Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3713/2
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Mt Magnet Gold Pty Ltd

1.3. Property details

Property: Mining Lease 58/136
Mining Lease 58/172
Mining Lease 58/181
Mining Lease 58/191
Mining Lease 58/205
Local Government Area: Shire of Mount Magnet
Colloquial name: Galaxy Open Pit

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 3 May 2012

Site Information

1.6. Existing environment and information

1.6.1. Description of the native vegetation under application

Vegetation Description

Beard vegetation associations have been mapped for the whole of Western Australia. Two Beard Vegetation Associations are located within the application areas (Shepherd, 2009):

Beard Vegetation Association 312: succulent steppe with very open shrubs; very sparse mulga and *Acacia sclerosperma* over saltbush and bluebush; and

Beard Vegetation Association 313: succulent steppe with open scrub; scattered *Acacia sclerosperma* and *Acacia victoriae* over bluebush.

Niche Environmental Services conducted a flora and vegetation survey of the application areas in September 2009. Eight vegetation units were identified within the application areas (Niche Environmental Services 2010a; 2010b):

1. **Rehabilitated vegetation comprised of a mix of *Acacia* spp. and *Eucalyptus* spp. over an understorey of *Maireana* spp.**

2. **Low woodland of *Acacia* spp. over Low Open Shrubland of mixed species in an ephemeral drainage line.**
   This vegetation consisted of an overstorey to 4 metres of *Acacia aneura* var. *aneura*, *Acacia craspedocarpa*, *Acacia tetragonophylla*, *Acacia ramulosa* var. *ramulosa* over an understorey of *Ptilotus obovatus*, *Enchylaena tomentosa* spp. *tomentosa*, *Atriplex nummularia*, *Eremophila lachnocalyx*.

3. **Low Open Forest of *Acacia* spp. over Low Open Shrubland of mixed species over Very Open Herbland of mixed species in an ephemeral drainage line.**
   The vegetation consisted of an overstorey to 4 metres of *Acacia aneura* var. *aneura*, *Acacia tetragonophylla*, *Acacia craspedocarpa*, *Acacia aneura* var. *fuliginea*, *Acacia ramulosa* var. *ramulosa* over a midstorey of *Eremophila clarkei*, *Eremophila galeata*, *Eremophila georgei*, *Thryptomene costata* over an understorey of *Stenopetalum filifolium*, *Olearia stuartii*, *Maireana planifolia*, *Trachymene costata*, *Velleia rosea*, *Pogonolepsis stricta*, *Eriachne pulchella* ssp..

4. **Low Woodland of *Acacia* spp. over Low Open Shrubland of mixed species on a low Banded Ironstone Formation**
   This vegetation association consisted of an overstorey of *Acacia aneura* var. *aneura*, *Acacia tetragonophylla*, *Acacia ramulosa* var. *ramulosa* over a mid storey of *Philotheca brucei* spp. *brucei*, *Aluta aspera* spp. *hesperia*, *Eremophila latrobei* ssp. *latrobei* over an understorey of *Arthropodium*

dyeri, *Cheilanthes sieberi*, *Eragrostis eriopoda*.

5. **Low Woodland of *Acacia* spp. over Low Open Shrubland of mixed species on gibber flat with quartz and ironstone.**
   The vegetation consisted of an overstorey to 4 metres of *Acacia aneura* var. *aneura*, *Acacia tetragonophylla*, *Acacia ramulosa* var. *ramulosa* over a midstorey of *Eremophila latrobei* spp. *latrobei*, *Eremophila lachnocalyx*, *Eremophila clarkei*.

6. **Low Open Woodland of *Acacia* spp. over a Low Open Shrubland of mixed species on flats.**
   This vegetation consisted of an understorey to 4 metres of *Acacia aneura* var. *aneura*, *Acacia ramulosa* var. *ramulosa*, *Acacia aneura* var. *fuliginea* over a midstorey of *Eremophila forestii* spp. *forestii*, *Ptilotus obovatus*.

