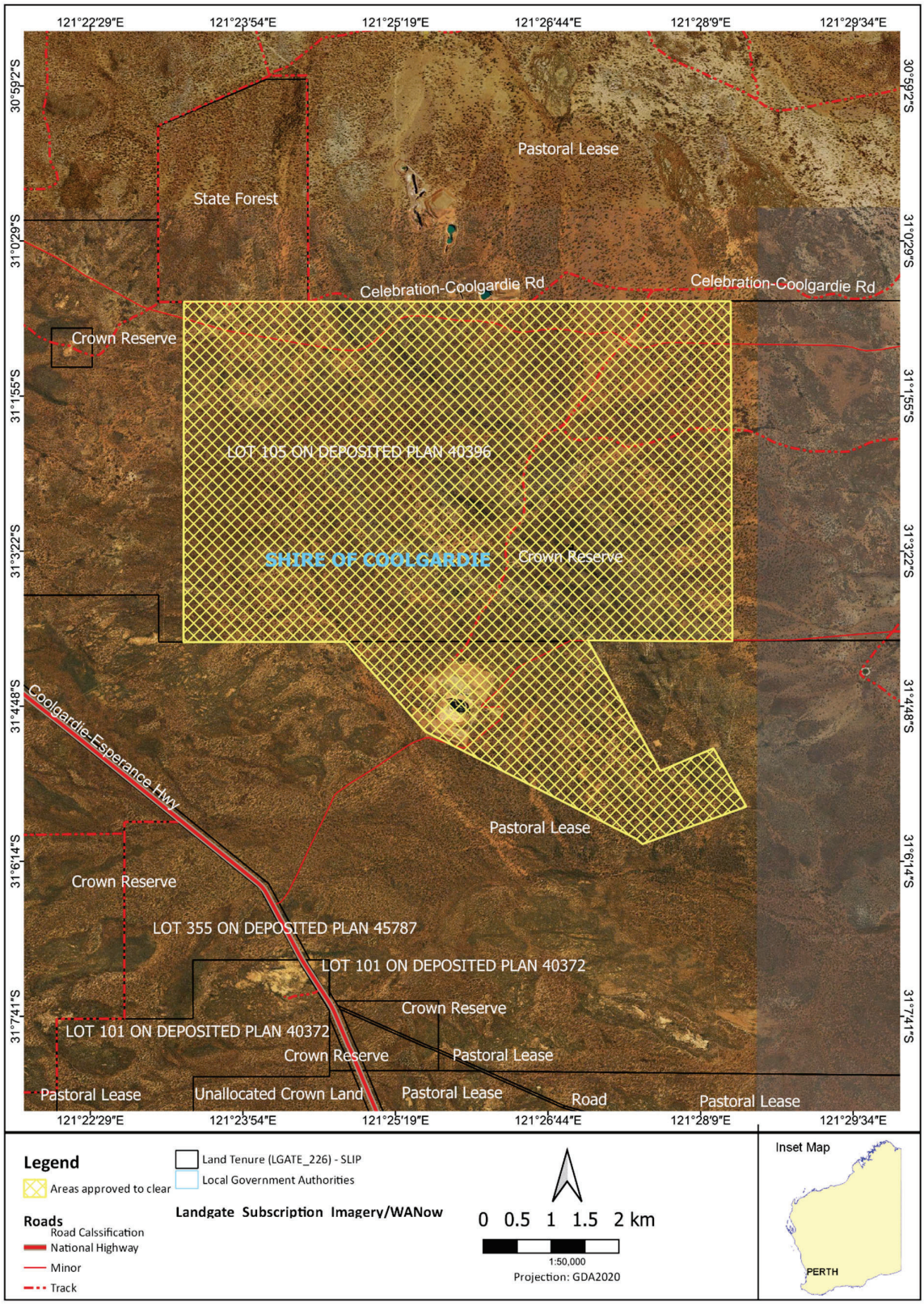

Figure 1: Map of the boundary of the area (shaded yellow) within which clearing may occur

Schedule 2 – Areas subject to conditions

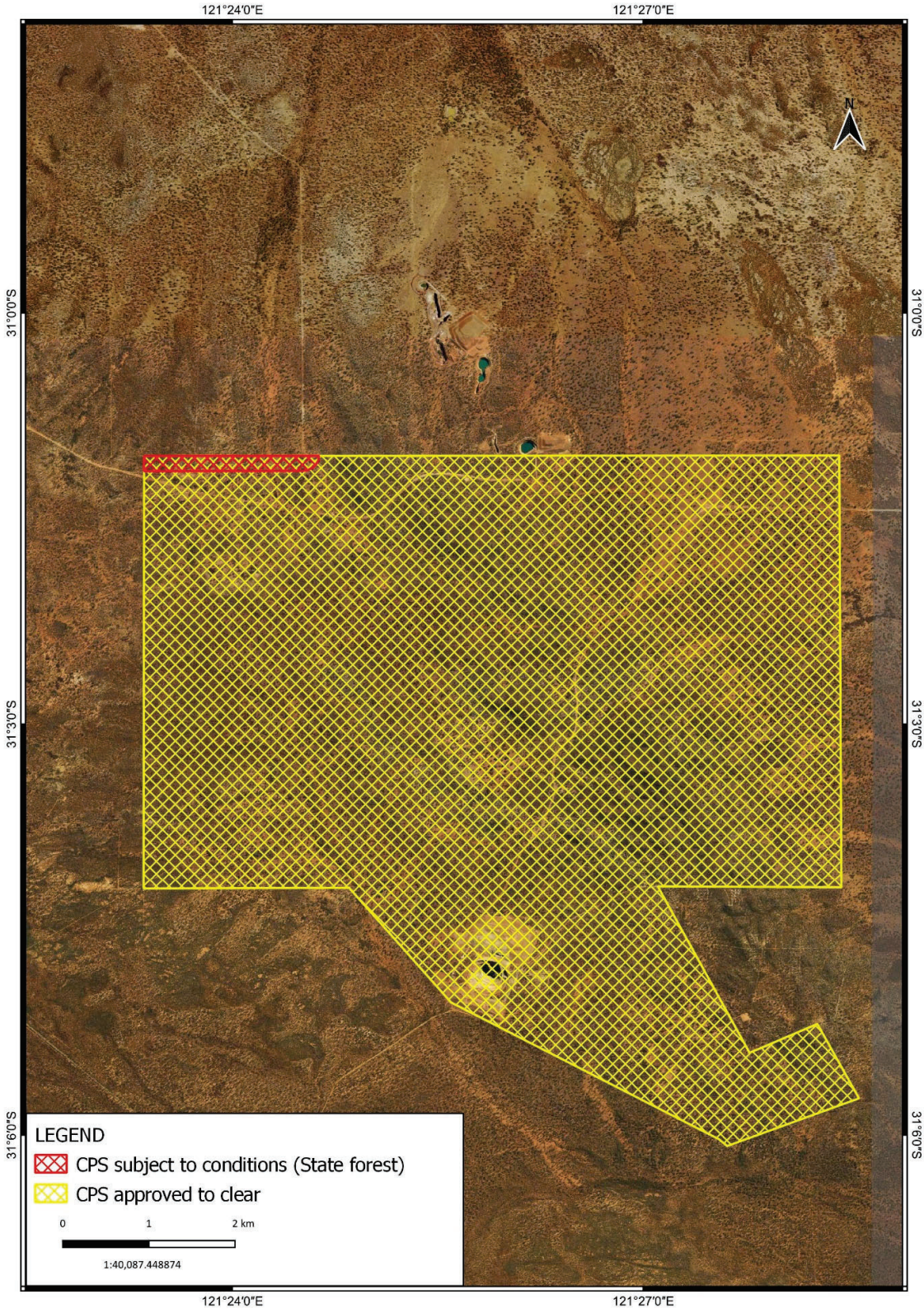

Figure 2A: Map of the boundary of the area (shaded red) within which clearing must not occur to protect Karamindie Forest.

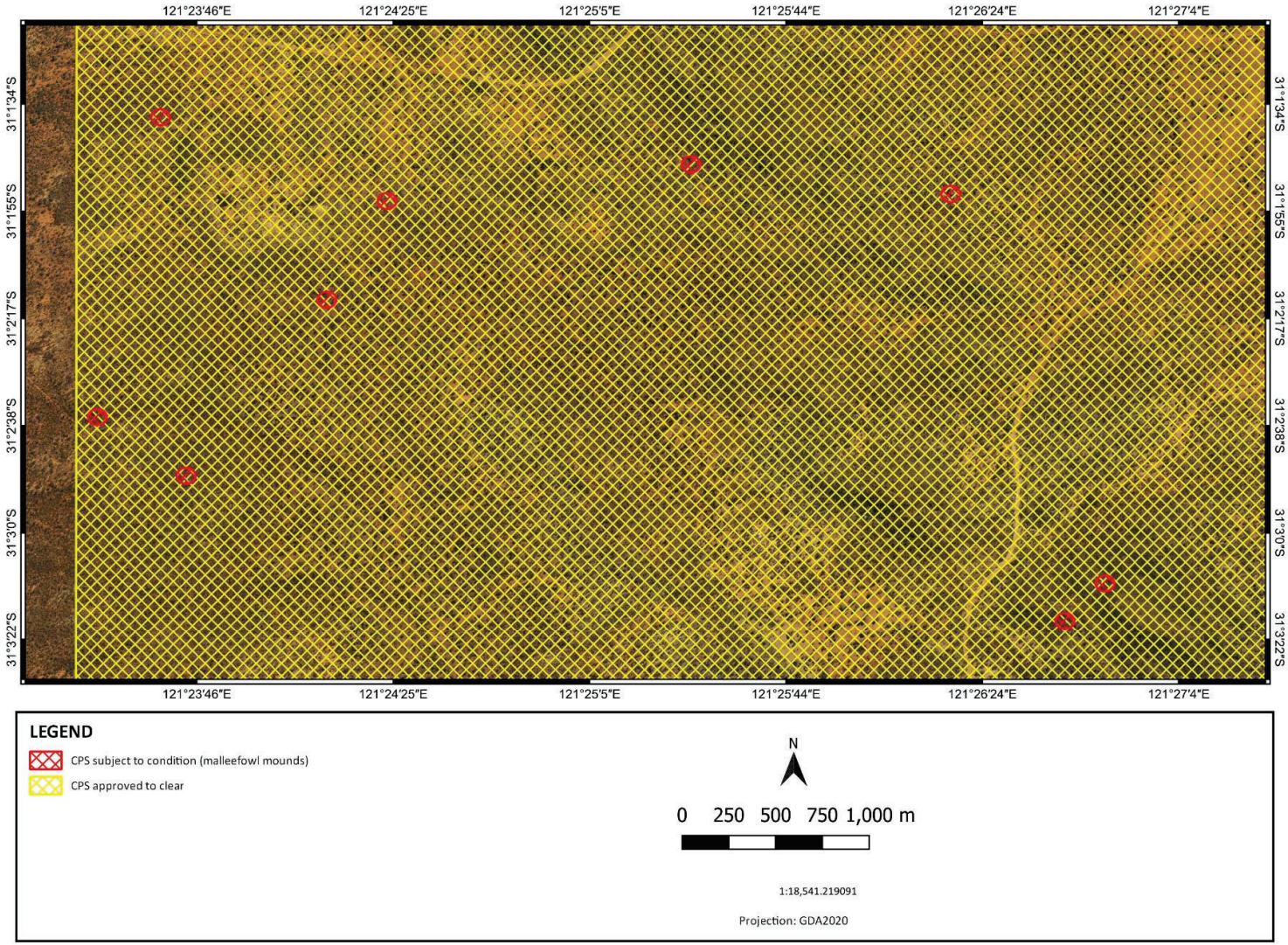

Figure 2B: Map of the boundary of the areas (shaded red) within which clearing must not occur to protect known *Leiopoa ocellata* mounds.

