



# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

Permit number:	10311/1
Permit type:	Purpose permit
Applicant name:	Sayona Mining Limited
Application received:	23 August 2023
Application area:	0.35 hectares
Purpose of clearing:	Mineral exploration
Method of clearing:	Mechanical removal
Tenure:	Exploration Licence 80/4511
Location (LGA area/s):	Shire of Halls Creek
Colloquial name:	East Kimberley graphite project

### 1.2. Description of clearing activities

Sayona Mining Limited proposes to clear up to 0.35 hectares of native vegetation within a boundary of approximately 38.69 hectares, for the purpose of mineral exploration. The project is located approximately 105 kilometres north-east of Halls Creek, within the Shire of Halls Creek.

The application is to allow for drilling of four drill holes for graphite exploration.

### 1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	30 November 2023
Decision area:	0.35 hectares of native vegetation

### 1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 23 August 2023. DMIRS advertised the application for a public comment for a period of 21 days, and one submission was received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix F), supporting information provided by the applicant (Appendix E), the clearing principles set out in Schedule 5 of the EP Act (Appendix DC), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3).

The assessment identified that the proposed clearing may result in:

- 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.

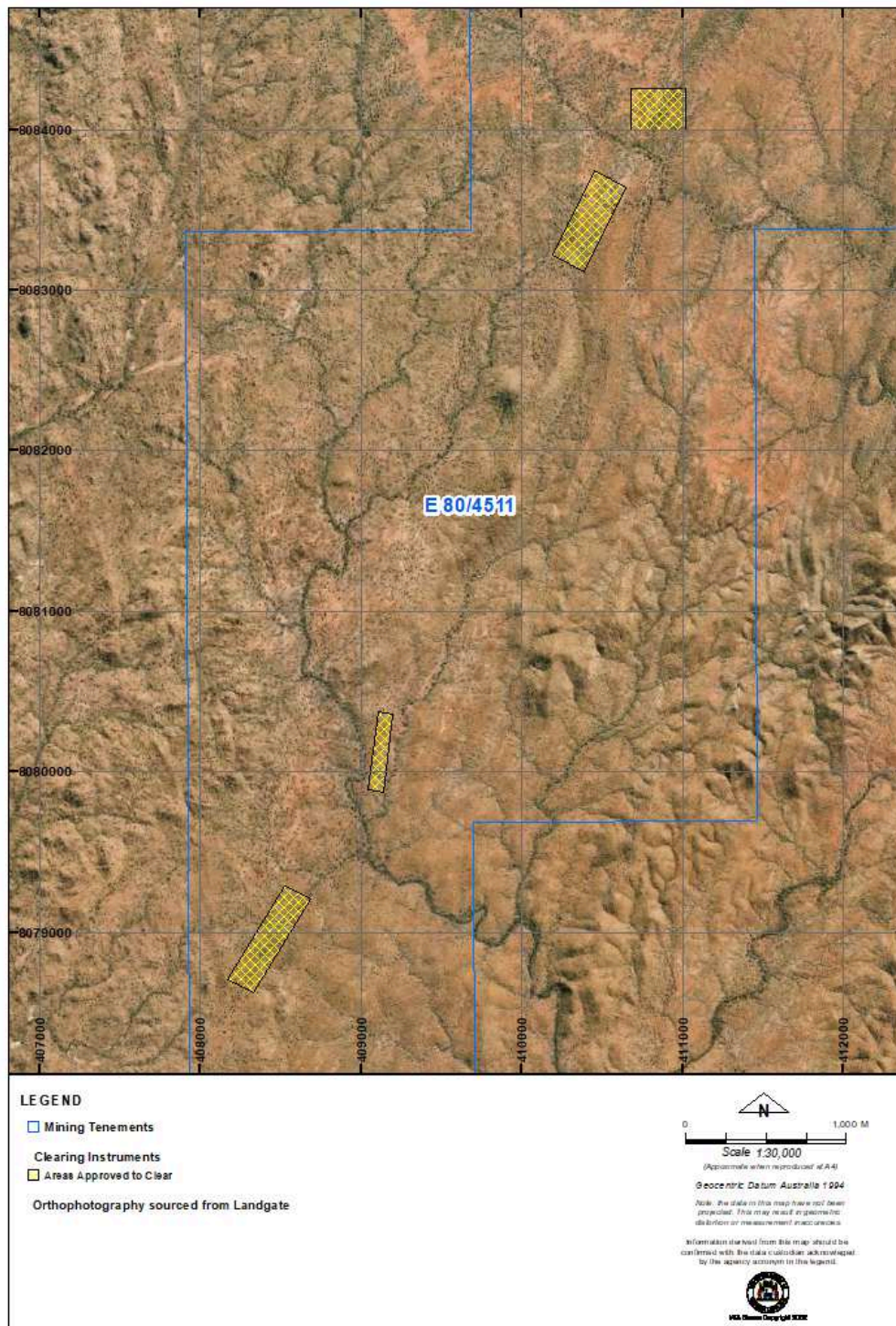
After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- commence mineral exploration no later than three months after undertaking clearing to reduce the risk of erosion.