7. **Low Open Woodland of *Acacia* spp. over a Low Open Shrubland of mixed species on lower gibber slopes of BIF ridges.**
   The vegetation consisted of an overstorey to 4 metres of *Acacia aneura* var. *aneura*, *Acacia ramulosa* var. *ramulosa* over a Low Open Shrubland of *Eremophila forestii* ssp. *forestii*, *Ptilotus obovatus*.

8. **Low Open Shrubland of *Tecticornia disarticulata* on a clay pan.**
   This association was depauperate of species, with the main species being *Tecticornia disarticulata*.

Clearing Description

Harmony Gold (2010) proposes to clear up to 120 hectares of native vegetation and rehabilitated native vegetation, within an area totalling approximately 289.5 hectares. The proposed clearing is located approximately 4 kilometres west of Mount Magnet (GIS Database).

The purpose of the proposed clearing is for the creation of an open pit cut-back mining programme and to facilitate the creation of new waste rock landforms and mine related infrastructure (Harmony Gold, 2010). Vegetation will be cleared by bulldozer and vegetation and topsoil will be stockpiled for rehabilitation purposes (Harmony Gold, 2010).

Vegetation Condition

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

To

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

Comment

The vegetation condition rating is derived from a flora and vegetation survey conducted by Niche Environmental Services in September 2009. The vegetation applied to be cleared consists of native vegetation in addition to rehabilitated native vegetation (Harmony Gold, 2010). The vegetation within the application areas has previously been disturbed by past and present mining activities, tracks and pastoral activities (Niche Environmental Services, 2010a; 2010b).

Clearing permit CPS 3713/1 was granted by the Department of Mines and Petroleum on 20 May 2010 and was valid from 19 June 2010 to 31 July 2018. An application to amend the permit was received by the Department of Mines and Petroleum on 5 April 2012. The application requested a change to the Permit Holder from Harmony Gold Pty Ltd-Mount Magnet Gold NL to Mt Magnet Gold Pty Ltd. This change is required as the parent company of Mt Magnet Gold Pty Ltd, Ramelius Resources Limited, has purchased Harmony Gold Pty Ltd-Mount Magnet Gold NL. The amount of native vegetation authorised to clear and the clearing permit boundary that was approved to clear under CPS 3713/1 will remain unchanged.

2. 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 areas are located within the Eastern Murchison subregion of the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Eastern Murchison subregion is described by CALM (2002) as being rich and diverse in both its flora and fauna. CALM (2002) reports that most species are wide ranging and usually occur in at least one, and often several, adjoining subregions.

Niche Environmental Services (2010a; 2010b) conducted a flora and vegetation survey of the application areas in September 2009. This survey consisted of a database search, in addition to a field survey (Niche Environmental Services, 2010a; 2010b). The database search consisted of a search of the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* Protected Matters Database, a search of the Department of Environment and Conservation online databases, in addition to a review of previous surveys that have been conducted in the area (Niche Environmental Services, 2010a; 2010b). The field based survey was conducted between 11 September 2009 and 14 September 2009 and consisted of a preliminary reconnaissance in addition to releve and ground-truthing (Niche Environmental Services, 2010a; 2010b).

The proposal includes two separate application areas; the Perseverance project area and the Saturn project area (Niche Environmental Services, 2010a; 2010b). Within the Perseverance project area Niche Environmental Services (2010a) recorded a total of 27 plant taxa from nine families and 13 genera. Within the

Saturn project area Niche Environmental Services (2010b) recorded a total of 104 plant taxa from 31 families and 67 genera. The application areas have been degraded by past and current mining and pastoral activities and the overall flora diversity appears to be quite high, particularly when compared to other flora surveys conducted in the region (Niche Environmental Services, 2010b).

