



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5035/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Doray Minerals Limited

1.3. Property details

Property: Mining Lease 51/870
Local Government Authority: Shire of Meekatharra
Colloquial name: Andy Well Gold Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
77.5		Mechanical Removal	Mineral Production

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 21 June 2012

2. Background

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>Beard vegetation associations have been mapped for the whole of Western Australia. Two Beard vegetation associations have been mapped within the application area (GIS Database):</p> <p>39: Shrublands; mulga scub; and</p> <p>29: Sparse low woodland; mulga, discontinuous in scattered groups.</p> <p>Mattiske Consulting Pty Ltd (2011) undertook a desktop survey and a flora and vegetation survey between 11 May and 14 May 2011 over the wider Andy Well exploration licence 51/1217 which includes the mining lease 51/870 and the proposed mining areas. A total of 69 sample sites were surveyed. Ten plant communities were identified within the survey area, three of which occur within the application area (Mattiske Consulting Pty Ltd, 2011):</p>	<p>Doray Minerals Limited has applied to clear up to 77.5 hectares within an application area of approximately 336 hectares for mineral production at the Andy Well Gold Project.</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);</p> <p>To</p> <p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).</p>	<p>The clearing application area is situated approximately 50 kilometres north-east of Meekatharra (GIS Database).</p> <p>The vegetation condition was derived from a survey conducted by Mattiske Consulting Pty Ltd (2011).</p>

Shrublands

S1: Open scrub of *Eremophila galeata* and emergent *Acacia aneura* var. *aneura* and *Acacia tetragonophylla* over *Ptilotus obovatus* var. *obovatus* and *Solanum lasiophyllum* over *Aristida contorta*, *Eriachne pulchella* subsp. *dominii* and other grass species on orange clay flats with variable quantities of quartz and other pebbles.

S2: Open scrub of *Acacia aneura* var. *aneura*, *Acacia pteraneura* and occasional *Acacia tetragonophylla* over mixed *Eremophila* species and *Ptilotus obovatus* var. *obovatus* over *Aristida contorta*, *Eriachne pulchella* subsp. *dominii* and *Dysphania kalpari* on orange sandy/loam to clay/loam flats with occasional coverage of pebbles.

Woodlands

W1: Woodland of *Acacia aneura* var. *aneura*, *Acacia ayersiana* and *Acacia tetragonophylla* over *Eremophila galeata* over *Ptilotus macrocephalus* over *Eragrostis pergracilis*, *Paspalidium basicladum* and other grass species and mixed herbaceous species on orange clay/loam flats.

3. Assessment of application against Clearing Principles

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

Comments **Proposal is not likely to be at variance to this Principle**

The application area is located within the Western Murchison subregion of the Murchison Interim biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). This subregion is characterised by Mulga low woodlands, often rich in ephemerals (usually with bunch grasses), on outcrop and fine textured Quaternary alluvial and eluvial surfaces (extensive hardpan washplains that dominate and characterise the subregion) mantling granitic and greenstone strata of the northern part of the Yilgarn Craton. Surfaces associated with the occluded drainage occur throughout with hummock grasslands on Quaternary sandplains, saltbush shrublands on calcareous soils and *Halosarcia* low shrublands on saline alluvia (CALM, 2002).

The vegetation within the application area consists of Beard vegetation associations 29 and 39 which are considered common and widespread through the Murchison region, with approximately 100% of the pre-European vegetation remaining (GIS Database; Government of Western Australia, 2011).

Mattiske Consulting Pty Ltd (2011) undertook a desktop survey and a flora and vegetation survey between 11 May and 14 May 2011 over the wider Andy Well exploration licence 51/1217 which includes the mining lease 51/870 and the proposed mining areas. A total of 172 vascular plant taxa from 77 plant genera and 29 plant families were recorded within the Andy Well Survey area. The majority of taxa were recorded within the Fabaceae (29 taxa), Poaceae (22 taxa), Scrophulariaceae (17 taxa), Chenopodiaceae (16 taxa) and Amaranthaceae (13 taxa) families.

Ten plant communities were identified within the survey area three of which occur within the application area (Mattiske Consulting Pty Ltd, 2011). None of the plant communities defined are listed as Threatened Ecological Communities or Priority Ecological communities.

No Threatened Flora species pursuant to subsection (2) of section 23F of the *Wildlife Conservation Act 1950* or Priority Flora were recorded within the survey area. No plant species listed under the *Environment Protection Biodiversity Conservation Act 1999* were found within the survey area (Mattiske Consulting Pty Ltd, 2011).