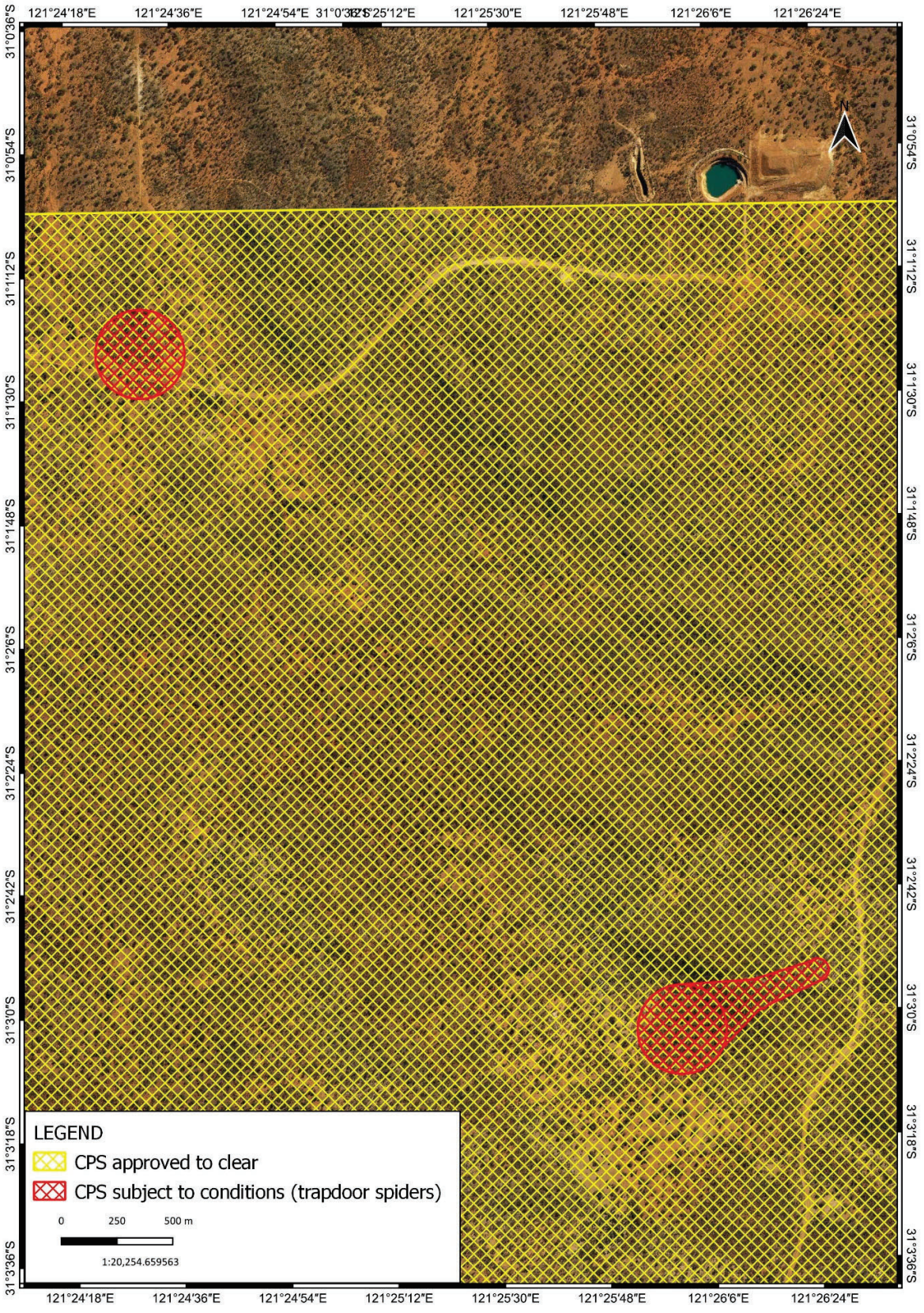

Figure 2C: Map of the boundary of the areas (shaded red) within which clearing may not occur to protect known *Idiosoma* sp. Burrows.

Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number:	CPS 5245/5
Permit type:	Purpose permit
Applicant name:	Northern Star (Hampton Gold Mining Areas) Limited
Application received:	22 December 2022
Application area:	200 hectares of native vegetation
Purpose of clearing:	Mineral exploration and production
Method of clearing:	Mechanical removal
Property:	Lot 105 on Deposited Plan 40396 Lot 94 on Deposited Plan 220400 Lot 50 on Deposited Plan 184436 (Crown Reserve 17176)
Location (LGA area/s):	Shire of Coolgardie
Localities (suburb/s):	Karramindie

1.2. Description of clearing activities

This amendment to CPS 5245/3 is to extend the period in which clearing is authorised by five years, i.e. until 17 November 2027, and correspondingly extend the duration of the permit by five years until 17 November 2032.

The proposed extent and purpose of clearing is unchanged from CPS 5245/3, which allowed the clearing of 200 hectares of native vegetation within a footprint of 5702.06 hectares within Lot 105 on Deposited Plan 40396, Lot 50 on Deposited Plan 184436 (Crown Reserve 17176), and Lot 94 on Deposited Plan 220400 (Mining Lease 15/717), Karramindie, for the purpose of mineral exploration and production (see Figure 1, Section 1.5). Records indicate that 90.4 hectares of clearing has been undertaken under CPS 5245/3, since the commencement of the permit on 17 November 2012.

1.3. Decision on application

Decision:	Granted
Decision date:	4 June 2025
Decision area:	200 hectares of native vegetation, as depicted in Section 1.5 below

1.4. Reasons for decision

This clearing permit amendment application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 14 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (see Appendix B), relevant datasets (see Appendix F.1), the findings of biological surveys (SLR, 2024a; SLR 2024b; Spectrum Ecology, 2024a;

Spectrum Ecology, 2024b; BCE, 2022), the clearing principles set out in Schedule 5 of the EP Act (see Appendix C), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

A review of current environmental databases and updated biological survey information identified that the assessment of impacts to biological values (flora and fauna) has changed since the previous assessment for CPS 5245/3. The application area under amendment comprises the following additional environmental values:

- Habitat for Priority flora species, including individuals of *Eucalyptus websteriana* subsp. *norsemanica* (Priority 1), *Ricinocarpos digynus* (Priority 1), and *Lepidosperma* sp. Kambalda (A.A. Mitchell 5156) (Priority 2),
- Five shield-backed trapdoor spider (*Idiosoma* sp.) burrows, including two matriarchal clusters,
- Nine active *Leipoa ocellata* (malleefowl) mounds, and
- Potential habitat for conservation significant fauna species including *Jalmenus aridus* (desert hairstreak butterfly), *Nyctophilus major tor* (central long-eared bat), and *Ogyris subterrestris petrina* (arid bronze azure butterfly).

The remaining environmental values within the permit area remain largely unchanged since the previous assessment and clearing under the proposed amendment will continue to result in:

- the loss of suitable habitat for Priority flora species,
- the loss of suitable habitat for conservation significant fauna species,
- the clearing of vegetation in proximity to a conservation area, which could indirectly impact on its environmental values,
- the clearing of riparian vegetation growing in association with watercourses and drainage lines,
- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values,
- potential land degradation in the form of erosion, and
- short-term water quality impacts, such as sedimentation.

In considering the above, the Delegated Officer considered that the proposed amendment is not likely to lead to an unacceptable risk to environmental values, subject to conditions to:

- undertake staged clearing and ensure the purpose of clearing is enacted within three months of the authorised clearing being undertaken to minimise erosion risk,
- avoid, minimise, and reduce the impacts and extent of clearing,
- take hygiene steps to minimise the risk of the introduction and spread of weeds,
- avoid clearing riparian vegetation where possible or, where a watercourse is to be impacted by clearing, maintain the existing surface flow by use of culverts,
- avoid clearing within 50 metres of Karamindie Forest,
- demarcate and avoid the clearing of all identified possible and confirmed populations of *Eucalyptus websteriana* subsp. *norsemanica*, *Ricinocarpos digynus*, and *Lepidosperma* sp. Kambalda (A.A. Mitchell 5156), along with a 20-metre buffer surrounding each population,
- engage a fauna specialist to undertake surveys to identify malleefowl mounds and shield-backed trapdoor spider burrows to be flagged and avoided from clearing, along with their relevant buffers,
- ensure no clearing occurs within 50 metres of known locations of active malleefowl mounds,
- ensure no clearing occurs within 50 metres of known locations of shield-backed trapdoor spider burrows and within 200 metres of known locations of matriarchal clusters,
- ensure all habitat trees within the application area are retained,
- undertake slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity, and
- revegetate cleared areas no longer required for the purpose for which they were cleared with stockpiled vegetative material and topsoil from cleared vegetation and undertake remedial actions if vegetation is not restored to pre-clearing composition, structure and density.

In addition to extending the permit duration, the Delegated Officer determined that the inclusion of several conditions above (e.g., conservation areas management, flora management, fauna management, directional clearing) as well as minor amendments to existing permit conditions were also required to minimise and manage risks to environmental values and bring the permit in line with current DWER policies and procedures.

1.5. Site map

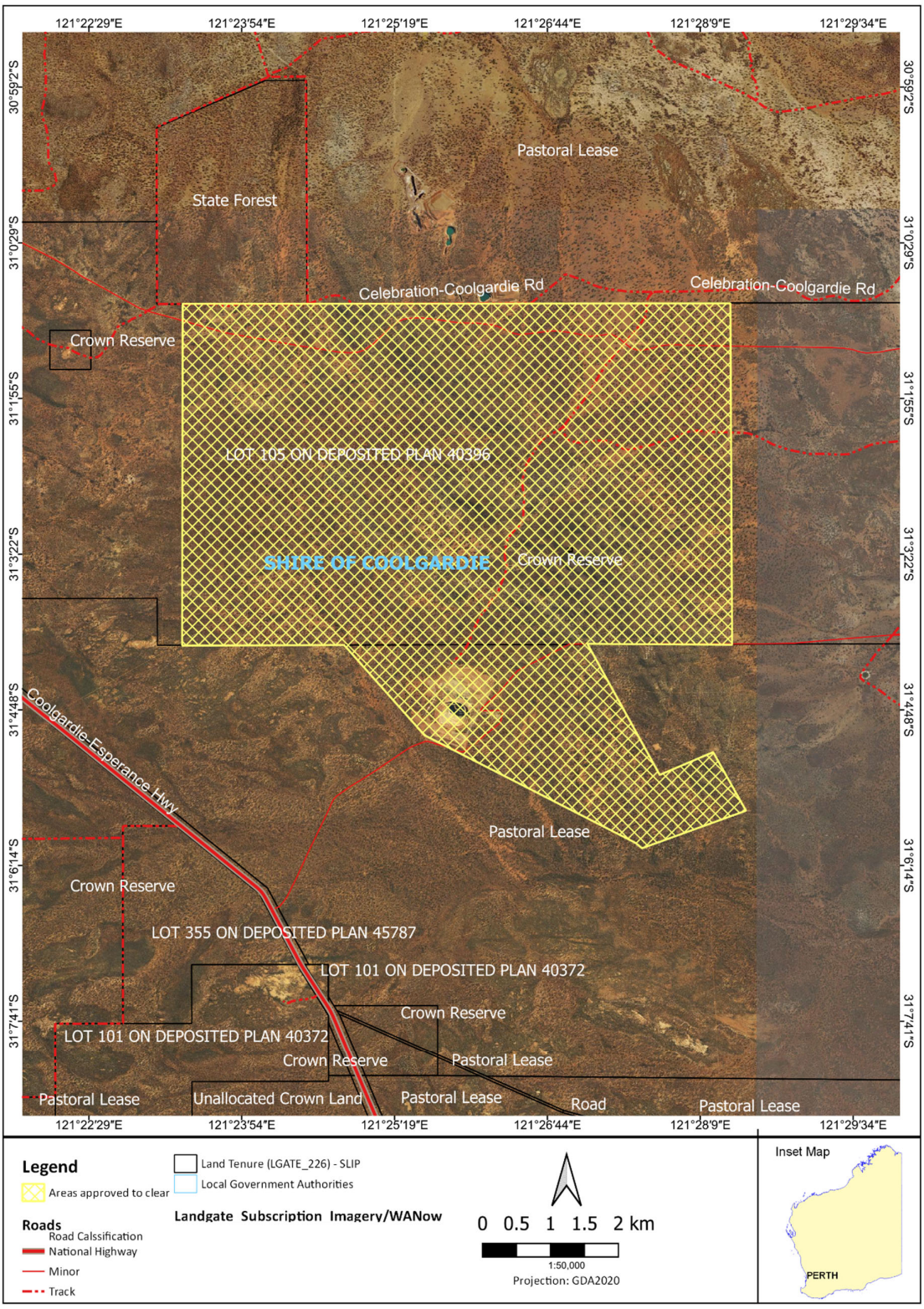

Figure 1. Map of the application area. The area crosshatched yellow indicates the area in which 200 hectares is authorised to be cleared under the granted clearing permit.

