RioTinto

Statement addressing the 10 Clearing Principles

Bedded Hill Top East – Communications Track

May 2025

Contents page

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2	J. Dagnall	K. Wood	02/07/25	N/A	03/07/25

Assessment against the 10 Clearing Principles – Bedded Hill Top East

1. Introduction

Rio Tinto is proposing to develop an access track to facilitate the installation and operation of communications infrastructure at the Bedded Hill Top East site. This initiative supports ongoing construction activities at Hope Downs 2, located in the Pilbara region of Western Australia, approximately 68 kilometres north-west of Newman (**Figure 1**). The Proposal Area covers approximately 39.80 hectares, with up to 12.80 hectares of native vegetation proposed to be cleared. Of the Proposal Area, 4.90 hectares have previously been disturbed, including 2.14 hectares that have undergone rehabilitation.

The Proposal was assessed against the 10 Clearing Principles as defined in Schedule 5 (Principles for Clearing Native Vegetation) of the *Environmental Protection Act 1986* (EP Act). Based on specialist assessment of the proposal and discussion below, it is deemed that

- Principles (C), (D), (E), (H) are not at variance; and
- Principles (A), (B), (F), (G), (I), (J) are not likely to be at variance.

2. Statement addressing the 10 Clearing Principles

Rio Tinto is proposing to construct an access track to enable installation, operation and maintenance of communications infrastructure at the Bedded Hill Top (**BHT**) east development - and associated construction activities at Hope Downs 2 (**HD2**) (Figure 1).

A three-phase detailed flora and vegetation survey, along with a two-phase Level 2 fauna survey, was conducted across the Hope Downs 2 Development Envelope between 2017 and 2019 (Astron, 2019ab; 2019ba). These surveys, which consolidated numerous previous studies in the area, covered approximately 10,000 hectares, here after referred to as the Survey Area (**Figure 2**). The current Proposal Area comprises 39.80 hectares within this broader Survey Area, of which 4.90 hectares have been previously disturbed by tracks and drill pads. 2.14 ha has since been rehabilitated. The clearing permit will facilitate formalising one of the existing tracks within the Proposal Area to enable access to a communications tower on BHT.

The principles of avoid and minimise have been applied to the Proposal Area to reduce the impact of the Proposal on habitat for threatened fauna species and priority flora populations. The Proposal Area has been amended to:

- avoid areas of Gorge/Gully habitat,
- minimise the extent of Breakaway habitat within the Proposal Area from 2.66 ha to 0.92 ha
- avoid impacts to *Eremophila* sp. West Angelas (*S. van Leeuwen 4068*) (P3)
- reduce the overall Proposal Area from 40.2 ha to 39.80 ha.

In addition, the following design considerations & mitigation measures would be implemented to reduce the impact to environmental values:

- The access track will follow the existing footprint of a track cleared to facilitate exploration activities
- Clearing of native vegetation will be minimised where practicable.

An assessment of the Proposal against the ten clearing principles under Schedule 5 of the EP Act is provided below.

2.1 Principle (a). Comprises high level of biological diversity

Native vegetation should not be cleared if it comprises a high level of biological diversity.

The Proposal is **not likely to be at variance** to this Principle.

While the Proposal Area is located within the Pilbara Bioregion, a National Biodiversity Hotspot recognised for high levels of endemism and species richness (DBCA, 2023; Kendrick, 2001; Maslin & Van Leeuwen, 2008), the proposed clearing is limited in scale (12.8 ha within a 39.8 ha Proposal Area) and the receiving environment is not considered to comprise an elevated level of biological diversity compared with surrounding areas. Based on Rio Tinto's commitments to avoid, minimise and manage impacts on Priority listed flora and fauna, and habitats for threatened fauna species, the proposal is unlikely to impact the biological diversity within the Clearing Permit Area and is not likely to be at variance to this Principle.

Flora

The floristic diversity recorded by Astron (2019b) was considered representative of the Hamersley subregion. A total of 708 vascular plant taxa, belonging to 233 genera from 68 families, were recorded from the Survey Area. The Desktop Assessment by Astron (2019b) identified 82 significant flora taxa previously recorded within 80 km of the Survey Area, comprising two Threatened, 13 Priority 1, 17 Priority 2, 43 Priority 3, and seven Priority 4 taxa. Targeted searches recorded 11 Priority flora within the Survey Area, one of which occurs within the Proposal Area: *Lepidium catapycnon* (6 records, 115 individuals) [P4] (**Figure 5**). *L. catapycnon* is regarded as being widespread across the southeast Pilbara region including multiple subpopulations within Karijini National Park, with an estimated total regional population size of at least 38,769 individuals based on internal Rio Tinto records (Rio Tinto, 2025). Records within the Proposal Area represent 2.4% of the known population within the Astron (2019b) Survey Area, and 0.3% of the total regional population. As such, any impacts to *L. catapycnon* are unlikely to be significant.

Vegetation

The vegetation types within the Proposal Area are not considered to contain a high level of floristic diversity relative to the surrounding region. Twenty-three (23) vegetation types were described from the Survey Area by Astron (2020b), five of which are present in the Proposal Area (**Table 1; Figure 3)**. Vegetation associated with hills and slopes (H1, H3, H4) make up 75.78% of the Proposal Area, while 11.53% is associated with drainage areas (D1) and less than 1% is associated with plains (P1). The remaining 12.31% of the Proposal Area comprises existing disturbance and rehabilitated areas. The vegetation within the Proposal Area ranges from very good to excellent condition (**Figure 4**).