One potential Priority 1 species, *Euphorbia? sarcostemmoides* (P1), was recorded in the survey area, however as the specimen was immature and lacking key diagnostic characteristics the identification was not completed (Mattiske Consulting Pty Ltd, 2011). This potential Priority 1 species was located 2.7 kilometres southeast of the application area and as such is unlikely to be impacted by the proposed mining activities.

The condition of the vegetation ranged from degraded (in localized areas) to excellent based on the scale as defined by Keighery (1994). The degradation was a result of previous grazing activities, mineral exploration and proximity to the major highway and associated disturbances (Mattiske Consulting Pty Ltd, 2011). A total of three introduced (exotic) taxa were recorded within the Andy Well survey area. None of these are Declared Plants species pursuant to section 37 of the *Agricultural and Related Resources Protection Act 1976* (Mattiske Consulting Pty Ltd, 2011).

The application area contains three plant communities which are considered to be common and widespread and are well represented both locally and regionally (Government of Western Australia, 2011; Mattiske Consulting Pty Ltd, 2011). The application area does not contain any significant habitat features such as rocky outcrops, caves, rock piles, watercourses or waterholes (GIS Database, Mattiske Consulting Pty Ltd, 2011) and is therefore unlikely to represent a significant habitat for fauna.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology CALM (2002)
Mattiske Consulting Pty Ltd (2011)
Government of Western Australia (2011)
GIS Database
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation

(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 indigenous to Western Australia.

Comments Proposal is not likely to be at variance to this Principle

The vegetation within the application area consists of Beard vegetation associations 29 and 39 which are considered common and widespread throughout the Murchison region, with approximately 100% of the pre-European vegetation remaining (GIS Database; Government of Western Australia, 2011).

A survey conducted by Matiske Consulting Pty Ltd (2011) identified three plant communities within the application area which are considered to be well represented outside of the application area (Matiske Consulting Pty Ltd, 2011). The condition of the vegetation ranged from degraded (in localized areas) to excellent (Keighery, 1994). The degradation was a result of previous grazing activities, mineral exploration and proximity to the major highway and associated disturbances (Matiske Consulting Pty Ltd, 2011).

A search of DEC databases did not identify the likely presence of any conservation significant fauna within the local area (10 kilometre radius) and the application area does not contain any significant habitat features such as rocky outcrops, caves, rock piles, watercourses or waterholes (DEC, 2012; GIS Database, Matiske Consulting Pty Ltd, 2011). It is therefore unlikely that the application area represents a significant habitat for fauna.

Based on the above the proposed clearing is not likely to be at variance to this Principle.

Methodology DEC (2012)
Matiske Consulting Pty Ltd (2011)
Government of Western Australia (2011)
GIS Database
- IBRA WA (Regions - Sub Regions)
- Glengarry 80cm Orthophoto - Landgate 2006
- Pre-European Vegetation

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

Comments Proposal is not likely to be at variance to this Principle

According to available databases, there is no recorded Threatened Flora within the application area (GIS Database). Matiske Consulting Pty Ltd (2011) undertook a desktop survey and a flora and vegetation survey between 11 May and 14 May 2011 over the wider Andy Well exploration licence 51/1217 which includes the mining lease 51/870 and the proposed mining areas. No Threatened Flora species were recorded.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology Matiske Consulting Pty Ltd (2011)
GIS Database
- Threatened and Priority 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.

Comments Proposal is not likely to be at variance to this Principle

According to available databases, there are no recorded threatened ecological communities within the application area (GIS Database). Matiske Consulting Pty Ltd (2011) undertook a desktop survey and a flora and vegetation survey between 11 May and 14 May 2011 over the wider Andy Well exploration licence 51/1217 which includes the mining lease 51/870 and the proposed mining areas. No threatened ecological communities were recorded.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology Matiske Consulting Pty Ltd (2011)
GIS Database
- Threatened Ecological Sites Buffered

(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.

Comments Proposal is not at variance to this Principle

The application area is located within the Western Murchison subregion of the Murchison Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database) in which approximately 99.89% of the pre-European vegetation remains (Government of Western Australia, 2011).

The vegetation of the application area has been mapped as Beard vegetation associations 29 and 39 (GIS

Database) which have approximately 100% of their Pre-European vegetation extent remaining at the state and bioregional level (see table) (Government of Western Australia, 2011; GIS Database). These vegetation associations are considered common and widespread throughout the Murchison region. Therefore, the area proposed to be cleared does not represent a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Pilbara	28,120,586	28,044,823	~99.73	Least Concern	1.05
Beard veg assoc. – State					
29	7,903,991	7,900,200	~99.95	Least Concern	5.22
39	6,613,569	6,602,580	~99.93	Least Concern	12.11
Beard veg assoc. – Bioregion					
29	2,956,382	2,955,695	~99.98	Least Concern	3.16
39	1,148,400	1,138,064	~99.1	Least Concern	3.58

*Government of Western Australia (2011)

**Department of Natural Resources and Environment (2002)

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2011)
GIS Database
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation

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

Comments Proposal is not at variance to this Principle

There are no mapped watercourses or wetlands within the application area (GIS Database). A survey conducted by Mattiske Consulting Pty Ltd did not identify any plant communities growing in association with a watercourse or wetland (Mattiske Consulting Pty Ltd, 2011) within the application area.