2 Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA) (Mining Act)
- *Rights in Water and Irrigation Act 1914* (WA) (RIWI Act)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

3 Detailed assessment of application

3.1. Avoidance and mitigation measures

As a condition of CPS 5245/3 (and previous versions of the permit), the applicant is required to submit records to DWER detailing actions taken to avoid, minimise and reduce the impacts and extent of clearing. In the most recent records provided to DWER (Northern Star, 2024b), the applicant detailed the following avoidance and mitigation actions applied to their clearing activities:

- Northern Star minimises the risk of the introduction and spread of weeds by ensuring that vehicles and machinery are washed down and cleaned when entering and leaving sites; ensuring that no weed-affected soil, fill or other material is brought into the area; and restricting the movement of machines and other vehicles to the limits of the areas to be cleared. There were no reports of weeds identified during clearing activities (for the reporting period 1 January 2023 to 31 December 2023).
- Exploration staff are trained in malleefowl identification and conduct field inspections, as per internal procedures, for all mineral exploration programmes prior to clearing. Observed malleefowl activity and mounds are reported to the Environmental Department and exclusion zones are implemented. Identified mounds are recorded in a GIS-based register which is included in Northern Star's internal pre-clearing approvals process.
- This process also delineates watercourses, drainage lines and wetlands and sets exclusion zones to protect associated riparian vegetation from clearing activities.
- Northern Star employs the same environmental management practices conducting exploration on its Freehold Land under clearing permits, as on its Tenements, governed by the PoW system (Mining Act 1978). These practices include, but are not limited to:
    - Containing all groundwater intercepted during drilling and/or drilling water appropriately;
    - Ramping all excavations (sumps, costeans etc) to allow fauna egress;
    - Avoiding significant vegetation (e.g. large trees and dense patches of vegetation);
    - Blade up clearing;
    - Stockpiling of topsoil and vegetation (as necessary) for use in rehabilitation; and
    - Controlling the risk of hydrocarbon spillage (e.g. the use of liners and drip trays under machinery when required).
- On completion of an exploration programme the site is completely rehabilitated as per DEMIRS requirements for rehabilitating low impact exploration disturbance (REC-EC-109D). Rehabilitation practices include:
    - Below ground plugging of drill holes in a manner that prevents long-term slumping or subsidence;
    - Backfilling all excavations (sumps);
    - Spreading stockpiled topsoil and vegetation during the scarification of the disturbed areas (access tracks and drill pads); and
    - Removal of sample bags, rubbish and any temporary infrastructure.

The applicant also provided the following information about their internal land disturbance permitting process, which prevents impacts to significant vegetation (Northern Star, 2024a):

- An internal GIS database of biological survey results, including priority species information and locations is maintained and used to support Northern Star's (NSR) disturbance permitting process.
- A Disturbance Permit Form (DPF) must be completed and approved for any proposed land disturbance/ clearing and alterations to existing infrastructure across all Operational and Project Areas.
- The procedure/work instruction for completing a DPF includes checking both internal and external resources for Environmentally Sensitive Areas and the presence of Priority flora or fauna species.
- In the event the proposed land disturbance and/or activity intersects or is nearby environmentally sensitive values, appropriate instructions are added to the disturbance permit (e.g., demarcate, buffer and avoid) as a condition of approval.

In relation to the additional environmental impacts identified through the assessment of the amendment application (see Section 3.2 below), the applicant made the following additional commitments which have been conditioned on the amended clearing permit (Northern Star, 2024a):

- All Priority flora populations identified within the application area, as well as a 25-metre buffer of vegetation around each population, will be retained (refer to Section 3.2.1 for further details).
- Known locations of active malleefowl mounds, as well as a 50-metre buffer of vegetation around each mound, will be avoided from clearing (refer to Section 3.2.2 for further details).
- Known locations of shield-backed trapdoor spider burrows and relevant buffers will be avoided from clearing (refer to Section 3.2.2 for further details).
- No clearing will occur within 50 metres of Karamindie Forest, to mitigate indirect impacts to the conservation area (refer to section 3.2.3 for further details).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

A review of current environmental information (Appendix B) reveals that the assessment against the clearing principles has changed significantly from the previous assessments of the permit detailed in Clearing Permit Decision Reports CPS 5245/1, CPS 5245/2 and CPS 5245/3.

The assessment against the clearing principles (see Appendix C) identified that the impacts of the proposed clearing present a risk to biological values (flora and fauna), conservation areas, and land and water resources. The consideration of these impacts, changes from the previous assessments of the permit, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

3.2.1. Biological values (flora) - Clearing Principle (a)

Assessment

Previous assessments of the permit noted the presence of one conservation significant flora species within the application area; *Diocirea acutifolia* (Priority 1) (NVS, 2012). However, since the previous assessment of the permit in 2019, *Diocirea acutifolia* has been reclassified as *Eremophila acutifolia* and is no longer listed as a priority species by DBCA (WA Herbarium, 1998-). Therefore, permit conditioning requiring the identification and avoidance of this species is no longer required.

Noting the above and the age of existing survey information for the application area, an updated flora and vegetation survey was undertaken between September 2023 and April 2024 to confirm whether conservation significant flora currently occur within the application area. These flora and vegetation surveys (Spectrum Ecology, 2024a; 2024b) recorded three priority flora species within the application area that were not identified during previous assessments of the permit:

- *Eucalyptus websteriana* subsp. *norsemanica* (Priority 1)
- *Ricinocarpos digynus* (Priority 1)
- *Lepidosperma* sp. Kambalda (A.A. Mitchell 5156) (Priority 2)

The surveys noted that some records of *Eucalyptus websteriana* subsp. *norsemanica* and *Lepidosperma* sp. Kambalda could not be identified to species level (Spectrum Ecology, 2024a; 2024b). In the absence of taxonomic confirmation, DWER has adopted a precautionary approach and assumed that these records are the priority species.

A total of 186 individuals (8 confirmed, 178 potential) of *Eucalyptus websteriana* subsp. *norsemanica* were identified across 102 locations within vegetation types V11 and V23 (Spectrum Ecology, 2024a), all of which occur within the

application area. Up to 20 individuals of *Ricinocarpos digynus* were identified at one location on a drainage line within vegetation type V12 (Spectrum Ecology, 2024a), which occurs within the application area. A total of 220 individuals (3 confirmed, 217 potential) of *Lepidosperma* sp. Kambalda (A.A. Mitchell 5156) were identified at 17 locations within vegetation types V12, V13, V20, V23 and V24 (Spectrum Ecology, 2024a), of which 216 individuals (15 populations) occur within the application area. Noting the extent of individuals recorded within the application area, clearing has the potential for locally and/or regionally significant impacts to these species.

To avoid and minimise impacts to priority flora, the applicant has committed to retaining all populations of these species along with a 20-metre buffer of native vegetation around each population (Northern Star, 2024a). As such, no direct impacts to priority flora species will result from the proposed clearing and indirect impacts to populations are unlikely to be significant.

No threatened flora species were recorded within the application area. Noting the survey effort and timing (see Appendix E), it is expected that threatened and priority flora species would have been identified if present at the time of the surveys. Therefore, significant impacts to threatened and priority flora are unlikely to result from the proposed amendment.

It is noted that the flora and vegetation surveys also identified eight populations of *Santalum spicatum* (Sandalwood) within the application area (Spectrum Ecology, 2024a; 2024b). Sandalwood is a controlled species under the BC Act and *Biodiversity Regulations 2018* and is the subject of the *Santalum spicatum* (Sandalwood) Biodiversity Management Programme (DBCA, 2023a). The applicant has been advised that they may have responsibilities under the BC Act if Sandalwood is proposed to be cleared, such as the requirement to obtain a flora taking (sandalwood) licence.

Conclusion

Based on the above assessment, impacts to conservation significant flora species are considered to have changed since the previous assessments of the permit detailed in the Decision Reports prepared for Clearing Permits CPS 5245/1, CPS 5245/2 and CPS 5245/3. However, the proposed clearing is unlikely to result in impacts to conservation significant flora species, noting all possible and confirmed populations of these species within the application area will be retained, along with a 20-metre buffer.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Flora management, requiring the permit holder to demarcate and avoid the clearing of all identified possible and confirmed populations of *Eucalyptus websteriana* subsp. *norsemanica, Ricinocarpos digynus, and Lepidosperma* sp. Kambalda (A.A. Mitchell 5156), along with a 20-metre buffer surrounding each population.

3.2.2. Biological values (fauna) - Clearing Principles (a) and (b)

Assessment

A review of current environmental information (Appendix B) and recent fauna surveys undertaken over the application area (SLR, 2024a; SLR, 2024b; BCE, 2022) indicate that it provides habitat for the following five conservation significant fauna species:

- *Idiosoma* sp. (shield-backed trapdoor spider) (listed as Priority by DBCA)
- *Jalmenus aridus* (desert hairstreak butterfly) (listed as Priority 1 by DBCA)
- *Leipoa ocellata* (malleefowl) (listed as Vulnerable under the BC Act and EPBC Act)
- *Nyctophilus major tor* (central long-eared bat) (listed as Priority 3 by DBCA)
- *Ogyris subterrestris petrina* (arid bronze azure butterfly) (listed as Critically Endangered under the BC Act and EPBC Act)

Previous assessments of the permit acknowledged that the application area may provide transient habitat for conservation significant fauna species and that mature hollow-bearing trees provide potential nesting and roosting habitat. Existing permit conditioning for the retention of habitat trees and an additional condition for directional clearing is considered to mitigate direct impacts to such fauna.

Previous assessments of the permit also acknowledged that the application area provides potentially significant habitat for malleefowl and required pre-clearance surveys and avoidance of active mounds as a condition of CPS 5245/3. Whilst surveys available at the time of the previous assessment had not identified any active mounds (BCE, 2012), targeted searches in September 2021 (BCE, 2022) and July and August 2023 (SLR, 2024a) identified nine active mounds within the application area. To align with current standards and better protect foraging resources

within proximity of mounds, the Delegated Officer determined to amend the existing condition to require retention of a 50-metre vegetated buffer around any active mounds identified in pre-clearance surveys and the nine confirmed mounds within the application area. Existing permit conditions for revegetation of temporarily cleared areas will also ensure that foraging and dispersal habitat for malleefowl are maintained throughout the application area post-exploration and production to minimise long-term loss of habitat. Therefore, impacts to malleefowl under the proposed amendment are unlikely to be significant and are largely unchanged from the previous assessments of the permit.

The remaining four species of concern were not considered in previous assessments of the permit and have been assessed as follows:

Shield-backed trapdoor spider

A fauna survey undertaken in September 2021 identified five burrows within the application area that are inhabited by shield-backed trapdoor spiders (*Idiosoma* sp.), comprising three single burrows and two matriarchal clusters of seven and 20 burrows, respectively (BCE, 2022). Two additional trapdoor spider burrows were identified within the application area but considered unlikely to be inhabited by a conservation significant species due to size (BCE, 2022).

Advice received from DBCA (2023b) indicates that the *Idiosoma* species recorded within the application area are likely to be conservation significant, either being the Coolgardie shield-backed trapdoor spider (*Idiosoma intermedium* - Priority 3) or the Central Eastern Wheatbelt shield-backed trapdoor spider (*Idiosoma mcnamarai* - Priority 1). The ecology and current distribution of shield-backed trapdoor spiders in Western Australia is not well understood and a priority action for listed *Idiosoma* species is to minimise adverse impacts from land uses (especially mining) at known sites (DBCA, 2023b). Given shield-backed trapdoor spiders typically have poor dispersal capabilities, are confined to disjunct habitats, and have low fecundity, the clearing of burrows and surrounding vegetation will result in the death of individuals and potentially significant impacts to the species.

The Delegated Officer determined that an additional condition requiring pre-clearance surveys, avoidance of identified burrows (including the five known burrows), and appropriate vegetated buffers should be added to the amended permit to mitigate impacts to *Idiosoma* species. DBCA (2023b) advised that buffer areas should be large enough to reduce potential impact from the proposed activities as well as allowing for an adequate supply of prey and for males to locate female burrows. DBCA (2023b) recommended a 50-metre buffer for individual burrows and a larger buffer, of at least 200 metres, for any matriarchal clusters of burrows. The impact of exploration disturbance (particularly vibrations from drilling) on these spiders is also not well understood (DBCA, 2023b). Therefore, pre-clearance surveys and appropriate buffer zones to shield-backed trapdoor spider burrows are required for clearing activities related to both mineral exploration and production under the amended permit.