There were numerous weed species identified within the application areas (Niche Environmental Services, 2010a; 2010b). The presence of introduced weed species lowers the biodiversity values of the proposed clearing areas. Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. The risk of spreading weeds can be mitigated by imposing a condition for the purpose of weed management.

Niche Environmental Services (2010a; 2010b) did not record any Declared Rare Flora or Threatened Ecological Communities within the application areas, however, the following three Priority Flora species were recorded within the application areas:

- *Acacia speckii* (Priority 3);
- *Stenanthemum mediale* (Priority 1); and
- *Verticordia jamiesonii* (Priority 3).

Acacia speckii is described by Western Australia Herbarium (2010) as preferring rocky hills over granite, basalt or dolerite, rocky hills or rises. This species has been recorded numerous times in areas adjacent to the application areas (Niche Environmental Services, 2010b). According to Niche Environmental Services (2010b) impacts to this species would be minor as there are numerous records of this species in surrounding areas and few individuals are expected to be impacted by the proposed clearing.

Stenanthemum mediale is reported by Western Australian Herbarium (2010) as preferring red clayey sands. Niche Environmental Services (2010b) reports that there have been records of this species occurring in areas adjacent to the application areas. According to Niche Environmental Services (2010b) this species is unlikely to be affected by the proposed disturbance as there are numerous records of this species in areas surrounding the application areas and few individuals are expected to be impacted by the proposed clearing.

Verticordia jamiesonii is generally found in sandy clay soils and on lateritic breakaways (Western Australian Herbarium, 2010). Niche Environmental Services (2010b) reports that approximately 30 plants were recorded in the area in addition to another 10 plants recorded approximately 100 metres south-east. Niche Environmental Services (2010b) reports that no specimens of this species will be impacted by the proposed disturbance.

Outback Ecology conducted a desktop fauna survey of the application areas and adjacent areas in February 2010. This survey indicates that a total of 189 terrestrial fauna species have the potential to occur within the search area (Outback Ecology, 2010). These fauna species comprise of 22 mammals (16 native and 6 introduced), 117 native birds, 42 native reptiles and 8 amphibian species (Outback Ecology, 2010). The application areas are reported by Niche Environmental Services (2010) as being in primarily degraded condition due to previous and current mining activities, haul roads, exploration lines, informal tracks and grazing. Given this, it is unlikely that all the fauna species identified during the desktop survey would occur within the application areas and it is likely that the higher quality vegetation found in areas outside of the minesite footprint would have higher fauna diversity than the application areas.

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

Methodology

CALM (2002)
Niche Environmental Services (2010a)
Niche Environmental Services (2010b)
Outback Ecology (2010)
Western Australian Herbarium (2010)
GIS Database:
- IBRA WA (Regions - Subregions)

(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

Outback Ecology conducted a terrestrial fauna desktop survey on behalf of Harmony Gold in November 2009. The fauna search was conducted for ten mining tenements, four of which occur within the application areas; Mining Leases 58/205, 58/181, 58/191 and 58/172 (Outback Ecology, 2010). No site inspection was undertaken and the results from the fauna search are conclusions based on a desktop study only (Outback Ecology, 2010). Seven fauna habitats that are likely to be present within the application areas were identified by Outback Ecology (2010):

- Mixed *Acacia* and *Eucalyptus* species rehabilitation;
- Mixed *Acacia* woodlands;
- Breakaways;
- Hillcrests and slopes;

- Minor drainage lines;
- Shrub plains; and
- Claypans.

Outback Ecology (2010) states that Mixed *Acacia* woodlands and Shrub plains are likely to be the most widespread of these broad habitat units. Furthermore, Outback Ecology (2010) reports that the project disturbance footprint will not directly impact breakaway habitat.

