Department of Energy, Mines, Industry Regulation and Safety
GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	7408/5
Permit type:	Purpose Permit
Applicant name:	Mt Morgans WA Mining Pty Ltd
Application received:	11 September 2024
Amendment area:	765 hectares
Purpose of clearing:	Mineral Production and Associated Activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Leases 39/18, 39/36, 39/228, 39/236, 39/272, 39/273, 39/282, 39/305, 39/390, 39/395, 39/403, 39/513, 39/1107, 39/1120, 39/1129 Miscellaneous Licences 39/57, 39/244
Location (LGA area/s):	Shire of Laverton
Colloquial name:	Mt Morgans Gold Project

1.2. Description of clearing activities

Mt Morgans WA Mining Pty Ltd proposes to clear up to 765 hectares of native vegetation within a boundary of approximately 5,444 hectares, for the purpose of mineral production and associated activities. The project is located approximately 30 kilometres southwest of Laverton, within the Shire of Laverton.

Clearing permit CPS 7408/1was granted by the Department of Mines and Petroleum (Now the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS)), on 16 February 2017 and was valid from 11 March 2017 to 31 December 2024. This permit authorised the clearing of up to 633 hectares of native vegetation within a boundary of approximately 2,981 hectares, for the purpose of mineral production and associated activities.

CPS 7408/2 was granted on 10 October 2017, amending the permit to include an additional 107 hectares of clearing, increasing the total amount of authorised clearing from 633 hectares to 740 hectares, and include additional tenure. CPS 7408/3 was granted on 21 May 2020, amending the permit to increase the permit boundary by 1,855 hectares and to add tenure. CPS 7408/4 was granted on 27 May 2022 to increase the amount of clearing authorised by 25 hectares and increase the permit boundary by 21.5 hectares, for the expansion of an open pit and waste rock dump.

CPS 7408/4 is valid from 11 March 2017 to 31 December 2024. On 11 September 2024, the proponent applied to amend the permit to further extend the permit duration by three years. At the time of this aplication the proponent had cleared a 561 hectares of the 765 hectres approved. No further clearing has occurred since 2022 (Genesis Minerals, 2024).

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	XX December 2024
Decision area:	765 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51KA and 51O of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) on 11 September 2024. DEMIRS advertised the application for a public comment for a period of 7 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix A), relevant datasets (Appendix D), supporting information provided by the applicant, including the results of a flora and vegetation survey (Appendix D), the clearing principles set out in Schedule 5 of the EP Act (Appendix B), and 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 wind erosion.

The assessment has not changed since the assessment for CPS 7408/4, The Delegated Officer determined that the proposed extension of the permit duration by three tears is not likely to lead to an unacceptable risk to environmental values.