None of the vegetation types present within the Proposal Area are listed as Threatened Ecological Communities (TECs) under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) or *Biodiversity Conservation Act 2016* (BC Act). No Priority Ecological Communities (PECs) were identified within the Proposal Area, and none have potential to occur based on the vegetation types recorded by Astron (2020b). The nearest PEC is the Weeli Wolli Spring Community (P1), located approximately 2 km south of the Proposal Area.

Fauna Habitat

Four broad fauna habitat types were recorded in the Proposal Area: Minor Drainage (11.5%), Breakaway (2.3%), Rocky Hill (31.3%), Low Hill and Slopes (42.5%) (Astron, 2020a) (**Table 2**). The Minor Drainage, Rocky Hill, and Low Hill and Slopes habitats are widespread and common across the Pilbara. Astron (2020a) assessed these habitats as being low to moderate value for MNES fauna as they do not support significant microhabitats (caves, pools etc.). Furthermore, no significant microhabitats suitable for threatened fauna species were recorded within the Proposal Area during the Astron (2019a) survey. Where possible detrimental impacts to habitats identified as of high value to

threatened fauna have been avoided and minimised. Areas of high-value Gorge Gully habitat have been excluded from the Proposal Area, and impacts to Breakaway habitat have been minimised from 2.66 ha to 0.92 ha within the Proposal Area. Impacts to Breakaway habitat within the Proposal Area will be minimised as far as practicable.

Fauna

The fauna assemblages recorded during the Astron (2019a) survey was considered typical of the Hamersley subregion. A total of 174 vertebrate fauna species were recorded within the Survey Area, comprising two amphibians, 55 reptiles, 84 birds and 33 mammals (including seven introduced mammal species). The Desktop Assessment by Astron (2019a) identified 26 significant fauna taxa previously recorded within 40 km of the Survey Area, comprising four reptiles, 15 bird and seven mammal species. Seven significant fauna specie were recorded within the broader Survey Area by Astron (2019a), comprising the Northern Quoll (*Dasyurus hallucatus*) (EN; EN); Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia*) (VU; VU); Ghost Bat (*Macroderma gigas*) (VU; VU); Oriental Plover (*Charadrius veredus*) (IA; IA); Unpatterned Robust Slider (Robertson Range) *Lerista macropisthopus remota* (P2); Letter-winged Kite (*Elanus scriptus*) (P4); and Western Pebble-mound Mouse (*Pseudomys chapmani*) (P4). Three of these species (Northern Quoll, Pilbara Leaf-nosed Bat and Ghost Bat) are classified under the EPBC Act 1999 as Matters of National Environmental Significance (MNES).

No threatened species have been recorded within the Proposal Area and only one Priority species, the Western Pebble-mound Mouse has been recorded within the Proposal Area. The species was recorded from Minor Drainage habitat. The species is also known from Low Hill and Slopes, Rocky Hill, Stony Plain and Mulga Woodland habitats throughout the Pilbara. These habitats are widespread and common within the vicinity of the Proposal Area and the wider Pilbara region. A restriction area with a 25 m buffer is applied to the record. Activities that may impact on these restriction areas would be identified and referred to a specialist zoologist for advice. Potential impacts to active mounds will be managed in accordance with Rio Tinto's Environmental Management Plan (EMP). The EMP states that such features of elevated conservation significance will be avoided (where practicable). In cases where avoidance is not practicable, fauna management advice is included on the internal approval by the specialist zoologist.

2.2 Principle (b). Potential impact to any significant habitat for fauna indigenous to Western Australia

Native vegetation should not be cleared if it comprises the whole, or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

The Proposal is **not likely to be at variance** with this Principle.

Based on Rio Tinto's commitments to avoid, minimise and manage impacts on habitat for significant fauna species within the Proposal Area, the proposal is not likely to be at variance with this Principle. Five broad fauna habitat types were recorded in the Proposal Area: Minor Drainage (11.5%), Breakaway (2.3%), Rocky Hill (31.3%), Low Hill and Slopes (42.5%) (Astron, 2019a). Areas of cleared habitat (12.3%) are present within the Proposal Area where exploration drilling has occurred in the form of drill pads and drill access tracks. Most of the habitats were considered 'very good' to 'high quality'.

Where possible, detrimental impacts to habitats identified as of high value to threatened fauna have been avoided and minimised. Areas of Gorge Gully habitat have been excluded from the Proposal Area and impacts to Breakaway habitat have been minimised from 2.66 ha to 2.30 ha within the Proposal Area, which comprises less than 1% of the 298.5 ha of this habitat recorded Astron (2019a) in the broader Survey Area. Impacts to Breakaway habitat will be minimised as far as practicable. No microhabitat of importance to threatened species, such as caves or permanent pools have been identified within the Proposal Area. The remaining habitat types are common and well-represented in

the broader region. Only one conservation-listed fauna species, the Western Pebble-mound Mouse [P4], has been recorded directly within the Proposal Area, and broader habitat availability in the surrounding landscape, means the distribution and abundance of this species is unlikely to be impacted by this proposal.

2.3 Principle (c). Potential impact to any rare flora

Native vegetation should not be cleared if it includes, or is necessary for the continued existence of rare flora.

The Proposal is **not at variance** to this Principle.