Desert hairstreak butterfly

The application area provides suitable habitat for the desert hairstreak butterfly noting existing records in the local area and the presence of preferred host plants (*Senna artemisioides* subsp. *filifolia*) within the VT12, VT14, VT15, VT18, VT19, and VT21 vegetation types (Spectrum Ecology, 2024a). Fauna surveys did not record the desert hairstreak butterfly within the application area (SLR, 2024a; SLR, 2024b; BCE, 2022). However, this species is cryptic and difficult to survey, given it has a relatively short flight period (two to three weeks at a given site) with emergence linked to rainfall patterns, plant phenology and other ecological conditions (SLR, 2024a). Therefore, the species may still occur within the application area.

Noting the extent of suitable habitat containing preferred host plants within the application area (approximately 2,794.73 hectares) and greater surveyed area (approximately 21,324.88 hectares), it is not likely that the clearing of up to 200 hectares (0.9 per cent of available habitat) under the amended permit will result in significant impacts to the species. However, preferred host plants should be avoided from clearing, where possible, to minimise direct impacts.

Central long-eared bat

There is the potential for a resident population of the central long-eared bat to occur within the application area based on fauna surveys (BCE, 2022). Critical habitat for this species includes large, hollow-bearing eucalypts that provide roosting sites (BCE, 2022). Existing permit conditions requiring the retention of habitat trees will mitigate the risk of significant impacts to the central long-eared bat and its habitat.

Arid bronze azure butterfly (ABAB)
Fauna surveys have not recorded ABAB or ABAB-associated ant (*Camponotus terebrans*) colonies within the application area during targeted searches (SLR, 2024a; SLR, 2024b; BCE, 2022; BCE, 2012). However, considering recently discovered nearby populations near Kalgoorlie (DBCA, 2023b) and the presence of suitable habitat across the proposed clearing area, ABAB is considered as having the potential to occur within the application area. ABAB are typically found in association with ants in nests established at the base of mature, smooth-barked eucalypts (DoE, 2015). Existing permit conditions requiring the retention of habitat trees will likely mitigate the risk of significant impacts to ABAB, if present within the application area.

Conclusion

Based on the above assessment, the application area contains significant habitat for malleefowl and shield-backed trapdoor spiders, as well as suitable habitat for the desert hairstreak butterfly, central long-eared bat, and ABAB, which were not considered in previous assessments of the permit. Therefore, impacts to conservation significant fauna species are considered to have changed since the previous assessments of the permit detailed in the Decision Reports prepared for Clearing Permits CPS 5245/1, CPS 5245/2 and CPS 5245/3.

For the reasons set out above, it is considered that the impacts of the proposed clearing can be managed through the amended permit conditions and will not result in significant residual impacts to these species

The applicant may have notification responsibilities under the EPBC Act for impacts to malleefowl and their habitats, as set out in the EPBC Act. The applicant has been advised to contact the federal Department of Climate Change, Energy, the Environment and Water (DCCEW) to discuss EPBC Act referral requirements.

Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Fauna management – pre-clearance survey, requiring the permit holder to engage a fauna specialist to undertake surveys to identify malleefowl mounds and shield-backed trapdoor spider burrows to be flagged and avoided from clearing, along with relevant buffers,
- Fauna management – malleefowl, requiring the permit holder to ensure no clearing occurs within 50 metres of known locations of active malleefowl mounds,
- Fauna management – shield-backed trapdoor spider, requiring the permit holder to ensure no clearing occurs within 50 metres of known locations of shield-backed trapdoor spider burrows and within 200 metres of known locations of matriarchal clusters,
- Fauna management – habitat trees, requiring all habitat trees within the application area to be retained,
- Directional clearing, requiring the permit holder to undertake slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity, and
- Revegetation and rehabilitation – retain vegetative material and topsoil, requiring the permit holder to revegetate cleared areas no longer required for the purpose for which they were cleared with stockpiled vegetative material and topsoil from cleared vegetation and undertake remedial actions if vegetation is not restored to pre-clearing composition, structure and density.

3.2.3. Conservation areas - Clearing Principles (e)

Assessment

As identified in previous assessments of the permit, the application area is immediately adjacent to the Karamindie Forest in its north-western corner and the clearing of native vegetation in this area may indirectly impact its environmental values by facilitating the spread of weeds and other pathogens. To ensure greater protection against indirect impacts to this conservation area, the Delegated Officer determined that an additional condition should be added to the amended permit, requiring no clearing to occur within 50 metres of the Karamindie Forest. Existing permit conditions for weed management and revegetation and rehabilitation of temporarily cleared areas will further mitigate any indirect impacts.

Conclusion
Based on the above assessment, the proposed clearing may result in the spread of weeds and pathogens to the adjacent Karamindie Forest. Impacts to conservation areas are considered unchanged from the previous versions of the permit and can be found in the Decision Reports prepared for Clearing Permits CPS 5245/1, CPS 5245/2 and CPS 5245/3.

It is considered that these impacts can be managed to be environmentally acceptable through existing conditions on the amended permit.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Weed management, requiring the permit holder to implement hygiene measures to minimise the risk of introduction and spread of weeks,
- Conservation areas management, requiring no clearing of native vegetation to occur within 50 metres of Karamindie Forest, and
- Revegetation and rehabilitation – retain vegetative material and topsoil, requiring the permit holder to revegetate cleared areas no longer required for the purpose for which they were cleared with stockpiled vegetative material and topsoil from cleared vegetation and undertake remedial actions if vegetation is not restored to pre-clearing composition, structure, and density.

3.2.4. Land and water resources - Clearing Principles (f), (g) and (i)

As identified in previous assessments of the permit, the application area intercepts numerous minor perennial watercourses, which appear to drain into lakes within the local area. Noting that land systems mapped within the application area are susceptible to erosion when cleared, particularly within drainage areas, clearing may result in erosion, leading to sedimentation in these watercourses. However, given the non-perennial nature of the watercourses and their distance to the receiving lakes, it is considered unlikely that the clearing will significantly impact upon water quality within these lakes.

Potential impacts to watercourses and land degradation resulting from the proposed clearing is likely to be minimised through existing permit conditions, including staged clearing and the avoidance of riparian vegetation, where possible. For any watercourses that are subject to clearing, impacts to water quality are expected to be short-term and will diminish as temporarily cleared areas are revegetated in accordance with permit conditions.

Although groundwater within the application area is saline, groundwater in the area is below 70 to 100 metres depth (DMP, 2010). Noting this, and given the average annual evaporation rate is over ten times the average annual rainfall, there is a low likelihood of raised saline water tables occurring as a result of the proposed clearing.

Conclusion
Based on the above assessment, the proposed clearing may result in the loss of riparian vegetation and an increased risk of land degradation and short-term water quality impacts. This is unchanged from the previous versions of the permit detailed in the Decision Reports prepared for Clearing Permits CPS 5245/1, CPS 5245/2 and CPS 5245/3.

It is considered that these impacts can be managed to be environmentally acceptable through existing conditions on the amended permit.

Conditions
To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Staged clearing, requiring the permit holder to ensure the purpose of clearing is enacted within three months of the authorised clearing being undertaken to minimise erosion risk,
- Vegetation management, requiring the permit holder to avoid clearing riparian vegetation where possible or, where a watercourse is to be impacted by clearing, maintain the existing surface flow by use of culverts, and
- Revegetation and rehabilitation – retain vegetative material and topsoil, requiring the permit holder to revegetate cleared areas no longer required for the purpose for which they were cleared with stockpiled vegetative material and topsoil from cleared vegetation and undertake remedial actions if vegetation is not restored to pre-clearing composition, structure, and density.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on DWER's website on 7 February 2023, inviting submissions from the public within a 14-day period. No submissions were received.

The Shire of Coolgardie was invited to provide comment on the proposed amendment to CPS 5245/3 on 7 February 2023. No comments have been received to date.

Other relevant authorisations required for the proposed land use include:

- Works approval and licence issued under Part V Division 3 of the EP Act.
- Licence to abstract water under the *Rights in Water and Irrigation Act 1914*.

The applicant holds a current license (L5107/1988/13) under Part V Division 3 of the EP Act for the South Kalgoorlie Operations (SKO) Jubilee Gold Mine, which allows for processing or beneficiation of metallic or non-metallic ore (Category 5), mine dewatering (Category 6), and Class II or II putrescible landfill site (Category 64). L5107/1988/13 expires on 24 October 2036 and will be valid for the proposed extended permit duration.

DWER's Swan Avon Region (Water Regulation) advised that, if groundwater is proposed to be taken under the proposal, a license to abstract water under the RIWI Act may be required (DWER, 2025).

It is acknowledged that Lot 105 on Deposited Plan 40396 and Lot 94 on Deposited Plan 220400 are freehold properties with special land category area, EEL, Greater Hamptons, Northern Hamptons Area 53. Freehold land grants the landowner the right to retain the mineral rights, and therefore the provisions under the Mining Act do not apply. Exempt locations such as EEL 53 are governed under the *Mining on Private Property Act 1898* (Mining Act, Section 27(2)).

Two Aboriginal Sites of Significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

The remaining planning matters are unchanged from the previous assessments of the permit and can be found in the Decision Reports prepared for Clearing Permits CPS 5245/1, CPS 5245/2 and CPS 5245/3.

End

Appendix A. Additional information provided by applicant

Since the application was accepted for assessment on 6 February 2023, the following additional information was provided by the applicant.

Summary of comments	Consideration of comment
On 20 July 2023, in response to a formal Request for Further Information issued by DWER, the applicant provided a Reconnaissance Flora and Vegetation Survey for the Mt Marion Project Area (NVS, 2019).	In reviewing the reconnaissance survey, DWER determined that the information available was not adequate for the assessment of the application, given: • the most recent flora and vegetation surveys undertaken in 2017 and 2018 were not within the clearing envelope for CPS 5245/5, • the previous surveys within the clearing envelope were conducted between 2012-2015, which pre-dates the publication of the EPA's technical guidance (2016), and • the 2012-2015 flora and vegetation surveys were conducted outside of the EPA's recommended survey timing period for the South-Western Interzone, that being September-November.
On 10 December 2024, the applicant provided current flora and vegetation surveys within the clearing envelope for CPS 5245/5 (Spectrum Ecology, 2024a and 2024b), in response to a formal Request for Further Information issued by DWER.	The additional survey information is summarised in Appendix E and considered in *Assessment of impacts on environmental values* (see Section 3.2).
On 30 December 2024, in response to a formal Request for Further Information issued by DWER, the applicant committed to retaining priority flora populations and provided a description of land disturbance procedure (Northern Star, 2024a).	The additional information is considered in *Avoidance and mitigation measures* (see Section 3.1)

Appendix B. Site characteristics

B.1. Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to DWER at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix C.

Characteristic	Details
Local context	The clearing footprint is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is located approximately 35 kilometres (km) south of Kalgoorlie, in the Coolgardie Bioregion and the Eastern Goldfields Subregion (COO03) of Western Australia. Spatial data indicates the local area (20-kilometre radius from the centre of the area proposed to be cleared) retains approximately 98 per cent of the original native vegetation cover.
Ecological linkage	No formal linkages are mapped within the clearing footprint. Noting the extent of native vegetation surrounding the application area and in the local area, the application area is unlikely to be significantly contributing to ecological linkage values.
Conservation areas	The application area is immediately adjacent to Karamindie Forest at its north-western corner.