1.5. Site map

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

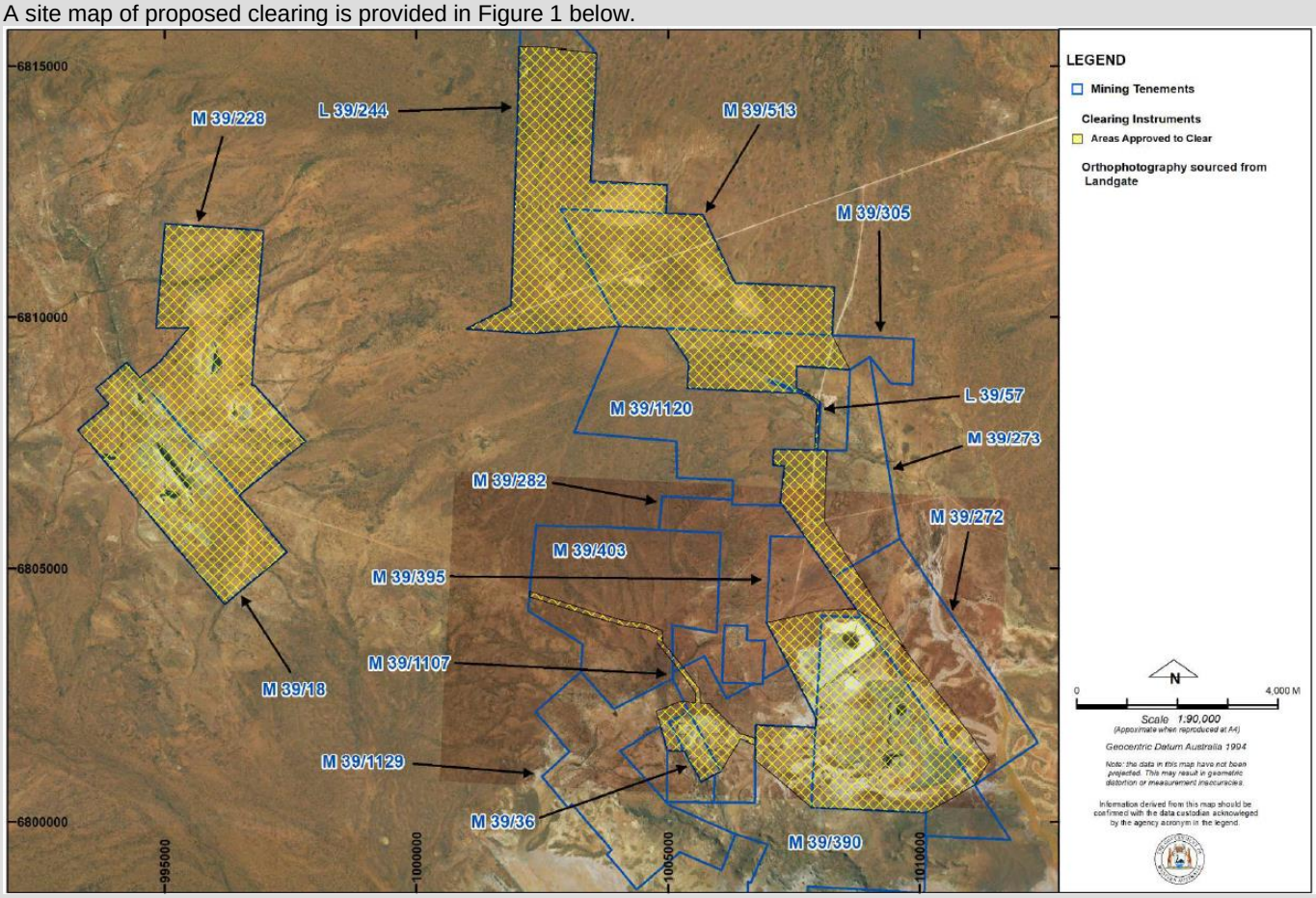

Figure 1. Map of the amendment area. The yellow area indicates the area within which conditional authorised clearing can occur under the granted clearing permit.

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)
- *Mining Act 1978* (WA)

Relevant agreements (treatys) considered during the assessment include:

- Japan-Australia Migratory Bird Agreement
- China-Australia Migratory Bird Agreement
- Republic of Korea-Australia Migratory Bird Agreement

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)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

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 C) reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 7408/4.

No new biological information has been provided in support of this amendment application. During the assessment of this application, desk top data was reviewed from the most recent amendment report (7408/4). The review confirmed, the environmental values of the amendment area are well understood, and supported by multiple biological studies undertaken over various years by NVS (2016; 2019) and Western Wildlife (2016; 2020). As this current proposed amendment is for an increase in permit duration only, and no clearing has occurred since 2022, conditions currently imposed on clearing permit CPS 7408/4 are considered adequate to manage the impacts of the clearing.

A review of current environmental information (Appendix A; Appendix B) reveals that the assessment against the clearing principles has not changed from the Clearing Permit Decision Report CPS 7408/4.