No EPBC Act or State-listed threatened flora species were recorded within, or are considered likely to occur in, the Survey Area by Astron (2019b). The available habitat within the Proposal Area is unlikely to support any Threatened flora species known from to occur in the Pilbara. One priority species was recorded within the Proposal Area: 6 records (115 individuals) of *Lepidium catapycnon* (P4). Records within the Proposal Area represent 2.4% of the known population within the Astron (2019b) Survey Area, and 0.3% of the total regional population. As such, any impacts to *L. catapycnon* are unlikely to be significant.

2.4 Principle (d). Presence of any threatened ecological communities

Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of a threatened ecological community (TEC).

The Proposal is **not at variance** to this Principle.

The database search did not identify any TECs and/or their buffers within the Proposal Area. None of the vegetation types recorded in the Proposal Area are analogous to any TECs or Priority Ecological Communities (Astron, 2019b). The nearest known PEC, Weeli Wolli Spring Community [P1], is approximately 2 km to the south of the Proposal Area.

2.5 Principle (e). Significance as a remnant of native vegetation in the area that has been extensively cleared

Native vegetation should not be cleared if it is significant as remnant vegetation in an area that has been extensively cleared.

The Proposal is **not at variance** to this Principle.

The Pilbara region has not been extensively cleared, however, grazing, inappropriate fire regimes and weed invasion have altered the vegetation in some areas. The Proposal Area comprises of the Hamersley 18 and Hamersley 82 vegetation associations, both of which have above 99% pre-European extent (Government of Western Australia, 2019) remaining well above the Australian and New Zealand Environment and Conservation Council 30% retention target (Commonwealth of Australia, 2019). The extent of the vegetation associations within Proposal Area is provided in **Table 3**. The Proposed Area does not represent a significant remnant of native vegetation in an extensively cleared region. All of the vegetation types within the Proposal Area represent a small proportion of their total extent mapped by Astron (2020b).

Table 1 Beard's mapping unit occurring within the study area, its current and pre-European extent within the Pilbara bioregion and its extent across the Proposal Area

Unit	Pre-European extent	Current extent^	Proposal Area Extent	Percentage of current extent
Hammersley_82	2,563,583 ha	2,550,888 ha	34.8 ha	0.0014%
Hamersley_18	676,556 ha	671,843 ha	5.0 ha	0.0007%

^ Government of Western Australia (2019)

2.6 Principle (f). Impact on any watercourse and / or wetlands

Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

The Proposal is **not likely to be at variance** with this Principle.

No nationally important wetlands or wetlands of international importance (Ramsar Sites) overlap the Proposal or occur within a 50 km radius. The Proposal Area also does not intersect any major watercourses mapped by the State GIS database (DWER, 2018). One vegetation type (D1) within the Proposal Area is associated with minor drainage lines and is described as **D1 –** *Corymbia hamersleyana* sens. lat., *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees to low open woodland over *Petalostylis labicheoides*, *Acacia monticola, A. maitlandii* scattered tall shrubs to tall shrubland over *Dodonaea lanceolata* var. *lanceolata, Androcalva luteiflora* scattered shrubs to open shrubland over *Triodia pungens* very open hummock grassland to open hummock grassland with *Themeda triandra*, *Eriachne mucronata* very open tussock grassland (Astron, 2019b). These drainage lines may temporally contain water following rainfall events, but do not represent riparian habitats or permanent water sources.

2.7 Principle (g). Potential to cause appreciable land degradation

Native vegetation should not be cleared if the clearing of vegetation is likely to cause appreciable land degradation.

The Proposal is **not likely to be at variance** to this Principle.

The application area intersects the Newman and Platform Land Systems. The Newman Land System is characterised by rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands. The Platform Land System is characterised by dissected slopes and raised plains supporting hard spinifex grasslands. Both Land Systems have a mantle of abundant pebbles of ironstone and other rocks, which translates to a low soil erosion risk (Van Vreeswyk et al., 2004).

Vegetation condition of the Proposal Area ranges from Very Good (5 ha, 13%) to Excellent (35 ha, 87%) (Astron, 2019b). Clearing of intact vegetation may increase the potential for weed spread within the area. To mitigate this risk, strict weed hygiene measures will be implemented throughout the Proposal Area.

2.8 Principle (h). Potential to impact on the environmental values of adjacent or nearby conservation areas

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.

The Proposal is **not at variance** with this Principle.

There are no Environmentally Sensitive Areas (**ESAs**) mapped within either the Proposal Area or the broader Survey Area. The nearest ESA is **Karijini National Park**, located approximately 60 km west of the Proposal Area (Astron, 2019a).

2.9 Principle (i). Potential deterioration in the quality of surface or underground water

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.

The Proposal is **not likely to be at variance** to this Principle.

There are no wetlands, permanent sources of surface water, or areas of public drinking water identified within the Proposal Area. The majority of the Proposal Area is located within the Fortescue Marsh Strategic Management Area (**SMA**) and overlies the Wittenoom and Hamersley–Fractured Rock aquifers, as well as the Upper Fortescue surface water area.

The surface hydrology characteristics in the region is primarily influenced by climatic conditions (Astron, 2019b). All streams in the area are ephemeral, typically remaining dry for most of the year and flowing only in response to significant and intense rainfall events. Ponded water is likely to dissipate through infiltration and evaporation shortly and rainfall events. Two minor, non-perennial watercourses intersect the Proposal Area. A major tributary of Weeli Wolli Creek runs to the north of the Survey Area, however, would not be impacted by the Proposal. Given the absence of significant waterbodies within the Proposal Area, the proposed activity is unlikely to significantly impact to surface or groundwater quality.