## 1.5. Site map

A site map of proposed clearing is provided in Figure 1 below.



**Figure 1. Map of the application area. The yellow area indicates the area within which conditional authorised clearing can occur 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)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)

### **3. Detailed assessment of application**

#### **3.1. Avoidance and mitigation measures**

The drill holes will be located in areas adjacent to existing tracks which reduces the requirement for track clearing. The drilling sites will also be located in areas which have been previously cleared (see Appendix E).

#### **3.2. Assessment of impacts on environmental values**

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The vegetation within the application area may provide habitat for conservation significant flora and fauna species (GIS Database). However, the vegetation and habitat features within the application area are not restricted and are common in the local area (50 kilometres) (GIS Database). The land systems mapped within the application area may be susceptible to erosion if cleared (Schoknecht and Payne, 2010). The proposed clearing of 0.35 hectares across four separate areas for exploration drilling is not likely to have a significant environmental impact.

The assessment against the clearing principles (see Appendix C) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise, hygiene and erosion management conditions.

#### **3.3. Relevant planning instruments and other matters**

The clearing permit application was advertised on 31 October 2023 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. There was one submission received in relation to this application stating no objections to the proposed clearing.

There is one native title claim over the area under application (DPLH, 2023). This claim has been determined by the Federal Court on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2023). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

- A Programme of Work approved under the *Mining Act 1978*.

It is the proponent's responsibility to liaise with the Department of Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

**End**

## Appendix A. Details of public submissions

Summary of comments	Consideration of comment
Submission received from the Shire of Halls Creek saying that there were no objections to the proposed clearing.	Submission noted.

## Appendix B. Site characteristics

### B.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. The surrounding area is uncleared native vegetation (GIS Database).
Ecological linkage	According to available databases, the application area does not contain any known or mapped ecological linkages (GIS Database).
Conservation areas	The closest conservation area is the Purnululu Conservation Reserve approximately 7 kilometres east of the application area (GIS Database).
Vegetation description	Beard vegetation associations have been mapped for the whole of Western Australia. The vegetation of the application area is broadly mapped as the following Beard vegetation association (GIS Database): 808 - Grasslands, curly spinifex, low tree savanna; snappy gum over curly spinifex.  No vegetation surveys have been undertaken over the application area.
Vegetation condition	Aerial imagery and photographs indicate the vegetation within the proposed clearing area is in excellent to poor condition (Trudgen, 1991).  The full Trudgen (1991) condition rating scale is provided in Appendix D. Representative photos are available in Appendix E.
Climate and landform	The application area is mapped within elevations of 400-450 metres AHD (GIS Database). The annual average rainfall (Halls Creek) is 575.4 millimetres (BoM, 2023).
Soil description	The soil is mapped as the following soil types (DPIRD, 2023): 312Ri5E: Very low gently undulating to rolling rises on granite. Red shallow loams, sometimes gravelly, over parent material of granite or gneiss; 312Ri5Q: Rises on metamorphic; 312Ri6E: Level to undulating plains on granite. Variable sands and loams, often shallow; 312Ri8L26: Drainage floors sometimes with channels on granite. Sandy loam duplexes; 314Do5Q: Gently undulating to rolling rises (9-30m relief) on metamorphic, sedimentary and volcanic rocks. Yellow/brown shallow sandy soils, stony soils and bare rock.
Land degradation risk	The majority of the application has been mapped as the Richenda land system with a small area mapped as the Dockrell land system (GIS Database). Drainage floors and lower slopes of the Richenda land system are moderately to highly susceptible to erosion (Schoknecht and Payne, 2010). The Dockrell land system has a low erosion risk (Schoknecht and Payne, 2010).
Waterbodies	There are no watercourses within the application area (GIS Database).
Hydrogeography	The application area is not within any public drinking water source areas. The mapped groundwater salinity is 500-1,000 milligrams per litre total dissolved solids which is described as marginal (GIS Database).
Flora	There are records of 35 priority flora within 50 kilometres of the application area (GIS Database).
Ecological communities	There are no records of any Threatened or Priority Ecological Communities within 20 kilometres of the application area (GIS Database).