3.3. Relevant planning instruments and other matters

There is one native title claim (WC2019/002) over the area under application (DPLH, 2024). This claim has been registered with the National Native Title Tribunal 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 a number of registered Aboriginal Sites of Significance within the application area (DPLH, 2024). 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 that may be required for the proposed land use include:

- A Mining Proposal / Mine Closure Plan 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. Site characteristics

A.1 Site characteristics

Characteristic	Details
Local context	The project is located approximately 30 kilometres southwest of Laverton, within the Shire of Laverton in the extensive land use zone. The amendment area is surrounded by extensive tracts of uncleared land. The predominant land use in the region is extensive pastoralism and mining.
Conservation areas and Ecological linkage	The amendment area is not located within any conservation areas. Goongarrie National Park is located approximately 127 kilometres south-southwest of the amendment area. There are no mapped ecological linkages in the local area (a radius of 50 Kilometres from the boundary of the amendment area) (GIS Database).
Vegetation description	The vegetation of the amendment area is broadly mapped as the following Beard vegetation associations: 18 - Low woodland; mulga (Acacia aneura); 39 - Shrublands; mulga scrub; and 389 - Succulent steppe with open low woodland; mulga over saltbush (GIS Database). A level 1 flora and vegetation survey of the amendment areas and surrounding vegetation, covering a total area of approximately 4,641 hectares was carried out by Native Vegetation Solutions (NVS) in March (NVS, 2016). A follow up targeted survey was completed by NVS on 3 August 2017 covering sections of the bore field not included in the 2016 assessment (Mt Morgans, 2017). A third flora and vegetation survey over an additional 498 hectares was undertaken in September 2019 by Native Vegetation Solutions covering the Mt Marven and Phoenix Ridge areas (NVS, 2019). The following vegetation types were recorded over various parts of the amendment area (NVS, 2016; Mt Morgans, 2017; NVS, 2019): **Rehabilitation Vegetation** - *Acacia aneura, Acacia mulganeura, Eucalyptus cleandiorium, Eucalyptus campaspe, Eucalyptus torquata, Maireana pyramidata, Atriplex vesicaria* and *Senna artemisioides* subsp*. filifolia;* ***Acacia aneura* shrubland** - *Acacia aneura, Acacia mulganeura, Acacia pteraneura, Acacia craspedocarpa, Senna cardiosperma, Senna glutinosa* subsp*. chatelainiana, Eremophila platycalyx* subsp. *platycalyx* and *Eremophila compacta;* ***Tecticornia* shrubland** - *Tecticornia* species*, Maireana glomerifolia, Sclerolaena cuneata, Atriplex vesicaria, Melaleuca interioris* and *Casuarina obesa;* ***Kopai* dunes with *Tecticornia* and *Casuarina*** – *Casuarina obesa, Casuarina pauper, Acacia burkittii, Grevillea berryana, Exocarpos aphyllus, Tecticornia indica* subsp*. bidens, Tecticornia halocnemoides* subsp*. tenuis* and *Tecticornia disarticulata;* ***Acacia* shrubland on emergent hills** - *Acacia aneura, Acacia pteraneura, Acacia grasbyi, Acacia tetragonophylla, Cratystylis subspinescens, Scaevola spinescens, Senna cardiosperma, Maireana sedifolia,* and *Eremophila oppositifolia* subsp*. angustifolia;* ***Acacia* over Chenopod shrubland** - *Acacia aneura, Acacia mulganeura, Acacia pteraneura, Maireana pyramidata, Sclerolaena diacantha, Tecticornia indica* subsp*. bidens, Tecticornia peltata, Tecticornia undulata, Cratystylis subspinescens, Atriplex vesicaria* and *Atriplex bunburyana;* ***Acacia* over *Eremophila* and *Sclerophyll* shrubland on BIF Ridges** - *Acacia aneura, Eremophila georgei, Eremophila latrobei* subsp*. latrobei, Eremophila margarethae, Eremophila platycalyx* subsp*. platycalyx, Scaevola spinescens, Senna artemisioides* subsp*. helmsii, Solanum lasiophyllum* and *Dodonaea rigida;* ***Tecticornia* shrubland within Laterite breakaways** - *Tecticornia disarticulata, Tecticornia indica* subsp*. bidens, Tecticornia peltata, Frankenia setosa, Dodonaea lobulata, Pittosporum angustifolium* and *Eremophila pantonii;* ***Acacia mulganeura* over *Eremophila forrestii* and grasslands** - *Acacia mulganeura, Acacia caesaneura, Acacia aneura, Acacia craspedocarpa, Eremophila forrestii* subsp*. forrestii, Scaevola spinescens, Eragrostis eriopoda, Eremophila platythamnos* subsp*. exotrachys, Crenidium spinescens* and *Triodia basedowii.* ***Acacia aneura* creekline vegetation** - *Acacia aneura, Acacia caesaneura, Acacia mulganeura, Acacia tetragonophylla, Eremophila oppositifolia* subsp*. angustifolia, Scaevola spinescens, Ptilotus obovatus, Senna artemisioides* subsp*. sturtii, Lepidium platypetalum,* and *Spartothamnella teucriiflora;* ***Acacia* shrublands on undulating hills** - *Acacia resinimarginea, Acacia aneura, Calytrix erosipetala, Eremophila georgei, Eremophila forrestii* subsp*. forrestii, Dodonaea rigida,*