2.10 Principle (j). Potential of clearing to cause, or exacerbate, the incidence or intensity of flooding

Native vegetation should not be cleared if the clearing of vegetation is likely to cause, or exacerbate, the incidence of flooding.

The Proposal is **not likely to be at variance** with this Principle.

The Proposal Area does not intersect any major watercourses or water bodies. The small scale of the clearing proposed is unlikely to cause, or exacerbate, the incidence of flooding in the local area.

3. Conclusion

Rio Tinto is proposing to construct an access track to support communications infrastructure at the Bedded Hill Top east development. The Proposal Area is 39.80 ha, of which 4.90 hectares have previously been disturbed, including 2.14 hectares that have undergone rehabilitation. The proponent seeks to disturb 12.8 ha within the Proposal Area.

A three-phase detailed flora and vegetation survey, along with a two-phase Level 2 fauna survey, was conducted across the Hope Downs 2 (**HD2**) Development Envelope between 2017 and 2019 (Astron, 2019ab; 2019ba), inclusive of the Proposal Area. These surveys, which consolidated numerous previous studies in the area, covered approximately 10,000 hectares, and have been used to inform this 10 Clearing Principles Assessment.

Based on specialist assessment of the proposal, it is deemed that

- Principles (C), (D), (E), (H) are not at variance; and
- Principles (A), (B), (F), (G), (I), (J) are not likely to be at variance.

4. References

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5. Figures

400,000mE 500,000mE 600,000mE 700,000mE 800,000mE

7,700,000mN 7,600,000mN 7,500,000mN

Murujuga National Park
Cape Lambert
Dampier
Wickham
Karratha
Roebourne
North West Coastal Highway
Millstream-Chichester National Park
Great Northern Highway
Nullagine
Mesa A
Pannawonica
Mesa J
Silvergrass
Brockman 2
Nammuldi
Brockman 4
Western Turner Syncline
Tom Price
Mount Tom Price
Marandoo
Gudai-Darri
Yandicoogina
See Inset
Karijini National Park
Hope Downs 1
West Angelas
Hope Downs 4
Western Range
Paraburdoo
Paraburdoo Eastern Range
Channar
Newman

Inset - Study Area

Hope Downs 1
Hope Downs 1 Village

0 1 2 km

Legend

- Proposal Area
- Rio Tinto Mine
- Port
- Town
- Rio Tinto Railway
- Highway
- Major Road
- Minor Road
- Site Access Road
- National Park

Drawn: D.von Holdt
Plan: RTIO-1118309v1
Date: June 2025

Checked by: A.Coulson
Proj: GDA 1994 MGA Zone 50
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Figure 1: Overview Map of Proposal Area

0 10 20 30 40 50 kilometres

N

Scale: 1:1,400,000 @A3

680,000mE
700,000mE
720,000mE
7,460,000mN
7,440,000mN

Legend

Proposal Area

Previous Surveys

Astron Environmental Services (2019)

Astron Environmental Services (2020)

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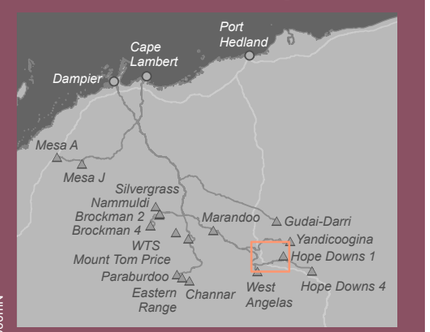

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Figure 2: Previous Surveys relating to the Proposal Area

0 1 2 3 4 5
kilometres

Scale: 1:165,000 @A3

N

717,500mE

720,000mE

722,500mE

7,452,500mN

7,450,000mN

Legend

Proposal Area

Vegetation Type

- H1
- H2
- H3
- H4
- H5
- H6
- H7
- H8
- H11
- D1
- D2
- D3
- D4
- D7
- D8
- P1
- P3
- P4
- Cleared

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Plan: RTIO-1118309v1
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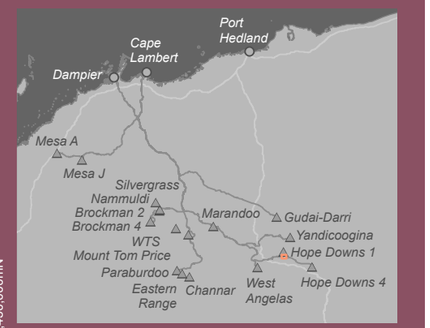

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Figure 3: Vegetation Types

0 0.25 0.5 0.75 1 kilometres

Scale: 1:20,000 @A3

N

Vegetation Mapping

Hilltops/Hillslopes

H1
Eucalyptus leucophloia subsp. *leucophloia, Corymbia hamersleyana* sens. lat. scattered low trees to low open woodland over *Petalostylis labicheoides, Senna glutinosa* subsp. *glutinosa* scattered tall shrubs over *Gompholobium oreophilum, Acacia hilliana, A. spondylophylla* low open shrubland to low shrubland over *Triodia vanleeuwenii, T. wiseana, T. pungens* open hummock grassland with *Amphipogon sericeus* scattered tussock grasses