Based on the above the proposed clearing is not at variance to this Principle.

Methodology Mattiske Consulting Pty Ltd (2011)
GIS Database
- Glengarry 80cm Orthophoto - Landgate 2006
- Hydrography, lakes
- Hydrography, linear
- Rivers

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

Comments Proposal is not likely to be at variance to this Principle

The application area comprises of the Yandil, Belele and Violet land systems (GIS Database). These land systems are generally not prone to erosion (Van Vreeswyk et.al, 2004) although drainage tracts of the Yandil, Belele and Violet land systems may be moderately susceptible to erosion once vegetative cover is removed (Van Vreeswyk et.al, 2004). There are no mapped drainage lines within the application area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology Van Vreeswyk et.al (2004)
GIS Database
- Rangeland Land System Mapping

(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.

Comments Proposal is not likely to be at variance to this Principle

The application area is not situated within a conservation area (GIS Database). The nearest conservation area is the Mooloogool former leasehold property now managed by the Department of Environment and Conservation which is located approximately 31 kilometres north-east of the application area (GIS Database)

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Database
- DEC Tenure

(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.

Comments Proposal is not likely to be at variance to this Principle

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The nearest PDWSA is the Meekatharra Water Reserve which is located approximately 30 kilometres south-west of the application area (GIS Database).

Groundwater within the application area is 'brackish' with average salinity ranging from 1000-3000 milligrams per Litre Total Dissolved Solids (GIS Database). Average annual rainfall is low at 300 millimetres (GIS Database), therefore surface water flow is likely to be low during normal seasonal rains. Furthermore, as the application area experiences an average annual evaporation rate of 3800 millimetres (GIS Database), during normal rainfall events, surface water within the application area is likely to evaporate quickly and removal of vegetation is unlikely to contribute to a rising saline watertable.

There are no mapped watercourses or wetlands within the application area (GIS Database) and the proposed clearing is unlikely to cause any deterioration in the quality of surface or underground water.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Database
- Evaporation Isopleths
- Groundwater Salinity
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSA's)
- Rainfall

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

Comments Proposal is not likely to be at variance to this Principle

The project area occurs within the arid climatic zone, with predominantly hot and persistent dry conditions (GIS Database).

Average annual rainfall is low at 300 millimetres (GIS Database), therefore surface water flow is likely to be low during normal seasonal rains. Furthermore, as the application area experiences an average annual evaporation rate of 3800 millimetres (GIS Database), during normal rainfall events, surface water within the application area is likely to evaporate quickly

The application area is within the Murchison River catchment area which covers approximately 1,038,649 hectares (GIS Database). Given the size of the area to be cleared (77.5 hectares) in relation to the size of the catchment area, the proposed clearing is not likely to increase the incidence or intensity of flooding.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Database
- Evaporation Isopleths
- Hydrographic Catchments - catchments
- Hydrography, linear
- Rainfall

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

There is one native title claim (WC99/1998) over the application area (GIS Database). 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 (ie. 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 (GIS Database). 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.

It is the proponents' responsibility to liaise with the Department of Environment and Conservation and the Department of Water, to determine whether a Works Approval, Water Licence, Bed and Banks permit, or any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 7 May 2012 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to this application.

Methodology

GIS Database
- Aboriginal Sites of Significance
- Native Title NNTT

4. References

- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Ord Victoria Plains 1 (OVP1 – Ord subregion) Department of Conservation and Land Management, Western Australia.
- DEC (2012) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, <<http://naturemap.dec.wa.gov.au>>.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Government of Western Australia (2011) 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.
- Mattiske Consulting Pty Ltd (2011) Flora and Vegetation of the Andy Well Survey Area. Prepared for Doray Minerals Limited. June 2011
- Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P., and Leighton, K.A. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia, Department of Agriculture, Western Australia.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, 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
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1** **Priority One - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P2** **Priority Two - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P3** **Priority Three - Poorly Known taxa:** taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
- P4** **Priority Four – Rare taxa:** taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
- R** **Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):** taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
- X** **Declared Rare Flora - Presumed Extinct taxa:** taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1** **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2** **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3** **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4** **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1** **Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2** **Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P3** **Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4** **Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- P5** **Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999*)

- EX** **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W)** **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- CR** **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN** **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU** **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- CD** **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.