Characteristic	Details
Fauna	There are records of 11 fauna of conservation significance within the local area most common species being the Peregrine Falcon with 20 records (GIS Database).

## B.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent Remaining %	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA Managed Lands
IBRA Bioregion - Central Kimberley	7,675,477	7,674,290	99	340,719	4
Beard vegetation associations - State					
808	1,201,800	1,201,483	99	10,603	1
Beard vegetation associations - Bioregion					
808	1,128,244	1,128,218	100	10,603	1

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), 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)	Are surveys adequate to identify? [Y, N, N/A]
<i>Acacia claviseta</i>	Priority 3	N	N	N	<20	N
<i>Acacia smeringa</i>	Priority 1	Y	Y	N	<25	N
<i>Acacia zatrichota</i>	Priority 2	Y	Y	N	<30	N
<i>Adiantum hispidulum</i> var. <i>hispidulum</i>	Priority 2	N	N	N	<30	N
<i>Aggregiflorum longifolium</i> subsp. <i>sativum</i>	Priority 3	N	N	N	<15	
<i>Blumea pungens</i>	Priority 2	N	N	N	<25	N
<i>Boronia jucunda</i>	Priority 1	Y	Y	Y	<20	N
<i>Boronia minutipinna</i>	Priority 2	N	N	N	<25	N
<i>Colocasia esculenta</i> var. <i>aquatilis</i>	Priority 3	N	N	N	<30	N
<i>Cucumis</i> sp. Bastion Range (A. A. Mitchell et al. AAM 10710)	Priority 1	N	Y	N	<15	N
<i>Cyperus flaccidus</i>	Priority 2	N	N	N	<35	N
<i>Dicarpidium</i> sp. Purnululu (K.A. Menkhorst 766)	Priority 2	N	Y	N	<35	N
<i>Doodia caudata</i>	Priority 2	N	N	N	<35	N
<i>Eriachne imbricata</i>	Priority 2	N	N	N	<25	N
<i>Euploca uniflora</i>	Priority 1	N	Y	N	<20	N
<i>Fimbristylis sieberiana</i>	Priority 3	Y	Y	Y	<50	N
<i>Glycine falcata</i>	Priority 3	N	Y	N	<20	N
<i>Glycine pullenii</i>	Priority 3	Y	Y	Y	<25	N
<i>Goodenia crenata</i>	Priority 3	Y	Y	Y	<25	N
<i>Grevillea miniata</i>	Priority 4	Y	Y	Y	<20	N

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)	Are surveys adequate to identify? [Y, N, N/A]
<i>Grevillea psilantha</i>	Priority 2	N	N	N	<25	N
<i>Hibiscus squarulosus</i>	Priority 1	Y	Y	Y	<15	N
<i>Kohautia australiensis</i>	Priority 2	Y	N	N	<50	N
<i>Leichardtia racemosa</i>	Priority 1	N	N	N	<20	N
<i>Lindernia eremophiloides</i>	Priority 2	N	N	N	<30	N
<i>Micraira</i> sp. Purnululu (M.D. Barrett & R. L. Barrett 1507)	Priority 1	N	N	N	<30	N
<i>Pentalepis trichodesmoides</i> subsp. <i>incana</i>	Priority 1	Y	Y	Y	<10	N
<i>Solanum carduiforme</i>	Priority 2	Y	Y	N	<30	N
<i>Stephania japonica</i> var. <i>japonica</i>	Priority 2	N	N	N	<25	N
<i>Synostemon rigidulus</i>	Priority 3	N	N	N	<30	N
<i>Taenitis pinnata</i>	Priority 2	N	N	N	<25	N
<i>Tephrosia</i> sp. Mistake Creek (A.C. Beauglehole 54424)	Priority 3	Y	Y	Y	<15	N
<i>Triodia bunglensis</i>	Priority 2	N	N	N	<25	N
<i>Triumfetta aspera</i>	Priority 2	N	Y	N	<30	N
<i>Triumfetta saccata</i>	Priority 1	Y	Y	N	<50	N