H2
Eucalyptus repullulans scattered low mallees over *Acacia catenulata* subsp. *occidentalis, A. aptaneura, (Grevillea saxicola)* tall shrubland to tall open scrub over *Scaevola acacioides, Dodonaea pachyneura, Eremophila latrobei* subsp. *filiformis* scattered shrubs to open shrubland over *Triodia* pungens scattered hummock grasses to very open hummock grassland with *Eriachne mucronata* scattered tussock grasses to very open tussock grassland

H3
Corymbia deserticola subsp. *deserticola* scattered low trees over *Acacia inaequilatera, Hakea chordophylla* scattered tall shrubs to tall open shrubland over *Senna glutinosa* subsp. *pruinosa* scattered shrubs over *Triodia vanleeuwenii* open hummock grassland with *Amphipogon sericeus* scattered tussock grasses to very open tussock grassland

H4
Eucalyptus leucophloia subsp. *leucophloia* scattered low trees over *Senna glutinosa* subsp. *glutinosa, S. glutinosa* subsp. *pruinosa* scattered shrubs over *Triodia vanleeuwenii* and/or *T. wiseana* open hummock grassland to hummock grassland

H5
Eucalyptus socialis subsp. *eucentrica* scattered low mallees to low open mallee woodland over *Acacia bivenosa* scattered tall shrubs to tall open shrubland over *Senna glutinosa* subsp. × *luerssenii* scattered shrubs over *Ptilotus obovatus* scattered low shrubs over *Triodia wiseana* very open hummock grassland to open hummock grassland

H6
Acacia aptaneura, A. catenulata subsp. *occidentalis* tall open shrubland to tall shrubland over *Eremophila forrestii* subsp. *forrestii, Senna stricta* scattered shrubs to open shrubland over *Triodia pungens* and/or *T. vanleeuwenii* and/or *T. wiseana* scattered hummock grasses to very open hummock grassland with *Eriachne mucronata* scattered tussock grasses

H7
Eucalyptus leucophloia subsp. *leucophloia* scattered low trees to low open woodland over *Senna glutinosa* subsp. *glutinosa, Acacia maitlandii* scattered shrubs over *Triodia wiseana* and/or *T. vanleeuwenii* and/or *T. pungens* open hummock grassland to hummock grassland

H8
Eucalyptus leucophloia subsp. *leucophloia* scattered low trees to low open woodland over *Acacia pruinocarpa, Hakea chordophylla* scattered tall shrubs to tall open shrubland over *Triodia vanleeuwenii, (T. pungens)* open hummock grassland to hummock grassland with *Amphipogon sericeus* scattered tussock grasses

H9
Acacia arida, Grevillea wickhamii subsp. *hispidula* open shrubland over *Triodia wiseana* open hummock grassland with *Themeda sp. Mt Barricade (M.E. Trudgen 2471)* very open tussock grassland

Hilltops/Hillslopes cont.

H10
Eucalyptus leucophloia subsp. *leucophloia* scattered low trees with *E. repullulans* and/or *E. socialis* subsp. *eucentrica* and/or *E. pilbarensis* scattered low mallees to low open mallee woodland over *Acacia bivenosa* scattered shrubs over *Triodia wiseana, (T. angusta)* open hummock grassland to hummock grassland

H11
Eucalyptus leucophloia subsp. *leucophloia* scattered low trees with *E. gamophylla* low open mallee woodland over *Acacia ancistrocarpa* scattered tall shrubs to tall open shrubland over *A. hilliana* scattered low shrubs to low open shrubland over *Triodia vanleeuwenii, (T. pungens)* open hummock grassland to hummock grassland

H12
Corymbia hamersleyana sens. lat. scattered low trees over *Acacia inaequilatera, Hakea chordophylla, A. bivenosa* scattered tall shrubs to tall open shrubland over *Senna artemisioides* subsp. *oligophylla* scattered low shrubs over *Triodia wiseana* open hummock grassland to hummock grassland with *Themeda* sp. *Mt Barricade (M.E. Trudgen 2471), Cymbopogon* ambiguus scattered tussock grasses and *Heliotropium ovalifolium, Corchorus lasiocarpus* subsp. *parvus* scattered herbs

Drainage

D1
Corymbia hamersleyana sens. lat., *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees to low open woodland over *Petalostylis labicheoides, Acacia monticola, A. maitlandii* scattered tall shrubs to tall shrubland over *Dodonaea lanceolata* var. *lanceolata, Androcalva luteiflora* scattered shrubs to open shrubland over *Triodia pungens* very open hummock grassland to open hummock grassland with *Themeda triandra, Eriachne mucronata* very open tussock grassland to open tussock grassland

D2
Acacia aptaneura, A. catenulata subsp. *occidentalis, A. pruinocarpa* tall shrubland to tall open scrub over *Petalostylis labicheoides* scattered shrubs to open shrubland over *Triodia pungens* very open hummock grassland with *Chrysopogon fallax* scattered tussock grasses

D3
Corymbia ferriticola, Eucalyptus leucophloia subsp. *leucophloia* low open woodland over *Petalostylis labicheoides, Acacia hamersleyensis, Dodonaea viscosa* subsp. *spatulata* tall open shrubland over *Triodia pungens* very open hummock grassland with *Eriachne mucronata, Themeda* sp. *Mt Barricade* (M.E. Trudgen 2471), *Cymbopogon ambiguus* very open tussock grassland to tussock grassland

D4
Eucalyptus victrix, (E. camaldulensis subsp. *obtusa)* low open woodland to open woodland over *Acacia citrinoviridis, Petalostylis labicheoides* scattered tall shrubs to tall shrubland over *Androcalva luteiflora, Gossypium sturtianum* var. *sturtianum* scattered shrubs to open shrubland over *Triodia longiceps* scattered hummock grasses to very open hummock grassland with *Themeda triandra, Eulalia aurea, (*Cenchrus ciliaris)* very open tussock grassland to tussock grassland and **Bidens bipinnata* scattered herbs

Drainage cont.