Characteristic	Details
	Chrysocephalum puteale, Eremophila latrobei subsp*. filiformis* and *Senna artemisioides* subsp*. helmsii;* ***Acacia aneura* woodland over *Maireana sedifolia* and *Acacia victoriae* mixed shrubland** - *Acacia aneura, Acacia pteraneura, Maireana sedifolia, Atriplex bunburyana, Maireana tomentosa, Acacia victoriae* subsp*. victoriae, Cratystylis subspinescens, Eremophila miniata, Solanum plicatile, Solanum austropiceum, Acacia kempeana* and *Eremophila longifolia;* ***Acacia* shrubland on lower breakaways** - *Acacia kalgoorliensis, Tecticornia peltata, Tecticornia pergranulata* subsp. *elongata, Frankenia georgei* and *Sida calyxhymenia;* ***Acacia oswaldii* shrubland** - *Acacia oswaldii, Brachychiton gregorii, Acacia ligulata, Acacia caesaneura, Jacksonia arida, Eragrostis eriopoda, Enneapogon caerulescens, Gunniopsis quadrifida* and *Pimelea microcephala,* subsp*. microcephala;* ***Acacia burkittii* shrubland** - *Acacia burkittii, Grevillea berryana, Acacia victoriae* subsp*. victoriae, Acacia tetragonophylla, Senna artemisioides* subsp*. filifolia, Acacia ayersiana, Acacia caesaneura, Melaleuca interioris* and *Enneapogon caerulescens;* **Open *Melaleuca* shrubland** - *Melaleuca hamata, Duma florulenta, Spartothamnella teucriiflora* and *Rhagodia eremaea;* ***Melaleuca sheathiana* over *Tecticornia* shrubland** - *Melaleuca sheathiana* over *Tecticornia shrubland;* ***Tecticornia* Shrubland and *Acacia* over Chenopod shrubland** - *Tecticornia* species*, Maireana glomerifolia, Sclerolaena cuneate, Atriplex vesicaria, Melaleuca interioris* and *Casuarina* *Obesa, Acacia aneura, Acacia mulganeura, Acacia pteraneura, Maireana pyramidata, Sclerolaena diacantha, Tecticornia indica* subsp*. bidens, Tecticornia peltata, Tecticornia undulata, Cratystylis subspinescens, Atriplex vesicaria* and *Atriplex bunburyana;* ***Acacia* over Chenopod shrubland and Open *Melaleuca* shrubland** – *Melaleuca hamata, Duma florulenta, Spartothamnella teucriiflora* and *Rhagodia eremaea, Acacia aneura, Acacia mulganeura, Acacia pteraneura, Maireana pyramidata, Sclerolaena diacantha, Tecticornia indica* subsp*. bidens, Tecticornia peltata, Tecticornia undulata, Cratystylis subspinescens, Atriplex vesicaria* and *Atriplex bunburyana;* ***Melaleuca pauper* over *Tecticornia* shrubland** - *Melaleuca pauper* over *Tecticornia* shrubland*;* ***Acacia* shrublands on Greenstone rocky hills** - *Acacia pteraneura, Acacia ligulata, Acacia prainii, Senna artemisioides* subsp. *filifolia, Eremophila pantonii, Hakea recurva* subsp*. recurva, Maireana sedifolia, Senna artemisioides* subsp*. sturtii, Scaevola spinescens* and *Hakea preissii;* ***Acacia* over *Maireana sedilfolia* and other mixed shrublands** - *Acacia aneura, Acacia pteraneura, Maireana sedifolia, Atriplex bunburyana, Maireana tomentosa, Cratystylis subspinescens Eremophila miniata, Solanum plicatile, Solanum austropiceum, Acacia kempeana* and *Eremophila longifolia;* ***Tecticornia* shrubland on lower breakways** - *Tecticornia disarticulata, Tecticornia indica* subsp*. bidens, Tecticornia peltata* and *Maireana triptera;* ***Acacia aneura* shrubland over Banded Ironstone Hills** - *Acacia aneura, Acacia craspedocarpa, Acacia mulganeura, Acacia tetragonophylla, Psydrax suaveolens, Senna artemisioides* subsp*. filifolia, Dodonaea petiolaris, Dodonaea rigida* and *Eremophila platycalyx* subsp*. Platycalyx;* ***Acacia aneura* and *Acacia ramulosa* shrubland** - *Acacia aneura, Acacia mulganeura, Acacia ramulosa* subsp*. ramulosa, Acacia grasbyi, Senna artemisioides* subsp*. artemisioides, Senna artemisioides* subsp*. helmsii, Eremophila platycalyx* subsp*. platycalyx, Dodonaea rigida* and *Scaevola spinescens.*
Vegetation condition	Vegetation surveys (NVS, 2016; NVS, 2019) indicate the vegetation within the amendment area is in very good, good, degraded, and completely degraded (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix C.
Climate and landform	Contour mapping of the amendment area indicates elevations 120.5 and 123 metres AHD. The climate of the region is arid, with an average rainfall of approximately 281.3 millimetres per year (BoM, 2022; CALM, 2002).
Soil description and Land degradation risk	The amendment area is located within the Brooking, Carnegie, Cyclops, Gundockerta, Hootanui, Jundee, Laverton, Leonora, Melaleuca, Mileura, Monk, Nubev, Sunrise, and Yilgangi land systems. Most of these land systems are mapped as relatively resistant to erosion provided their stony mantles are not disturbed, however disturbance activities may cause wind, water, and/or soil erosion.