Characteristic	Details
Vegetation description	Vegetation surveys (Spectrum Ecology, 2024a and 2024b) indicate the vegetation within the proposed clearing footprint consists of: • 2219.08 ha - VT15: *Eucalyptus salmonophloia*, *Eucalyptus lesouefii* mid open woodland with *Eremophila dempsteri, Exocarpos aphyllus* tall sparse shrubland, over *Senna artemisioides* subsp. *filifolia, Atriplex nummularia* subsp. *spathulata*, *Eremophila scoparia* mid sparse shrubland, over *Atriplex vesicaria, Cratystylis conocephala, Rhagodia drummondii* low sparse shrubland. • 1483.78 ha - VT13: *Eucalyptus lesouefii, Eucalyptus torquata*, +/-*Eucalyptus stricklandii* low open woodland with +/-*Acacia burkittii* tall sparse shrubland, over *Alyxia buxifolia, Dodonaea lobulata, Eremophila oppositifolia* subsp. *angustifolia* mid sparse shrubland, over *Scaevola spinescens, Acacia erinacea, Westringia rigida* low sparse shrubland. • 738.41 ha – Disturbed. • 321.29 ha - VT24: *Acacia burkittii, Melaleuca hamata*, +/-*Brachychiton gregorii* tall shrubland, over *Eremophila granitica, Mirbelia depressa, Prostanthera grylloana* low sparse shrubland. • 270.55 ha - VT21: *Eucalyptus celastroides*, *Eucalyptus transcontinentalis*, *Eucalyptus salubris* mid woodland, over *Eremophila scoparia, Senna artemisioides* subsp. *filifolia, Eremophila ionantha* mid sparse shrubland, over *Olearia muelleri, Acacia leptopetala, Eremophila clavata* low sparse shrubland. • 237.60 ha - VT14: *Eucalyptus griffithsii, Eucalyptus torquata*, +/-*Eucalyptus oleosa* subsp. *oleosa* mid mallee woodland with *Eremophila interstans* subsp. *interstans*, +/-*Acacia burkittii*, *Casuarina pauper* tall sparse shrubland, over *Senna artemisioides* subsp. *filifolia, Dodonaea lobulata, Eremophila oldfieldii* subsp. *angustifolia* mid sparse shrubland, over *Scaevola spinescens, Eremophila glabra* subsp. *glabra, Olearia muelleri* low sparse shrubland. • 215.99 ha - VT23: *Allocasuarina campestris, Acacia collegialis, Acacia burkittii* tall open shrubland, over *Santalum spicatum* mid isolated shrubs, over *Prostanthera incurvata, Eremophila granitica, Pimelea microcephala* subsp. *microcephala* low sparse shrubland. • 55.90 ha - VT19: *Eucalyptus salubris, Eucalyptus clelandiorum*, +/-*Eucalyptus salmonophloia* low woodland, over *Senna artemisioides* subsp. *filifolia, Eremophila scoparia, Exocarpos aphyllus* mid sparse shrubland, over *Eremophila caperata, Eremophila parvifolia* subsp. *auricampi, Olearia muelleri* low sparse shrubland. • 27.19 ha - VT05: *Eucalyptus salmonophloia*, *Eucalyptus salubris* mid open woodland, over *Cratystylis subspinescens* mid sparse shrubland, over *Atriplex vesicaria, Maireana glomerifolia, Tecticornia disarticulata* low sparse shrubland. • 9.36 ha - VT12: *Eucalyptus longissima, Eucalyptus torquata* mid mallee woodland with *Acacia burkittii* tall sparse shrubland, over *Trymalium myrtillus* subsp. *myrtillus, Senna artemisioides* subsp. *filifolia, Ricinocarpos digynus* mid open shrubland, over *Dodonaea microzyga* var. *acrolobata*, *Senna cardiosperma, Alyxia buxifolia* low sparse shrubland. • 2.25 ha - VT18: *Eucalyptus lesouefii* mid woodland with *Melaleuca sheathiana* tall open shrubland, over *Eremophila scoparia, Exocarpos aphyllus, Senna artemisioides* subsp. *filifolia* mid sparse shrubland, over *Olearia muelleri, Acacia erinacea* low sparse shrubland. • 0.35 ha - VT06: *Eremophila interstans* subsp. *virgata* mid open shrubland, over *Dodonaea microzyga* var. *acrolobata, Lawrencia squamata, Rhagodia drummondii* low sparse shrubland. The full survey mapping is available in Appendix E. This is consistent with the mapped Beard vegetation associations: • Beard 9, which is described as medium woodland; coral gum (*Eucalyptus torquata*) & goldfields blackbutt (*E. le soufii*), • Beard 128, which is described as bare areas; rock outcrops, • Beard 936, which is described as medium woodland; salmon gum, and

Characteristic	Details
	• Beard 1413, which is described as shrublands; *Acacia*, *Casuarina* and *Melaleuca* thicket (Shepherd et al, 2001). The mapped vegetation types retain approximately 97.78, 99.64, 99.58, and 98.24 per cent of their original extents, respectively (Government of Western Australia, 2019).
Vegetation condition	Vegetation surveys (Spectrum Ecology, 2024a and 2024b) indicate the vegetation within the proposed clearing footprint is in Pristine to Very Good condition, with some areas in Completely Degraded condition (Keighery, 1994) condition, described as: • 2,579.62 ha - Pristine: Pristine or nearly so, no obvious signs of disturbance. • 1,330.06 ha – Excellent: Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species. • 923.06 ha - Very Good: Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing. • 749.0 ha - Completely Degraded: The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs. The full Keighery (1994) condition rating scale is provided in Appendix D. The full survey mapping is available in Appendix E.
Climate	A semi-arid climate characterises the region, with average annual rainfall falling to roughly 248 mm. Mean annual maximum temperatures reach roughly 25°C, while minimum temps lay around 11.2°C. Annual average pan evaporation: 2800mm (BoM, 2025).
Topography	Elevation ranges from 380 m AHD in the north-eastern corner and south of the clearing footprint to high points within the middle of the application area at 440 m AHD and 460 m AHD.
Soil description	Land systems within the clearing footprint are mapped as: • Coolgardie, described as uplands and undulating plains associated with ultramafic greenstones, supporting eucalypt woodlands and halophytic shrublands, • Johnston, described as gently undulating plains with occasional granite rises, supporting eucalypt woodlands and non-halophytic shrublands, • Graves, described as basalt and greenstone low hills, supporting acacia shrublands and/or eucalypt woodlands with saltbush and bluebush understoreys, • Gumland, described as alluvial plains, supporting eucalypt woodlands with halophytic shrub understoreys - • Doney, described as calcareous sheetwash plains, supporting eucalypt woodlands with non-halophytic shrub understoreys, and • Kurrawang, described as low hills and ridges, with occasional plateaus and scarps, and undulating stony plains, on metasedimentary and felsic volcaniclastic rocks, supporting scattered eucalypt or casuarina woodlands (DPIRD, 2025; Waddell and Galloway, 2023).
Land degradation risk	Land degradation risk mapping is not available for soil mapping from DPIRD (2025) in the area of the clearing footprint. However, in the land systems mapped by Waddell and Galloway (2023), water erosion is described as being a risk in footslopes and valley floors, alluvial fans and plains, drainage tracts and sheetwash plains, particularly where

Characteristic	Details
	a stony mantle is not present or is disturbed or is perennial plant cover is reduced (refer to further information in Appendix B.5.).
Waterbodies	Multiple non perennial minor watercourses intercept the application area. The clearing footprint is within the Western Plateau, Lake Lefroy catchment area. It appears likely that watercourses within the application area drain into lakes to the north and south of the application area, with the closest receiving lake approximately 2 km to the north within Karamindie Forest.
Hydrogeography	Groundwater salinity within the clearing footprint is mapped as saline (14,000 – 35,000 Mg/L TDS). The clearing footprint is within the Goldfields Groundwater Area proclaimed under the RIWI Act 1914.
Flora	The desktop assessment identified that a total of 23 conservation significant flora species have been recorded within the local area, comprising five Priority 1 (P1) flora, four Priority 2 (P2) flora, 12 Priority 3 (P3) flora, one Priority 4 (P4) flora, and one threatened flora species (Western Australian Herbarium, 1998-). None of these existing records occur within the application area, with the closest record being an occurrence of *Thryptomene planiflora* (P1) approximately 2.1 kilometres south of the application area. Based on the site characteristics outlined above, relevant datasets (see Appendix F.1), the habitat preferences of the aforementioned species, and the findings of flora and vegetation surveys (Spectrum Ecology, 2024a; 2024b), impacts to five conservation significant flora species required further consideration (see Appendix B.3.).
Ecological communities	There are no conservation significant ecological communities recorded within the local area.
Fauna	A total of six conservation significant fauna species have been recorded in the local area, including two threatened fauna species, one priority fauna species, and three fauna species protected under international agreement. The closest record to the application area is an occurrence of *Leipoa ocellata* (malleefowl), approximately 340 metres west. Based on the site characteristics outlined above, relevant datasets (see Appendix F.1), the habitat preferences of the aforementioned species, and the findings fauna surveys (SLR, 2024a; 2024b), impacts to two conservation significant fauna species required further consideration (see Appendix B.4.).

B.2. Vegetation extent

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
IBRA bioregion*					
Coolgardie	12,912,204.35	12,648,491.39	97.96	2,114,349.37	16.37
Beard vegetation association*					
9	240,509.33	235,161.94	97.78	18,984.28	7.89
128	327,982.50	288,766.05	88.04	69,053.50	21.05
936	698,752.00	676,689.18	96.84	28,010.13	4.01

	Pre-European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA managed land
1413	1,679,916.32	1,286,855.48	76.60	222,015.35	13.22
Beard vegetation association in IBRA bioregion*					
9 (Coolgardie)	240,441.99	235,100.97	97.78	18,984.28	7.90
128 (Coolgardie)	184,549.90	183,891.19	99.64	34,672.13	18.79
936 (Coolgardie)	586,792.23	584,336.14	99.58	18,103.64	3.09
1413 (Coolgardie)	1,061,212.28	1,042,553.77	98.24	192,883.70	18.18
Local area					
20-kilometre radius	195,555.03	192,302.03	98.33	-	-

*Government of Western Australia (2019)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), habitat preferences, and biological survey information (Spectrum Ecology, 2024a; 2024b), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of records in local area	Are surveys adequate to identify? [Y, N, N/A]
Eucalyptus websteriana subsp. *norsemanica*	P1	Y	Y	Y	27.5	0	Y
Lepidosperma sp. Kambalda (A.A. Mitchell 5156)	P2	Y	Y	Y	19.3	1	Y
Ricinocarpos digynus	P1	Y	Y	Y	21.4	0	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

B.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix F.1), habitat preferences, and biological survey information (SLR 2024a; 2024b) impacts to the following conservation significant fauna required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records in local area	Are surveys adequate to identify? [Y, N, N/A]
Idiosoma sp. (shield-backed trapdoor spider)	P	Y	Y	N/A	0	Y
Jalmenus aridus (desert hairstreak butterfly)	P	Y	Y	N/A	0	Y
Leipoa ocellata (malleefowl)	VU	Y	Y	0.3	27	Y
Nyctophilus major (central long-eared bat)	P	Y	Y	N/A	0	Y
Ogyris subterrestris petrina (arid bronze azure butterfly)	CR	Y	Y	16.7	12	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

B.5. Land degradation risks

Waddell and Galloway (2023) describe the following land degradation risks for the mapped land systems:

- Coolgardie Land System: Where not protected by a stony mantle, footslopes and valley floors are susceptible to water erosion, particularly where perennial shrub cover is substantially reduced and/or the soil surface is disturbed. The vegetation of Coolgardie is preferred for grazing by herbivores, rendering it prone to overgrazing and consequent degradation. Overgrazing can be avoided by good land management, including control of total grazing pressure.
- Johnston Land System: Alluvial fans and drainage tracts are moderately susceptible to erosion and loamy sheetwash plains are mildly susceptible. Obstruction of natural water flows can cause water starvation and consequent loss of vigour in vegetation downslope. Soil surface disturbance on these landforms may initiate erosion.
- Graves Land System: Stony mantles and moderately dense vegetation mean this land system is generally not prone to erosion, unless the protective mantle is disturbed, which most often occurs with construction of exploration tracks and drill pads. Alluvial plains in valley floors are susceptible to water erosion where perennial shrub cover is substantially reduced, or the soil surface is disturbed. While these upland areas are generally not preferred for grazing by introduced herbivores, uncontrolled goat populations may affect the diversity and density of some palatable plants. However, the vegetation of the valley floors is highly preferred for grazing, rendering it prone to overgrazing and consequent degradation. Overgrazing can be avoided by good land management, including control of total grazing pressure.
- Gumland Land System: Alluvial plains, drainage tracts and foci (units 3, 4 and 5) are susceptible to erosion if perennial shrub cover is substantially reduced, as are footslopes (unit 1) if protective mantles are disturbed. Poorly located infrastructure, such as track and fencelines, across sheetwash and alluvial plains can result in concentrated water flows and cause erosion incision. Impedance to natural drainage can also initiate loss of vigour in vegetation downslope because of water starvation. The halophytic vegetation is highly preferred for grazing by herbivores, rendering it prone to overgrazing and consequent degradation. Overgrazing can be avoided by good land management, including control of total grazing pasture.
- Doney Land System: This land system is generally not susceptible to erosion, although drainage tracts are susceptible, particularly if perennial plant cover is substantially reduced.
- Kurrawang Land System: This land system is generally not susceptible to erosion, unless the protective stone mantle is disturbed, which most often occurs with construction of exploration tracks and drill pads. Valley floors are susceptible to water erosion where perennial shrub cover is substantially reduced, or the soil surface is disturbed. While these upland areas are generally not preferred for grazing by introduced herbivores, uncontrolled goat populations may affect the diversity and density of some palatable plants. Overgrazing can be avoided by good land management, including control of total grazing pressure.