D5
Eucalyptus xerothermica scattered low trees to low open woodland over *Petalostylis labicheoides, Acacia maitlandii, A. pyrifolia* tall open shrubland to tall shrubland over *Androcalva luteiflora* scattered shrubs over *Triodia longiceps* very open hummock grassland to open hummock grassland with *Themeda triandra, Eulalia aurea* open tussock grassland to tussock grassland and **Bidens bipinnata* scattered herbs

D7
Acacia citrinoviridis, A. aptaneura, A. pruinocarpa scattered tall shrubs to tall shrubland over *Senna artemisioides* subsp. *oligophylla* scattered low shrubs over *Triodia longiceps* open hummock grassland to hummock grassland

D8
Eucalyptus xerothermica scattered low trees to low open woodland over *Acacia aptaneura, A. catenulata* subsp. *occidentalis* tall open shrubland to tall open scrub over *Triodia pungens* scattered hummock grasses to very open hummock grassland with *Themeda triandra* very open tussock grassland to open tussock grassland

Plains

P1
Acacia aptaneura, A. catenulata subsp. *occidentalis, (A. pruinocarpa)* tall shrubland to tall open scrub over *Eremophila forrestii* subsp. *forrestii* open shrubland to shrubland over *Triodia pungens, (T. vanleeuwenii)* scattered hummock grasses to very open hummock grassland

P2
Acacia aptaneura, A. pruinocarpa, A. tetragonophylla scattered tall shrubs to tall open shrubland over *Eremophila forrestii* subsp. *forrestii, A. synchronicia* scattered shrubs over *Ptilotus obovatus, Sida fibulifera* scattered low shrubs over *Aristida latifolia, Astrebla elymoides, Eragrostis xerophila* open tussock grassland to tussock grassland

P3
Acacia aptaneura, A. catenulata subsp. *occidentalis, A. pruinocarpa* tall open shrubland to tall shrubland over *Eremophila forrestii* subsp. *forrestii* scattered shrubs to open shrubland over *Triodia pungens* open hummock grassland to hummock grassland

P4
Acacia pruinocarpa, A. aptaneura, A. catenulata subsp. *occidentalis* tall open shrubland to tall shrubland over *Rhagodia eremaea* scattered shrubs