#### B.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
<i>Charadrius veredus</i> (Oriental Plover)	Migratory	N	N	<30	N
<i>Crocodylus johnstoni</i> (Australian Freshwater Crocodile)	Other Specially Protected	N	N	<40	N
<i>Chloebia gouldiae</i> (Gouldian Finch)	Priority 4	Y	Y	<15	N
<i>Falco hypoleucos</i> (Grey Falcon)	Vulnerable	Y	Y	<20	N
<i>Falco peregrinus</i> (Peregrine Falcon)	Other Specially Protected	Y	Y	<30	N
<i>Leggadina lakedownensis</i> (Northern short-tailed Mouse)	Priority 4	Y	Y	<20	N
<i>Lerista bunglebungle</i> (Bungle Bungle Robust Slider)	Priority 2	N	N	<30	N
<i>Macrostis lagotis</i> (Bilby)	Vulnerable	N	Y	<50	N
<i>Petropseudes dahli</i> (Rock Ringtail Possum)	Priority 3	N	N	<20	N
<i>Plegadis falcenllus</i> (Glossy Ibis)	Migratory	N	N	<20	N
<i>Vespadelus douglasorum</i> (Yellow-lipped cave Bat)	Priority 2	N	N	<30	N
<i>Wyulda squamicaudata</i> (Scaly-tailed Possum)	Priority 4	N	N	<15	N

## Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> <i>"Native vegetation should not be cleared if it comprises a high level of biodiversity."</i></p> <p><u>Assessment:</u></p> <p>There are no current records within the area proposed to be cleared of any locally or regionally significant flora, fauna, habitats, assemblages of plants (GIS Database). However, there has not been any flora or fauna surveys undertaken in the area.</p> <p>Based on the vegetation within the application area and known habitat preferences, there is potential for several species of priority flora to be present (Western Australian Herbarium, 1998-, GIS Database). The vegetation and landforms within the application area are not restricted and the species likely to be present are also generally found across a broader area or common habitats (Western Australian Herbarium, 1998-, GIS Database). Whilst the proposed clearing has the potential to impact priority flora, the proposed clearing of 0.35 hectares across several smaller discrete areas is not likely to have a significant impact on the extent or persistence of priority flora in the local area.</p>	Not likely to be at variance	No
<p><u>Principle (b):</u> <i>"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."</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared may contain habitat for conservation significant fauna. However, the habitat within the application area is common in the local area and does not contain any significant habitat features (e.g. gorges, caves, permanent water sources) (GIS Database). Any conservation significant fauna which utilise the area would only be using it as a small part of a larger range. The proposed clearing of 0.35 hectares is not likely to have a significant impact on local fauna species.</p>	Not likely to be at variance	No
<p><u>Principle (c):</u> <i>"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared is unlikely to contain habitat for flora species listed under the BC Act.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>"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."</i></p> <p><u>Assessment:</u></p> <p>There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database).</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> <i>"Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."</i></p> <p><u>Assessment:</u></p> <p>The extent of native vegetation in the local area is 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 remnant or a significant ecological linkage in the local area.</p>	Not at variance	No
<p><u>Principle (h):</u> <i>"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."</i></p> <p><u>Assessment:</u></p>	Not likely to be at variance	No



Assessment against the clearing principles	Variance level	Is further consideration required?
Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.		
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>There is one minor ephemeral drainage line which is mapped within the southern most polygon of the application area (GIS Database). Drainage lines are common throughout the local area and the proposed clearing is not likely to have a significant impact on surface water flows or riparian vegetation within the local area.</p>	At variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>Over 90% of the application area has been mapped as the Richenda land system (GIS Database). The drainage floors and some lower slopes of this land system are moderately to highly susceptible to erosion (Schoknecht and Payne, 2010). The application area is mostly on lower slopes with a small area of drainage floor present. Whilst this area may be susceptible to erosion, the clearing of 0.35 hectares in small discrete areas for exploration drilling is not likely to cause appreciable land degradation.</p> <p><u>Condition</u></p> <p>Potential impacts from erosion may be minimised by the implementation of a erosion management condition to ensure that any areas cleared are utilised for exploration and not left open to minimise erosion risk.</p>	May be at variance	No
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u></p> <p>There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). There are no permanent watercourses or wetlands within the area proposed to clear, however, there is one minor ephemeral watercourse within the permit area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to surface water flows.</p> <p>The groundwater salinity of the permit area has been broadly mapped as being 500 - 1,000 milligrams per litre total dissolved solids (GIS Database). The clearing of 0.35 hectares is unlikely to cause deterioration in the quality of underground water.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>There are no permanent water courses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region and temporary localised flooding may occur briefly following heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.</p>	Not likely to be at variance	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 scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

### Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

## Appendix E. Photographs of the vegetation



Plate 1 - Photograph of proposed drilling site within the northern most polygon of the application area.





Plate 2 – Photograph of proposed drilling site within the southern most polygon of the application area.

## Appendix F. Sources of information

### F.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Contours (DPIRD-073)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- 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)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)

- IBRA Vegetation Statistics
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Interim 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 – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

## F.2. References

- Bureau of Meteorology (BoM) (2023) Bureau of Meteorology Website – Climate Data Online, Halls Creek. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 7 November 2023).
- Department of Environment Regulation (DER) (2014) *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: [https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2\\_assessment\\_native\\_veg.pdf](https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf)
- Department of Planning, Lands and Heritage (DPLH) (2023) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 28 November 2023).
- Department of Primary Industries and Regional Development (DPIRD) (2023) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://dpiird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f> (Accessed 7 November 2023).
- Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. Available from: [https://dwer.wa.gov.au/sites/default/files/Procedure\\_Native\\_vegetation\\_clearing\\_permits\\_v1.pdf](https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.pdf)
- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Schoknecht, N. and Payne, A.L. (2010) Land Systems of the Kimberley Region, Western Australia. Department of Agriculture and Food, Western Australia. Technical Bulletin 98, 250p.
- Trudgen, M.E. (1991) Vegetation condition scale in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.
- Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 7 November 2023).

## 4. Glossary

### Acronyms:

<b>BC Act</b>	<i>Biodiversity Conservation Act 2016</i> , Western Australia
<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia (now DPLH)
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia (now DPIRD)
<b>DCCEEW</b>	Department of Climate Change, Energy, the Environment and Water, Australian Government
<b>DBCA</b>	Department of Biodiversity, Conservation and Attractions, Western Australia
<b>DER</b>	Department of Environment Regulation, Western Australia (now DWER)
<b>DMIRS</b>	Department of Mines, Industry Regulation and Safety, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia (now DMIRS)
<b>DoEE</b>	Department of the Environment and Energy (now DCCEEW)
<b>DoW</b>	Department of Water, Western Australia (now DWER)
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia (now DBCA)
<b>DPIRD</b>	Department of Primary Industries and Regional Development, Western Australia



<b>DPLH</b>	Department of Planning, Lands and Heritage, Western Australia
<b>DRF</b>	Declared Rare Flora (now known as Threatened Flora)
<b>DWER</b>	Department of Water and Environmental Regulation, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>TEC</b>	Threatened Ecological Community

### **Definitions:**

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

#### **T            Threatened species:**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

**Threatened fauna** is that subset of ‘Specially Protected Fauna’ listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

**Threatened flora** is that subset of ‘Rare Flora’ listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

#### **CR            Critically endangered species**

Threatened species considered to be “*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

#### **EN            Endangered species**

Threatened species considered to be “*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

#### **VU            Vulnerable species**

Threatened species considered to be “*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

### **Extinct Species:**

#### **EX            Extinct species**

Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

#### **EW            Extinct in the wild species**

Species that “*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at*

appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

### **Specially protected species:**

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

#### **MI Migratory species**

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

#### **CD Species of special conservation interest (conservation dependent fauna)**

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

#### **OS Other specially protected species**

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

#### **P Priority species:**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

#### **P1 Priority One - Poorly-known species**

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

#### **P2 Priority Two - Poorly-known species**

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

**P3 Priority Three - Poorly-known species**

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

**P4 Priority Four - Rare, Near Threatened and other species in need of monitoring**

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

**Principles for clearing native vegetation:**

- (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
- (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.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.
- (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.
- (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.
- (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- (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.
- (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.
- (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.