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The area proposed to be cleared contains priority flora species and provides potential habitat for conservation significant fauna but impacts to individuals and significant habitat will be avoided.	At variance (changed from CPS 5245/3)	Yes *Refer to Sections 3.2.1 and 3.2.2 above*
Principle (b): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."* Assessment: The application area contains potential habitat for conservation significant fauna species but impacts to individuals and significant habitat will be avoided.	At variance (changed from CPS 5245/3)	Yes *Refer to Section 3.2.1, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The area proposed to be cleared is unlikely to contain flora species listed under the BC Act.	Not likely to be at variance (as per CPS 5245/3)	No
Principle (d): *"Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."* Assessment: The area proposed to be cleared does not contain species indicative of a threatened ecological community.	Not likely to be at variance (as per CPS 5245/3)	No
Environmental value: significant remnant vegetation and conservation areas		
Principle (e): *"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."* Assessment: The extents of the mapped vegetation type and native vegetation in the local area are consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.	Not at variance (as per CPS 5245/3)	No
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: The clearing may impact upon the environmental values of the adjacent Karamindie Forest.	May be at variance (as per CPS 5245/3)	Yes *Refer to Section 3.2.3, above.*
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: Multiple minor non-perennial watercourses intersect the application area.	At variance (as per CPS 5245/3)	*Refer to Section 3.2.4, above.*

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are moderately susceptible to erosion, particularly around drainage lines. Noting the extent of the application area, the proposed clearing may have an appreciable impact on land degradation. Impacts from salinity are considered unlikely due to the depth to groundwater and the high evaporation to rainfall ratio.	May be at variance (as per CPS 5245/3)	Yes *Refer to Section 3.2.4 above*
Principle (i): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."* Assessment: The clearing may result in erosion, particularly around drainage areas, which may lead to impacts to water quality within watercourses. Noting the depth to groundwater, the clearing is considered unlikely to impact groundwater.	May be at variance (as per CPS 5245/3)	Yes *Refer to Section 3.2.4 above*
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of waterlogging or flooding.	Not likely to be at variance (as per CPS 5245/3)	No

Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types. Considering its location, the Keighery (1994) scale below was used to measure the condition of the vegetation proposed to be cleared.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E. Biological survey information excerpts

The biological surveys undertaken within the application area are considered consistent with the EPA (2016) Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* and EPA (2020) Technical guidance – *Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment* and are summarised below.

Mt Marion Hamptons Tenements Terrestrial Fauna Survey Basic Fauna and Targeted Malleefowl, Chuditch, and ABAB Surveys (SLR, 2024a)

Mineral Resources Limited (MRL) commissioned a terrestrial fauna survey to identify fauna habitat values and undertake targeted searches for malleefowl, chuditch, and ABAB within the Mt Marion Hamptons Tenements (SLR, 2024a). The survey involved a desktop assessment and field sampling:

- The desktop assessment involved a literature review, database searches, and a likelihood of occurrence assessment.
- The field survey was undertaken by six experienced zoologists and ecologists across two field trips (26 July to 3 August 2023 and 9 to 14 August 2023) and involved:
    - Habitat assessment in representative areas of fauna habitat to identify landform, soil and rock types, key habitat and microhabitat features, habitat quality and disturbance, and vegetation structure,
    - Camera trapping across 57 motion sensitive cameras baited with universal bait and deployed in lines of five camera spaces 50 metres apart in areas of suitable habitat for chuditch hunting and denning or in areas of suspected high fauna activity (i.e., water holes, caves, etc.),
    - Opportunistic observations of fauna, including primary evidence (direct sightings, calls, and remains) and secondary evidence (tracks, scats, and diggings),
    - Malleefowl mound surveys using light detection and ranging (LiDAR) data from aerial surveys to identify mound-like features and ground-truthing of potential malleefowl mounds, and
    - ABAB ant surveys in areas likely to contain smooth barked eucalypts based on aerial imagery and vegetation mapping across 213 kilometres of transects.

Targeted Survey for Arid Bronze Azure Butterfly (ABAB) Supplementary Surveys – Mt Marion (SLR, 2024b)

Mineral Resources Limited (MRL) commissioned a targeted survey for ABAB to delineate previously discovered ABAB ant colonies within the Mt Marion Hamptons Tenements and conduct a targeted ABAB search if colonies were suitable to support ABAB (SLR, 2024b). The survey involved a desktop assessment and field sampling:

- The desktop assessment involved a literature review, database searches, and a likelihood of occurrence assessment.
- The field survey was undertaken by six experienced zoologists and ecologists across five field trips (19 to 23 February 2024, 5 to 9 March 2024, 18 to 22 March 2024, 2 to 6 April 2024, and 15 to 19 April 2024) and involved:
    - ABAB ant colony mapping and searches for ant nests at four colonies partially delineated during the Mt Marion Hamptons Tenements Terrestrial Fauna Survey Basic Fauna and Targeted Malleefowl, Chuditch, and ABAB Surveys (SLR, 2024a), and
    - Five targeted ABAB surveys at the four ABAB ant colonies as per the *Guideline for the survey of arid bronze azure butterfly (ABAB) in Western Australia* (DBCA, 2020).

The ABAB ant colony boundaries, nest locations and *Jalmenus aridus* records mapping is provided in Figure 2 below.

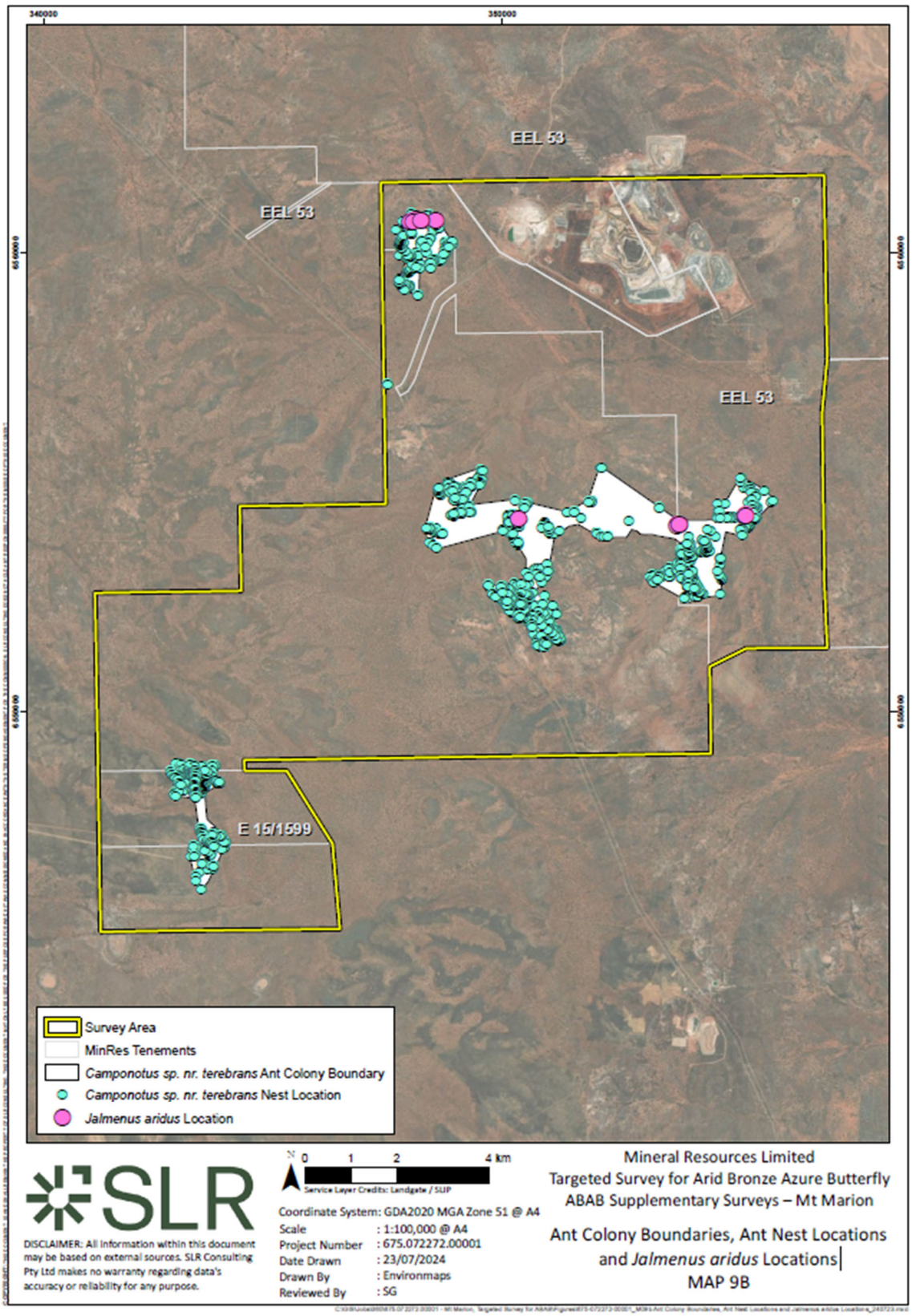

Figure 2. Ant Colony Boundaries, Ant Nest Locations and *Jalmenus aridus* Locations within the Targeted Survey for Arid Bronze Azure Butterfly (ABAB) Supplementary Surveys – Mt Marion survey area (SLR, 2024b).

Mt Marion – Hamptons Tenements Detailed Flora & Vegetation Assessment (Spectrum Ecology, 2024a)

MRL commissioned a detailed flora and vegetation survey to develop a flora species list, describe and map the vegetation types and condition, and undertake targeted searches for conservation significant species within the Mt Marion Hamptons Tenements (Spectrum Ecology, 2024a). The survey involved a desktop assessment and field sampling:

- The desktop assessment involved searches of biological databases, literature reviews, and a likelihood of occurrence assessment.
- The field survey was undertaken by six experienced botanists across Phase 1 (26 September to 2 October 2023) and Phase 2 (3 to 15 April 2024) and involved sampling of vegetation condition and disturbances, landform, vegetation composition and species lists, significant flora, and weeds, within a total of:
    - 105 quadrats (47 in Phase 1 and 58 on Phase 2),
    - 24 relevés (16 in Phase 1 and eight in Phase 2), and
    - 328.5 kilometres of targeted traverses.

The vegetation type and condition mapping are provided in Figures 3-5 below.