Characteristic	Details
Waterbodies	Lake Cray is a large ephemeral salt lake system intersects the most southeast corner of the amendment area. There are multiple ephemeral drainage lines that intersect the remaining amendment area.
Hydrogeography	The amendment area is not within any legislated surface water area. The amendment area is located within the Goldfields Ground Water Area proclaimed under the Rights in Water and Irrigation Act 1914. The mapped groundwater salinity is 1000 to >35,000 milligrams per litre total dissolved solids which is described as brackish to hypersaline water quality.
Flora	No previous surveys in the application area did not recorded any conservation significant flora species. One Priority 3 flora – *Olearia mucronate,* was recorded within the additional area included in the CPS 7408/4, amendment for an expansion of the clearing area in 2022.
Ecological communities	The application area intersects the Mount Morgan calcrete groundwater assemblage type on Carey palaeodrainage on Mt Weld Station Priority 1 Ecological Community.
Fauna	A desktop assessment identified 10 conservation significant fauna species that may occur within the application area due to prior records within 40 kilometres of the amendment area.

Appendix B. 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 A review of desktop data from previous amendment decision reports, did not determine any additional biodiversity values resulting form changes in biological records or conservation status. The area does transect the PEC Mount Morgan calcrete groundwater assemblage type on Carey palaeodrainage on Mt Weld Station. The assessment of the original application for the amendment area (CPS 7408/1) determined that the proposed clearing would not impact the above PEC.	Not likely to be at variance As per CPS 7408/4	No
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: A review of desktop data from previous amendment decision reports, did not determine any changes in fauna habitat values within the amendment area.	Not likely to be at variance As per CPS 7408/4	No
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: A review of desktop data from previous amendment decision reports, did not determine any changes in the conservation status of the flora assessed under previous decision reports.	Not likely to be at variance As per CPS 7408/4	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: A review of desk top data from previous amendment decision reports, did not determine any changes in the distribution or conservation status of threatened ecological communities within the amendment area.	Not likely to be at variance As per CPS 7408/4	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 extent of the mapped native vegetation in the local area is with the national objectives and targets for biodiversity conservation in Australia. The vegetation	Not at variance As per CPS 7408/4	No

