



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5380/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Audax Minerals Pty Ltd**

1.3. Property details

Property: Exploration Licence 77/1793
Local Government Area: Shire of Yilgarn
Colloquial name: Cheriton's Find Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 17 January 2013

2. Site Information

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 and are useful to look at vegetation in a regional context. The following Beard vegetation association has been mapped within the application area (GIS Database):</p> <p>1068: Medium woodland; salmon gum, morel, gimlet & <i>Eucalyptus sheathiana</i>.</p> <p>A targeted significant flora survey was conducted over the application area by RPS in September 2012. This survey identified the following three vegetation types within the application area (RPS, 2012):</p> <p>V1: Low Woodland of <i>Eucalyptus</i> sp. over Tall Shrubland of <i>Acacia hemiteles</i>, <i>Acacia neurophylla</i> subsp. <i>erugata</i>, <i>Hakea francisiana</i> and <i>Allocasuarina campetris</i> over Low Shrubland of <i>Acacia erinacea</i>, <i>Eremophila grantica</i>, <i>Phebalium tuberculosum</i>, <i>Dodonaea stenozyga</i>, <i>Hibbertia eatoniae</i>, <i>Gastrolobium</i> sp. and <i>Daviesia argillaceae</i> over Very Open Herbfeld of <i>Dampiera tenuicaulis</i> var. <i>tenuicaulis</i>.</p> <p>V2: Open Woodland of <i>Eucalyptus</i> ? <i>capillosa</i> over Low Woodland of <i>Eucalyptus prolix</i> over Open Scrub of <i>Melaleuca pauperiflora</i>, <i>Santalum</i> ? <i>acuminatum</i> and <i>Exocarpos aphyllus</i> and or Open Heath of <i>Acacia merrallii</i>, <i>Acacia erinacea</i>, <i>Eremophila scoparia</i>, <i>Gastrolobium</i> sp., <i>Olearia muelleri</i> and <i>Dodonaea stenozyga</i>.</p> <p>V3: Low Open Woodland of <i>Eucalyptus</i> sp. over Tall Shrubland of <i>Acacia lasiocalyx</i>, <i>Acacia steedmanii</i>, <i>Grevillea</i> sp., <i>Hakea francisiana</i> and <i>Casuarina pauper</i> over Low Shrubland of <i>Melaleuca cordata</i> and <i>Gastrolobium</i> sp.</p>	<p>Audax Minerals Pty Ltd has applied to clear up to 0.632 hectares of native vegetation within an application area of approximately 10.67 hectares (GIS Database). The proposed clearing is for 22 drill pads and associated access tracks (RPS, 2012). The application area is located approximately 42.5 kilometres south east of Marvel Loch (GIS Database).</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);</p> <p>to</p> <p>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).</p>	<p>The vegetation condition was assessed by botanists from RPS.</p> <p>The application area has been burnt in the last two to three years (RPS, 2012).</p>

3. Assessment of application against clearing principles

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

Comments	<p>Proposal is not likely to be at variance to this Principle</p> <p>The application area occurs within the Avon Wheatbelt P1 subregion of the Avon Wheatbelt Interim Biogeographical Regionalisation for Australia (IBRA) bioregion (GIS Database). At a broad scale the vegetation of this region can be described as proteaceous scrub-heaths, rich in endemics on residual lateritic uplands and derived sandplains; mixed eucalypt, <i>Allocasuarina huegeliana</i> and Jam-York Gum woodlands on quaternary alluvials and eluvials (CALM, 2002).</p> <p>A targeted flora survey of the application area identified three vegetation types within the application area (RPS, 2012). The application area is within the buffer zone of the Parker Range vegetation complexes Priority Ecological Community (PEC) (GIS Database). Advice from DEC (2012a) is that the application area is within the mapped boundary of the PEC, however, the boundary is approximate as it has not been refined by survey. The proposed clearing of 0.632 hectares will have a minimal impact on this PEC.</p> <p>The Priority 1 flora species <i>Euryomyrtus</i> sp. Parker Range was recorded from a number of locations within the application area (RPS, 2012). A total of 1,841 plants were recorded during the survey (RPS, 2012). There are three records of this species at the Western Australian Herbarium (2012) that are located approximately 20 kilometres north west of the application area (RPS, 2012). It is estimated that the proposed clearing will impact 132 of 1,841 plants recorded. Species and Communities Branch at DEC has indicated that the level of impact on this species is within acceptable limits (RPS, 2012).</p> <p>The flora survey also recorded over 1,000 individuals of a plant that resembled the Priority 3 flora species <i>Grevillea eriobotrya</i> (RPS, 2012). These plants could not be determined with certainty due to the absence of flowering parts. However, <i>Grevillea eriobotrya</i> has since been removed from the Priority Flora list (Western Australian Herbarium, 2012).</p> <p>A search by the assessing officer of DEC's NatureMap revealed records of three amphibian, 63 bird, six mammal and 23 reptile species within a 20 kilometre radius of the application area (DEC, 2012b). Given there has been some previous disturbance and the small size of the application area (10.67 hectares), it is not expected to contain a high level of faunal diversity.</p> <p>Based on the above, the proposed clearing is not likely to be at variance to this Principle.</p>
Methodology	<p>CALM (2002) DEC (2012a) DEC (2012b) RPS (2012) Western Australian Herbarium (2012) GIS Database: - IBRA WA (Regions - Subregions) - Threatened Ecological Sites Buffered</p>