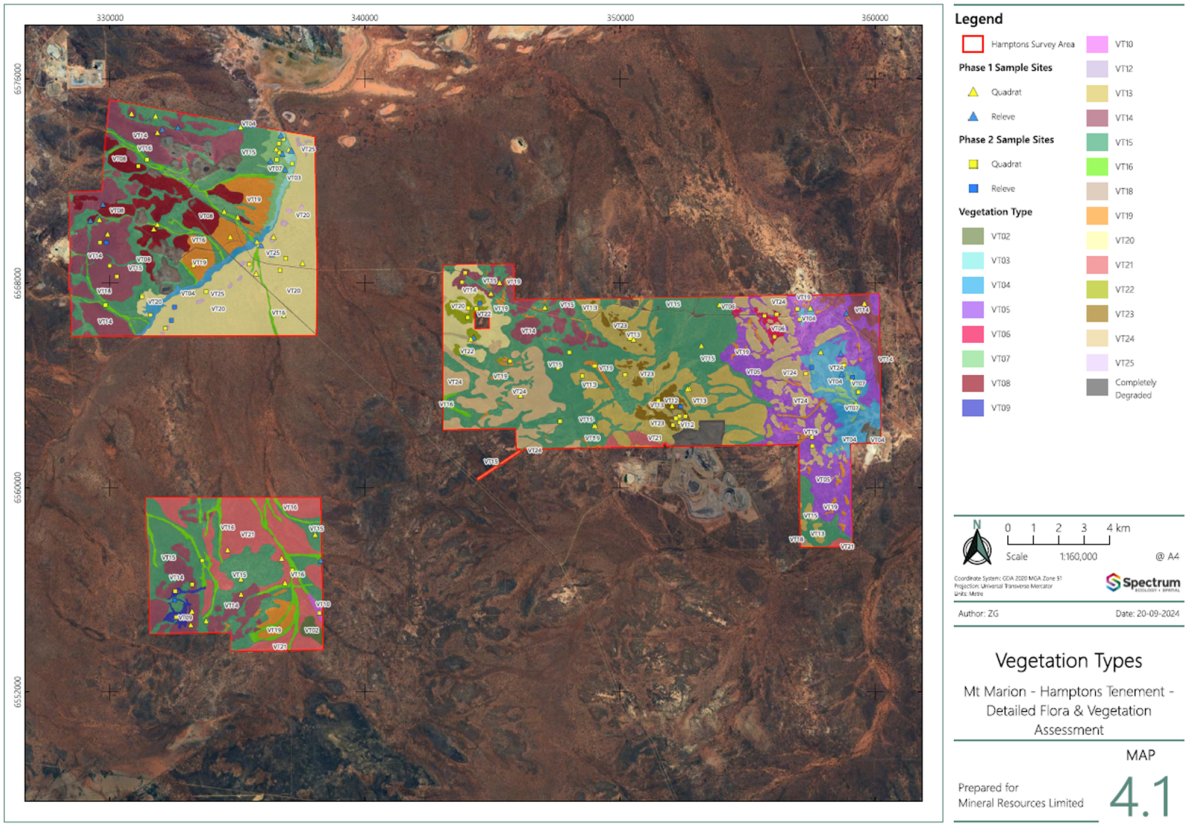

Figure 3. Vegetation types within the Mt Marion – Hamptons Tenements Detailed Flora & Vegetation Assessment survey area (Spectrum Ecology, 2024a).

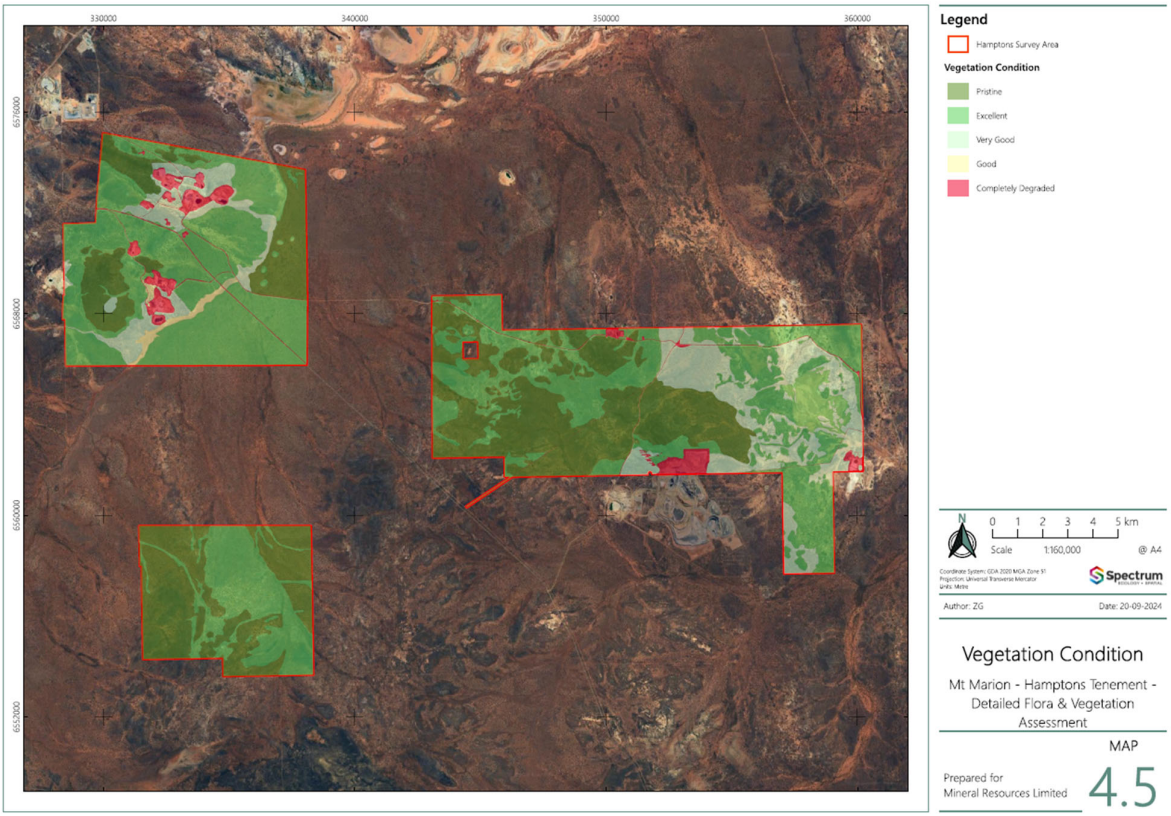

Figure 4. Vegetation condition within the Mt Marion – Hamptons Tenements Detailed Flora & Vegetation Assessment survey area (Spectrum Ecology, 2024a).

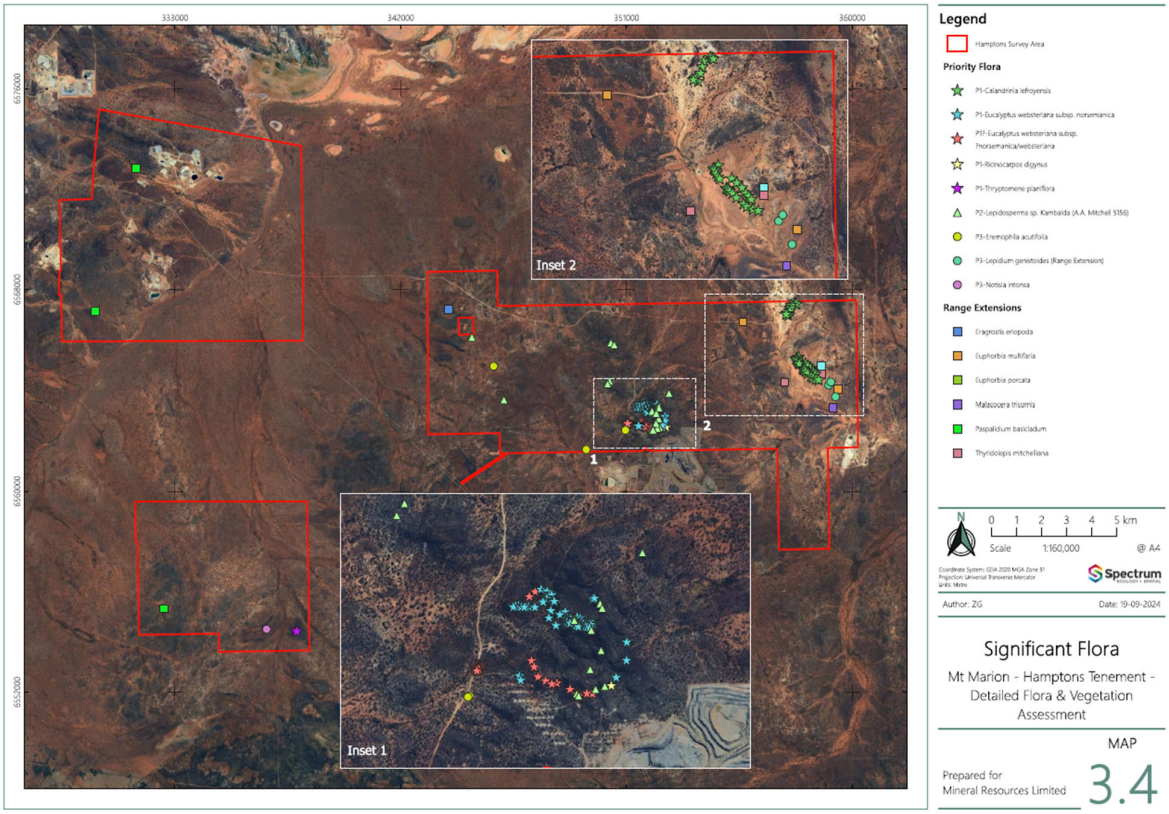

Figure 5. Locations of significant flora within the Mt Marion – Hamptons Tenements Detailed Flora & Vegetation Assessment survey area (Spectrum Ecology, 2024a).

Mt Marion – MinRes & M15/M17 Tenements Detailed Flora & Vegetation Assessment (Spectrum Ecology, 2024b)

MRL commissioned a detailed flora and vegetation survey to develop a flora species list, describe and map the vegetation types and condition, and undertake targeted searches for conservation significant species within the M15/M17 Tenements and surrounding areas (Spectrum Ecology, 2024b). The survey involved a desktop assessment and field sampling:

- The desktop assessment involved searches of biological databases, literature reviews, and a likelihood of occurrence assessment.
- The field survey was undertaken by six experienced botanists across Phase 1 (26 September to 2 October 2023) and Phase 2 (3 to 15 April 2024) over a total of 64 field days and involved sampling of vegetation condition and disturbances, landform, vegetation composition and species lists, significant flora, and weeds, within a total of:
    - 57 quadrats (31 in Phase 1 and 26 on Phase 2),
    - 12 relevés (six in Phase 1 and six in Phase 2), and
    - 202.8 kilometres of targeted traverses.

The vegetation type and condition mapping are provided in Figures 6-8 below.

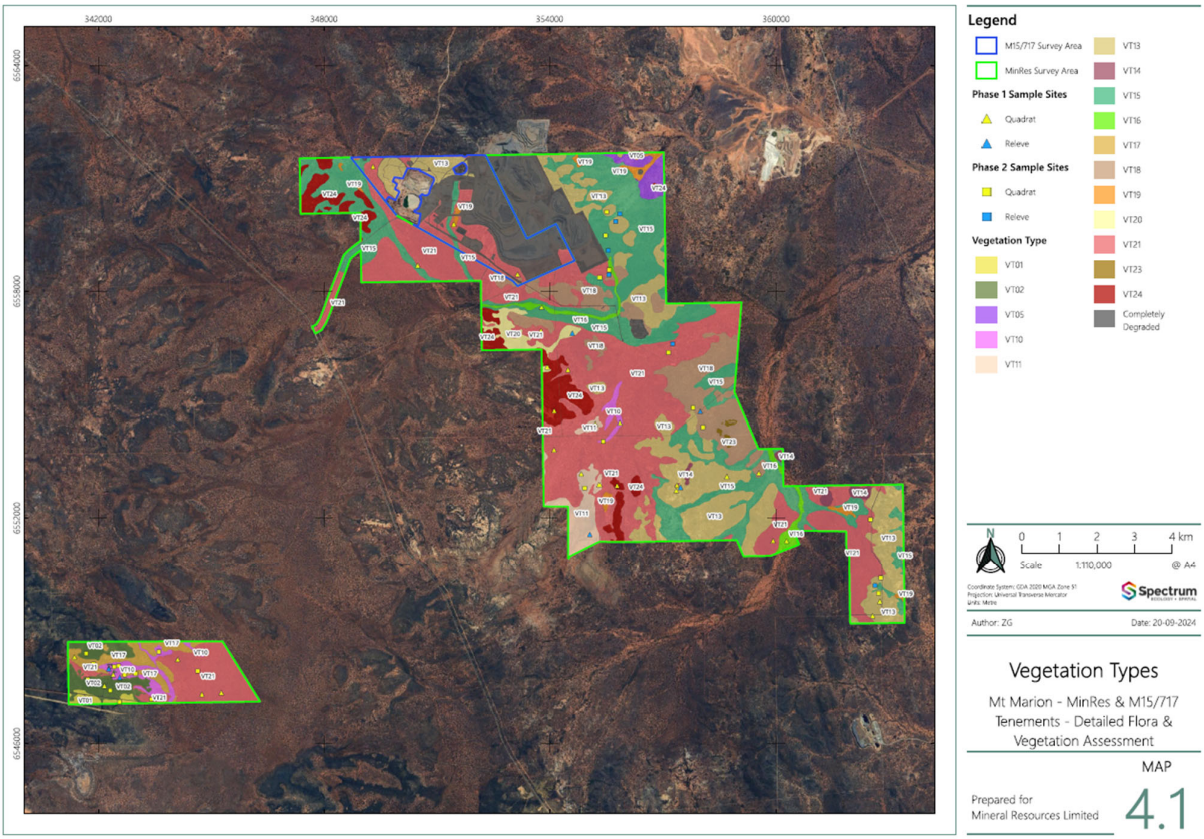

Figure 6. Vegetation types within the Mt Marion – MinRes & M15/M17 Tenements Detailed Flora & Vegetation Assessment survey area (Spectrum Ecology, 2024b).