Assessment against the clearing principles	Variance level	Is further consideration required?
proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.		
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 proposed clearing will not impact on the values of any or nearby conservation areas (GIS Database).	Not at variance As per CPS 7408/4	No
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: The vegetation type 'Tecticornia shrubland', identified in Appendix A, is considered to be riparian vegetation (NVS, 2016; Mt Morgans, 2022). This vegetation type represents a small part of the amendment area, a review of desktop data from previous amendment decision reports, indicate the above vegetation type is widespread and abundant outside of the amendment area (NVS, 2016).	At variance As per CPS 7408/4	No
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: A review of desk top data from previous amendment decision reports confirms land degradation risk has not increased since the assessment of the amendment area as per CPS 7408/3.	May be at variance As per CPS 7408/4	No
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: Given no clearing has occurred since 2022 (Genesis, 2024), it is unlikely the quality of surface water or underground water has deteriorated since the assessment of the local area under amendment CPS 7408/3.	Not likely to be at variance As per CPS 7408/4	No
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: Given no clearing has occurred since 2022 (Genesis, 2024), it is unlikely the unlikely the frequency and intensity of flooding increased since the assessment of the local area under amendment CPS 7408/4.	Not likely to be at variance As per CPS 7408/4	No

Appendix C. 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 Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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.

Condition	Description
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 D. Sources of information

D.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)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- 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
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- 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)

D.2. References

BoM (2024) Bureau of Meteorology Website – Climate Data Online, Laverton Aero. Bureau of Meteorology. http://www.bom.gov.au/climate/data/ (Accessed 02 December 2024).

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.

Department of Environment Regulation (DER) (2013) *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

Department of Planning, Lands and Heritage (DPLH) (2024) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS (Accessed 2 December 2024).

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

Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf

Environmental Protection Authority (EPA) (2020) Technical Guidance – Terrestrial Fauna Surveys. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf

Genesis Minerals Limited (2024) Genesis Minerals clearing Permit Report CPS 7408 2024, Report prepared by Mt morgans Genesis Minerals Limited, September 2024.
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
Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
Mt Morgan (2017) Purpose Permit Amendment to CPS 7408/1 – Assessment of clearing principles Mt Morgan Gold Project. Report prepared by Mt morgans WA Mining Party Ltd, August 2017.
Mt Morgan (2022) Purpose Permit Amendment to CPS 7408/3 – Assessment of clearing principles Mt Morgan Gold Project. Report prepared by Mt morgans WA Mining Party Ltd, March 2022.
NVS (2016) Level 1 Flora and Vegetation Survey Dacian Gold Ltd Mt Morgans Gold Project. Report prepared for Dacian Gold Limited, by Native Vegetation Solutions, July 2016
NVS (2019) Reconnaissance Flora and Vegetation Survey of BIF Ridge and Mount Marven Dacian Gold Ltd Mt Morgans Gold Project. Report prepared for Dacian Gold Limited, by Native Vegetation Solutions, November 2019.
Pringle, H.J., Gilligan, S.A., and van Vreeswyk, A.M. (1994), An inventory and condition survey of rangelands in the northeastern Goldfields, Western Australia. Department of Agriculture and Food, Western Australia, Perth. Technical Bulletin 87.
Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed 02 December 2024).
Western Wildlife (2016) Dacian Gold Limited Mt Morgans Gold Project: Level 1 Vertebrate Fauna Survey March 2016. Report prepared for Dacian Gold Limited, by Western Wildlife, July 2016.
Western Wildlife (2020) Dacian Gold Limited Mt Morgans Gold Project: Phoenix Ridge and Mt Marven Report Level 1 Vertebrate Fauna Survey July 2019. Report prepared for Dacian Gold Limited, by Western Wildlife, February 2020.

4. Glossary

Acronyms:

BC Act	*Biodiversity Conservation Act 2016,* Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DEMIRS)
DoEE	Department of the Environment and Energy (now DAWE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	*Environmental Protection Act 1986*, Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	*Rights in Water and Irrigation Act 1914*, Western Australia
TEC	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.