(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	<p>Proposal is not likely to be at variance to this Principle</p> <p>There has been no fauna surveys undertaken over the application area, however, a targeted Malleefowl search was undertaken as part of the flora survey (RPS, 2012). Based on the results of the flora survey the habitat in the area is largely Eucalypt woodland. A search of DEC's Naturemap revealed records of six conservation significant fauna within 20 kilometres of the application area (DEC, 2012b):</p> <ul style="list-style-type: none">- Malleefowl (<i>Leipoa ocellata</i> – Threatened)- Lake Cronin Snake (<i>Paroplocephalus atriceps</i> – Priority 3)- Shy Heathwren (western subsp.) (<i>Hylacola cauta whitlocki</i> – Priority 4)- Tree-stem Trapdoor spider (<i>Aganippe castellum</i> – Priority 4)- Western Brush Wallaby (<i>Macropus irma</i> – Priority 4)- Rainbow Bee-eater (<i>Merops ornatus</i> – Migratory) <p>The targeted Malleefowl search did not record any Malleefowl mounds and there were no signs of Malleefowl utilising the application area (RPS, 2012). The application area has experienced some previous disturbance from drill line corridors (RPS, 2012). Given the existing disturbance and the small amount of proposed clearing (0.632 hectares), the application area is not likely to be significant habitat for native fauna species.</p> <p>Based on the above, the proposed clearing is not likely to be at variance to this Principle.</p>
Methodology	<p>DEC (2012b) RPS (2012)</p>

(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 are no records of Threatened Flora within the application area (DEC, 2012b; GIS Database). A targeted significant flora survey of the application area did not record any Threatened Flora species (RPS, 2012).

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

Methodology DEC (2012b)
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 records of any Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest recorded TEC is approximately 200 kilometres south west 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:

- 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 falls within the Avon Wheatbelt Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 18.2% of the pre-European vegetation remains (see table) (GIS Database, Government of Western Australia, 2011).

The vegetation of the application area has been mapped as Beard vegetation association 1068 (GIS Database). This Beard vegetation association has over 50% remaining at a State level and less than 50% remaining at a Bioregional level (Government of Western Australia, 2011). The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30% of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). Beard vegetation association 1068 is above the 30% threshold, however, the Avon Wheatbelt bioregion and Avon Wheatbelt P1 subregion are below this level. Whilst the application area is situated within a region that has been extensively cleared, the application area itself is neither a remnant nor does it form part of any remnants within the local area (GIS Database).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Avon Wheatbelt	9,517,109	1,732,026	~18.2	Vulnerable	1.8
IBRA Subregion - Avon Wheatbelt P1	6,524,180	1,322,407	~20.27	Vulnerable	1.87
Local Government - Shire of Yilgarn	3,042,764	2,472,337	~81.25	Least Concern	15.56
Beard veg assoc. – State					
1068	268,899	134,950	~50.2	Least Concern	6.24
Beard veg assoc. – Bioregion					
1068	74,874	33,521	~44.8	Depleted	3.49
Beard veg assoc. – Subregion					
1068	74,874	33,521	~44.8	Depleted	3.49

* 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 Commonwealth of Australia (2001)

Department of Natural Resources and Environment (2002)

Government of Western Australia (2011)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Cheritons Find 1.4m Orthomosaic

(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 watercourses within the application area (GIS Database). The flora survey did not identify any vegetation that was associated with a watercourse or wetland (RPS, 2012).

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

Methodology RPS (2012)
GIS Database:
- Hydrography, linear

(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 has been mapped as soil type Ya28, which Northcote (1960-68) describes as sandy plains with some clay pans and small salt lakes, dunes and lunettes; chief soils are sandy alkaline mottled yellow soils. The topography of the application area is relatively flat (GIS Database). Given the small scale of the proposed clearing (0.632 hectares), it is not likely to cause any significant land degradation.

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

Methodology Northcote (1960-68)
GIS Database:
- Soils, Statewide
- Topographic contours, Statewide

(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 situated within the Jilbadji Nature Reserve (GIS Database). Clearing activities have the potential to introduce and increase the spread of weeds within the Nature Reserve. Potential impacts from weeds may be minimised by the successful implementation of a weed management condition. Audax Minerals have prepared a Conservation Management Plan (CMP) for drilling activities on Exploration Licence 77/1793. Provided this management plan is adhered to, the proposed clearing of 0.632 hectares is not likely to impact on the environmental values of Jilbadji Nature Reserve.

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

The application area is not within a Public Drinking Water Source Area (GIS Database). There are no watercourses within the application area so any surface water present is likely to occur as sheet flow (GIS Database). The proposed clearing of 0.632 hectares is not likely to have any impact on surface water quality in the local area.

According to available databases, the groundwater in the application area ranges from 14,000 to 35,000 milligrams per litre of total dissolved solids (GIS Database). This is considered to be saline. The proposed clearing will not cause salinity levels in the local area to alter.

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

Methodology GIS Database:
- Groundwater Salinity, Statewide
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)

(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

With an average annual rainfall of 400 millimetres and an average annual evaporation rate of 2,400 millimetres there is likely to be little surface flow during normal seasonal rains (GIS Database). Whilst large rainfall events may result in the flooding of the area, the proposed clearing is not likely to lead to an increase in 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
- Rainfall, Mean Annual

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

There are no native title claims over the area under application (GIS Database). 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*.

According to available databases, 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 proponent's 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 10 December 2012 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Determined by the Federal Court
- Native Title Claims – Filed at the Federal Court
- Native Title Claims – Registered with the NNTT

4. References

- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2012a) Advice from Environmental Management Branch in relation to Clearing Permit CPS 5380/1. Received 20 December 2012.
- DEC (2012b) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 20 December 2012, <<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.
- Government of Western Australia (2011) 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- RPS (2012) Supporting information for Clearing Permit application CPS 5380/1. Unpublished report dated 13 November 2012.
- Western Australian Herbarium (2012) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <<http://florabase.dec.wa.gov.au/>> Accessed 20 December 2012.

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.