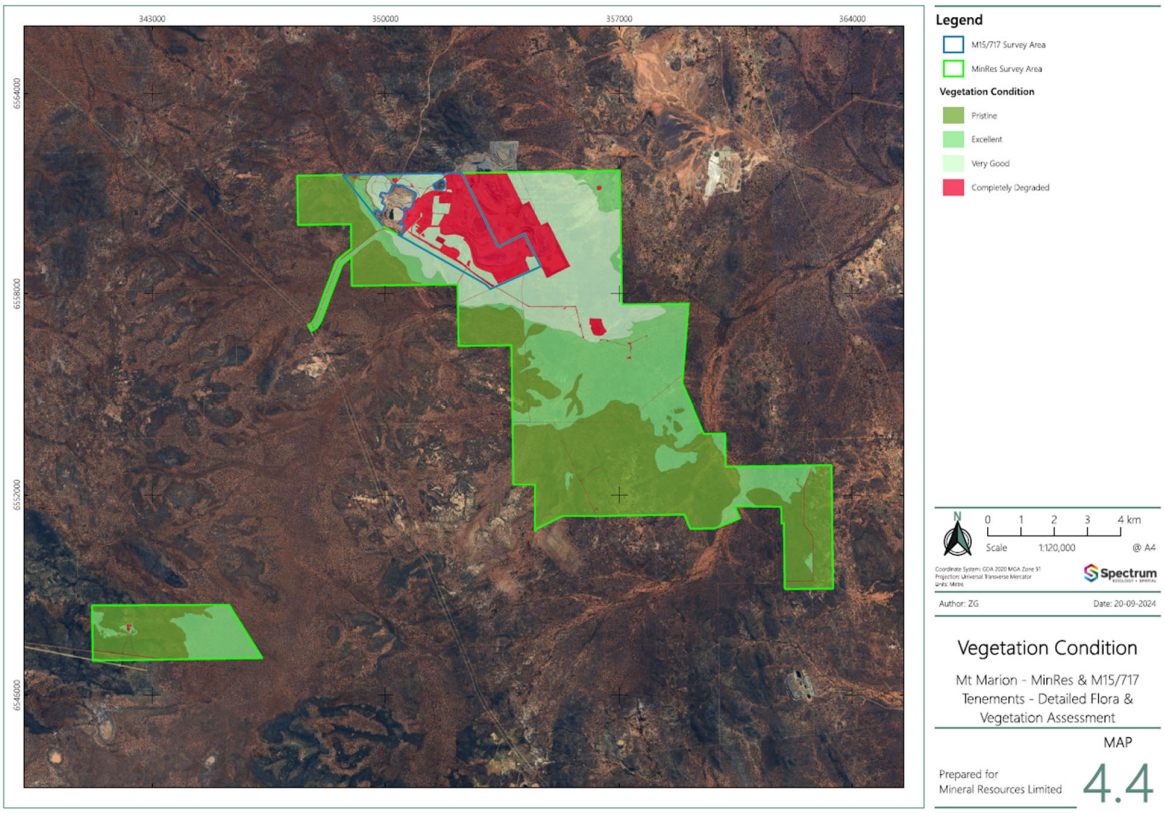

Figure 7. Vegetation condition within the Mt Marion – MinRes & M15/M17 Tenements Detailed Flora & Vegetation Assessment survey area (Spectrum Ecology, 2024b).

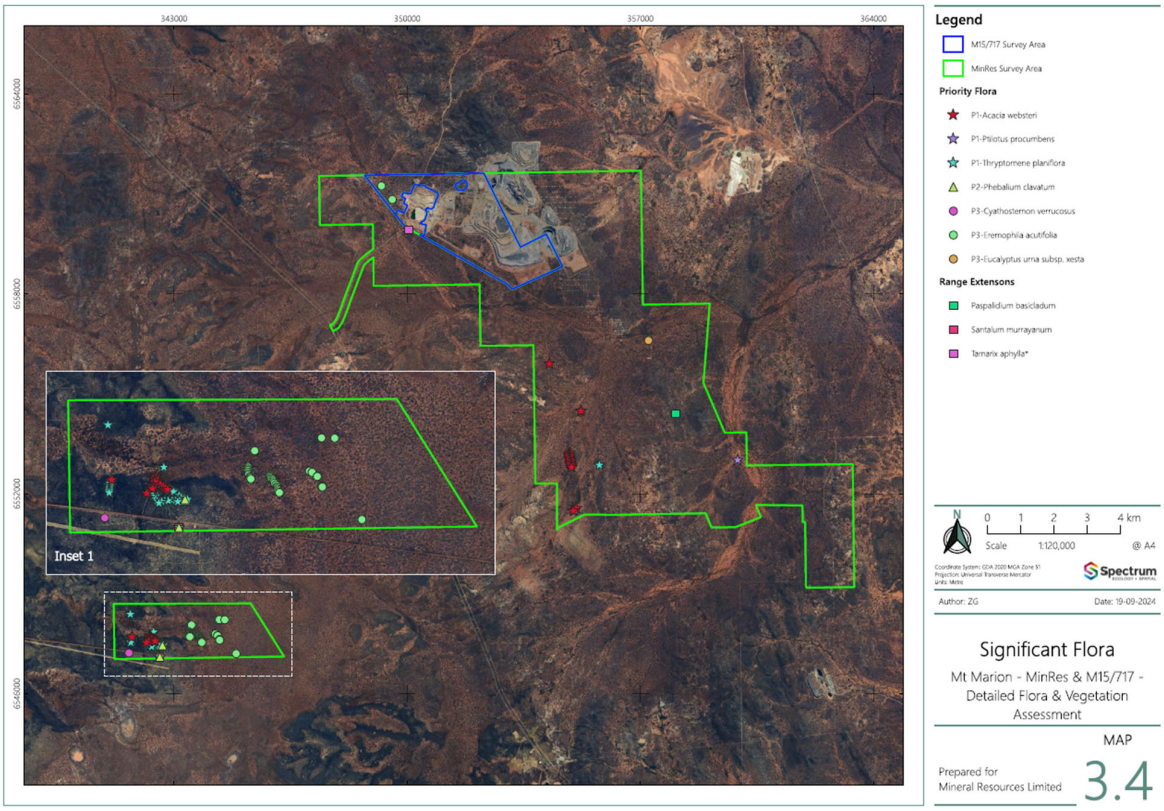

Figure 8. Locations of significant flora within the Mt Marion – MinRes & M15/M17 Tenements Detailed Flora & Vegetation Assessment survey area (Spectrum Ecology, 2024b).

Mt Marion Fauna Assessment: Hamptons Lease Area 53, L15/353, M15/999 and East E15/1599 (BCE, 2022)

Mineral Resources Limited (MRL) commissioned a basic and targeted fauna survey to identify fauna habitat values and undertake targeted searches for malleefowl, chuditch, trapdoor spiders, and ABAB within the Hamptons Lease Area 53, L15/353, M15/999, and East 15/1599 (BCE, 2022). The survey involved a desktop assessment and field sampling:

- The desktop assessment involved a literature review, database searches, and a likelihood of occurrence assessment.
- The field survey was undertaken by six experienced zoologists between 10 and 14 September 2021 and involved:
    - Identification of Vegetation and Substrate Associations (VSAs) that provide fauna habitat,
    - Opportunistic observations of fauna,
    - Assessment of habitat suitability for malleefowl and opportunistic records of malleefowl mounds,
    - Camera trapping across 10 motion sensitive cameras baited with universal bait in areas of suitable habitat for chuditch,
    - ABAB ant searches in areas containing smooth barked eucalypts, including ground disturbance to a depth of 10 centimetres around mature trees, and
    - Opportunistic searches for trapdoor spider burrows in areas of suitable habitat.

The locations of malleefowl mounds and trapdoor spiders is provided in Figure 9 below.

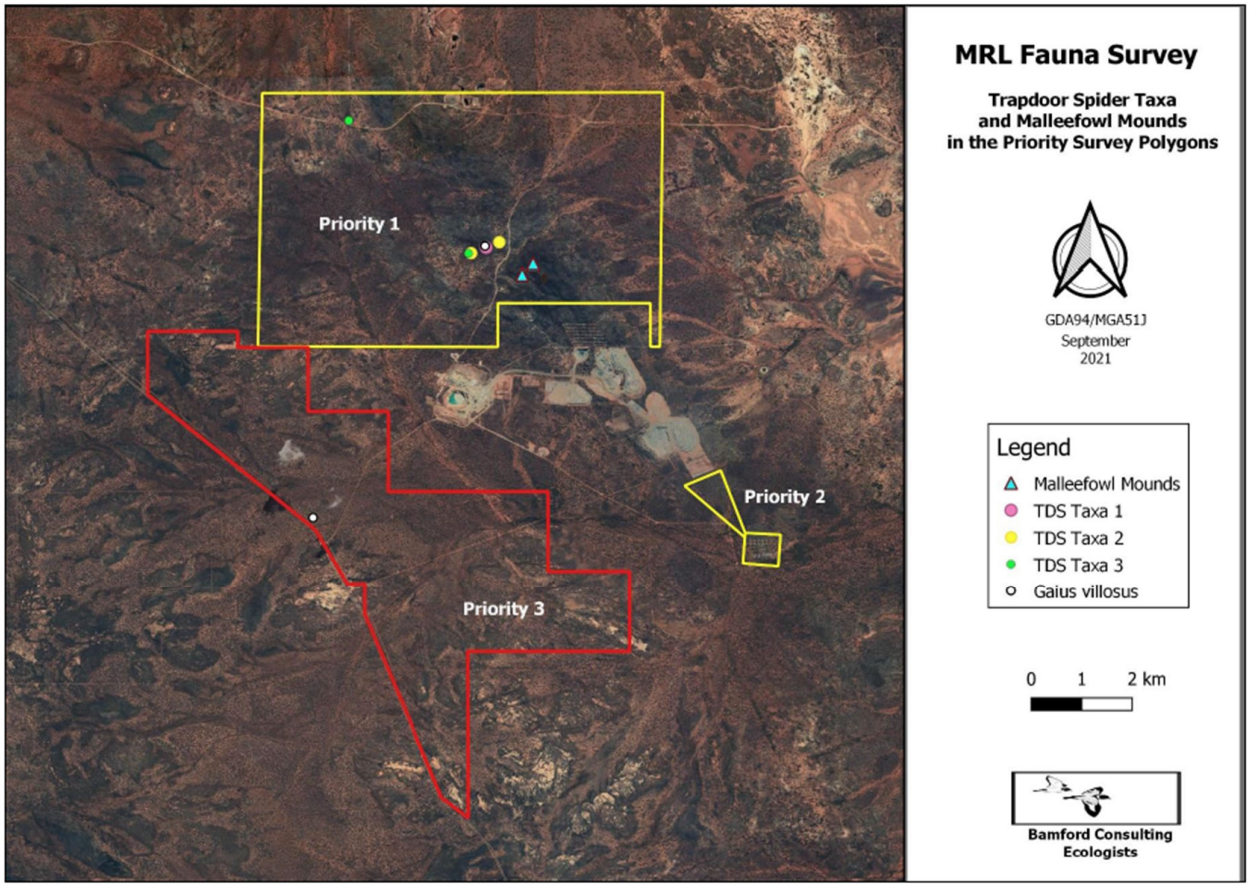

Figure 9. Locations of malleefowl mounds and trapdoor spider burrows within the Mt Marion Fauna Assessment: Hamptons Lease Area 53, L15/353, M15/999 and East E15/1599 survey area (BCE, 2022).

Appendix F. Sources of information

F.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)

- Aboriginal Heritage Places (DPLH-001)
- Bush Forever Areas 2000 (DPLH-019)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- CAWSA Part 2A Clearing Control Catchments (DWER-004)
- Consanguineous Wetlands Suites (DBCA-020)
- Contours (DPIRD-073)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- DBCA Statewide Vegetation Statistics
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments - Catchments (DWER-028)
- Hydrographic Catchments - Divisions (DWER-029)
- Hydrography, Linear (Hierarchy) (DWER-031)
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Systems (DPIRD-064)

Restricted GIS Databases used:

- Conservation Covenants Western Australia (DPIRD-023)
- Contaminated Sites Database - Restricted (DWER-073)
- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

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