Special Cases

HD - Area cleared of vegetation

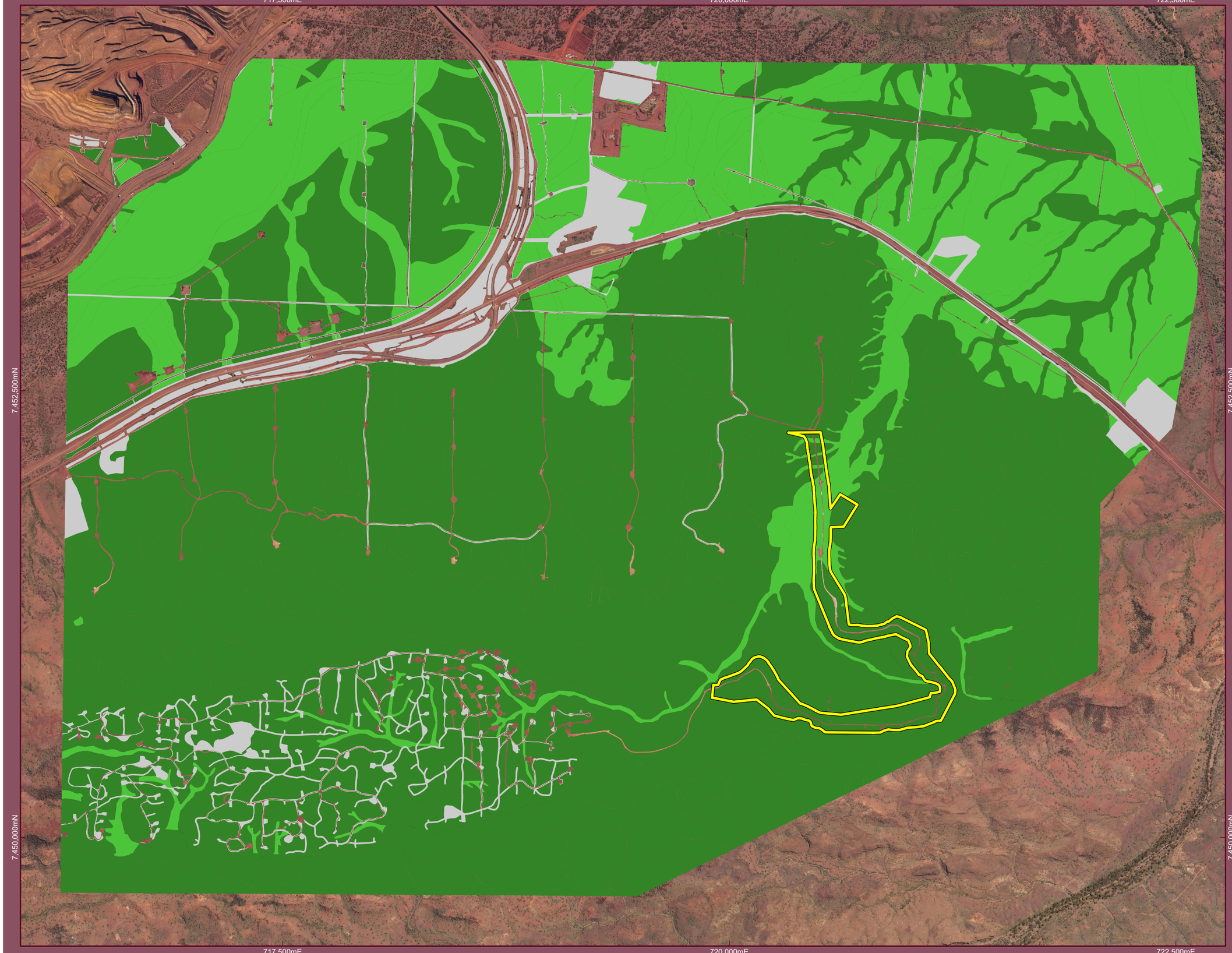
717,500mE

720,000mE

722,500mE

7,452,500mN

7,450,000mN



Legend

Proposal Area

Vegetation Condition

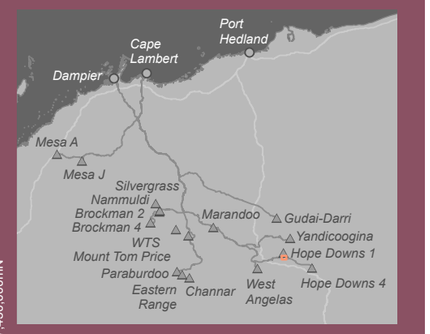
1 - Excellent

0.8 - Very Good

0.1 - Cleared

Drawn: D. von Holdt
Plan: RTIO-1118309v1
Date: June 2025

Checked by: A.Coulson
Proj: GDA 1994 MGA Zone 50
GIS.Team@riotinto.com



RioTinto

Figure 4: Vegetation Condition

0 0.25 0.5 0.75 1

kilometres

Scale: 1:20,000 @A3

N

710,000mE
715,000mE
720,000mE
725,000mE
7,455,000mN
7,450,000mN
7,445,000mN

Legend

Proposal Area

Tier 2 Flora

- *Acacia ? subtiliformis*
- *Acacia bromilowiana*
- *Acacia subtiliformis*
- *Aristida lazaridis*
- *Eremophila magnifica* subsp. Magnifica
- *Eremophila magnifica* subsp. Velutina
- *Eremophila naaykensii*
- *Eremophila* sp. West Angelas (S. van Leeuwen 4068)
- *Eremophila youngii* subsp. Lepidota
- *Goodenia lyrata*
- *Goodenia* sp. East Pilbara (A.A. Mitchell PRP 727)
- *Grevillea saxicola*
- *Hibiscus* sp. Gurinbiddy Range (M.E. Trudgen MET 15708)
- *Ipomoea racemigera*
- *Isotropis forrestii*
- *Lepidium catapycnon*
- *Oxalis* sp. Pilbara (M.E. Trudgen 12725)
- *Ptilotus mollis*
- *Rhynchosia bungarensis*
- *Rostellularia adscendens var. latifolia*
- *Stylidium weeliwolli*
- *Triodia* sp. Mt Ella (M.E. Trudgen 12739)
- *Urochloa mosambicensis*

Drawn: D. von Holdt
Plan: RTIO-1118309v1
Date: June 2025

Checked by: A.Coulson
Proj: GDA 1994 MGA Zone 50
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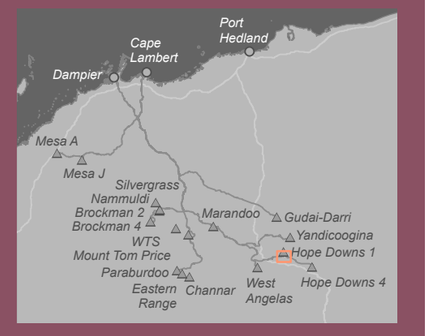

RioTinto

Figure 5: Priority Flora Records

0 0.5 1 1.5 2
kilometres
Scale: 1:60,000 @A3

N

717,500mE

720,000mE

722,500mE

7,452,500mN

7,450,000mN

Legend

Proposal Area

Fauna Habitat

- Alluvial Plain
- Breakaway
- Gorge/Gully
- Low Hills and Slopes
- Major Drainage
- Minor Drainage
- Mulga Woodland
- Rocky Hill
- Stony Plain
- Cleared

Drawn: D. von Holdt
Plan: RTIO-1118309v1
Date: June 2025

Checked by: A.Coulson
Proj: GDA 1994 MGA Zone 50
GIS.Team@riotinto.com

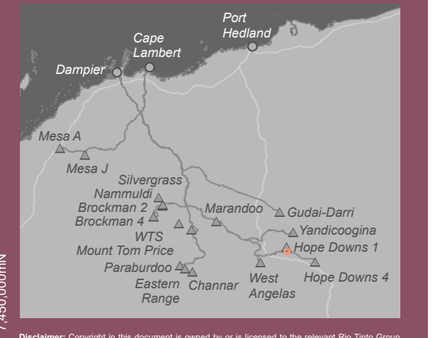

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Figure 6: Fauna Habitats

0 0.25 0.5 0.75 1

kilometres

N

Scale: 1:20,000 @A3

6. Tables

Table 1: Vegetation types of the Proposal Area.

Description	Survey Area Extent		Proposal Area Extent		Photograph
	Ha	%	Ha	%	
Vegetation of Drainage Lines **D1:** *Corymbia hamersleyana* sens. lat., *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees to low open woodland over *Petalostylis labicheoides*, *Acacia monticola, A. maitlandii* scattered tall shrubs to tall shrubland over *Dodonaea lanceolata* var. *lanceolata, Androcalva luteiflora* scattered shrubs to open shrubland over *Triodia pungens* very open hummock grassland to open hummock grassland with *Themeda triandra*, *Eriachne mucronata* very open tussock grassland to open tussock grassland. **Condition**: Very Good.	2,546	6.89	4.59	11.53	
Vegetation of the Hills and Slopes **H1:** *Eucalyptus leucophloia* subsp. *leucophloia*, *Corymbia hamersleyana* sens. lat. scattered low trees to low open woodland over *Petalostylis labicheoides, Senna glutinosa* subsp. *glutinosa* scattered tall shrubs over *Gompholobium oreophilum*, *Acacia hilliana, A. spondylophylla* low open shrubland to low shrubland over *Triodia vanleeuwenii*, *T. wiseana*, *T. pungens* open hummock grassland with *Amphipogon sericeus* scattered tussock grasses. **Condition**: Excellent.	1,628	4.41	12.59	31.62	
Vegetation of the Hills and Slopes **H3:** *Corymbia deserticola* subsp. *deserticola* scattered low trees over *Acacia inaequilatera*, *Hakea chordophylla* scattered tall shrubs to tall open shrubland over *Senna glutinosa* subsp. *pruinosa* scattered shrubs over *Triodia vanleeuwenii* open hummock grassland with *Amphipogon sericeus* scattered tussock grasses to very open tussock grassland. **Condition**: Excellent.	917	2.48	2.66	6.68	

Description	Survey Area Extent		Proposal Area Extent		Photograph
	Ha	%	Ha	%	
Vegetation of the Hills and Slopes **H4:** *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Senna glutinosa* subsp. *glutinosa*, *S. glutinosa* subsp. *pruinosa* scattered shrubs over *Triodia vanleeuwenii* and/or *T. wiseana* open hummock grassland to hummock grassland. **Condition**: Excellent	1,221	3.31	14.92	37.48	
Vegetation of Plains **P1:** *Acacia aptaneura*, *A. catenulata* subsp. *occidentalis*, (*A. pruinocarpa*) tall shrubland to tall open scrub over *Eremophila forrestii* subsp. *forrestii* open shrubland to shrubland over *Triodia pungens*, (*T. vanleeuwenii*) scattered hummock grasses to very open hummock grassland. **Condition**: Very Good.	1,077	2.91	0.15	0.38	
Cleared	1,233	2.90	4.90	12.31	N/A

*Note that the table below contains only the vegetation types found in the Proposal Area. For a list of the remaining vegetation communities found in the adjacent areas, please refer to Astron (2020b).

Table 2: Fauna habitat types of the Proposal Area.

Description	Survey Area Extent		Proposal Area Extent		Photograph
	Ha	%	Ha	%	
Breakaway: Breakaway or ridge line, falling away to steep scree slope or drainage. Microhabitats: Caves (roost/feed caves), cracks and crevices, sheltered leaf litter. Note: No significant microhabitats including caves were recorded within the Proposal Area. High value to a low diversity of fauna species that are likely to reside in Breakaway habitats. High value to conservation significant species including Northern Quoll, Pilbara Leaf-nosed Bat and Ghost Bat species as they are likely to roost and den within this habitat type.	298.5	0.8%	0.92	2.30	
Low hills and slopes: Low stony hills and slopes with dissected valleys and drainage on stony soils Microhabitats: Termite mounds, *Triodia* hummocks, minimal leaf litter Low value to a wide spectrum of fauna species that are likely to reside within these habitats. Low value to target conservation significant species as this habitat type offers minimal ecological value to these species.	16,472.6	44.6	16.93	42.54	
Minor Drainage: Open drainage areas on stony soils. Water bodies only present during times of heavy inundation Microhabitats: Hollow bearing trees and logs, thick ground cover/ vegetation, deep leaf litter Moderate value to a wide spectrum of fauna species that are likely to reside in Minor Drainage habitats. Low value to target conservation significant species as they do not provide significant shelter.	1,648.9	4.5	4.59	11.53	

Description	Survey Area Extent		Proposal Area Extent		Photograph
	Ha	%	Ha	%	
Rocky Hill: Stony hills on high ranges with dissected valleys and gorges Microhabitats: Shallow overhangs, boulders and crevices Moderate value for target conservation significant species as they are likely to traverse and forage within these habitats. Moderate value to a low diversity of fauna species that are rocky habitat specialists.	2,921.2	7.9	12.46	36.68	
Disturbed: Cleared areas from mining and pastoralism activities Microhabitats: None Little value as fauna habitat.	4,891.1	13.2	4.9	6.94	

Note that the table below contains only the fauna habitat types found in the Clearing Permit Area. For a list of the remaining fauna habitat types found in the adjacent areas, please refer to (Astron, 2020a)