Outback Ecology (2010) has listed the conservation fauna most likely to occur within the application areas based on the results of a desktop survey. Based on the habitat types within the application areas the conservation significant fauna species most likely to occur and most at risk from native vegetation clearing are listed below (Outback Ecology, 2010):

- Malleefowl (*Leipoa ocellata*) – Schedule 1;
- Gilled Slender Blue-tongue (*Cyclodomorphus branchialis*) – Schedule 1; and
- Western Spiny-tailed Skink (*Egernia stokesii badia*) – Schedule 1.

Outback Ecology (2010) reports that the Gilled Slender Blue-tongue and Western Spiny-tailed Skink may occur as their preferred habitats; Shrub Plains for the blue-tongue and Shrub Plains and Mixed *Acacia* woodland for the skink, are found within the application areas. Outback Ecology (2010), reports that the disturbance footprint will affect approximately 10% of the Gilled Slender Blue-tongue habitat that occurs within the application areas and approximately 20% of the Western Spiny-tailed Skink habitat that occurs within the application areas. Given that large amounts of better quality habitat for these species is available outside of the proposed disturbance footprint, the vegetation within the application areas is not likely to represent significant habitat for these species.

Habitat for the Malleefowl occurs within the application areas in the form of Mixed *Acacia* woodland (Outback Ecology, 2010). According to Outback Ecology (2010) the disturbance footprint will affect approximately 10% of this habitat that occurs within the application areas, however, no Malleefowl of Malleefowl mounds have previously been recorded within the application areas. Potential impacts to Malleefowl as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

Outback Ecology (2010) reports that habitats with the potential to support terrestrial invertebrate Short Range Endemic species occurs within the project area in the form of south facing breakaways. Outback Ecology (2010) states that this habitat will not be impacted by the areas of disturbance within the application areas.

The vegetation within the application areas has suffered disturbance from past and present mining activities, tracks, roads and grazing (Niche Environmental Services, 2010a; 2010b). Furthermore, the vegetation within the application areas is widespread locally and within the Murchison region generally (Niche Environmental Services, 2010a; 2010b). Given this, the vegetation of the application area is unlikely to represent significant habitat for any fauna species and fauna species would be more likely to utilise the higher quality vegetation that exists in areas outside of the minesite footprint.

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

Methodology Niche Environmental Services (2010a)
Niche Environmental Services (2010b)
Outback Ecology (2010)

(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 Declared Rare Flora (DRF) within the application area (GIS Database). The nearest record of DRF is located approximately 70 kilometres north of the application area (GIS Database).

No DRF was recorded during the vegetation survey undertaken between 11 and 14 September 2009 (Niche Environmental Services, 2010a; 2010b).

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

Methodology Niche Environmental Services (2010a)
Niche Environmental Services (2010b)
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**
There are no known Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs)

within the areas applied to clear (GIS Database). The nearest known PEC is located approximately 10 kilometres north-east of the application areas (GIS Database).

Niche Environmental Services (2010a; 2010b) reports that no TECs or PECs were identified during the flora and vegetation survey of the application areas.

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

Methodology Niche Environmental Services (2010a)
Niche Environmental Services (2010b)
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 areas fall within the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 100% of the pre-European vegetation still exists within this bioregion (see table below). The vegetation within the application areas is recorded as the following two Beard Vegetation Associations (Shepherd, 2009):

Beard Vegetation Association 312: succulent steppe with very open shrubs; very sparse mulga and *Acacia sclerosperma* over saltbush and bluebush; and

Beard Vegetation Association 313: succulent steppe with open scrub; scattered *Acacia sclerosperma* and *Acacia victoriae* over bluebush.

According to Shepherd (2009) approximately 100% of these vegetation associations remain within the bioregion (see table below).

The vegetation within the application areas is not a 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 - Murchison	28,120,587	28,120,587	~100	Least Concern	~1.1
Beard vegetation associations - State					
312	41,502	41,502	~100	Least Concern	0.0
313	68,844	68,844	~100	Least Concern	0.0
Beard vegetation associations - Bioregion					
312	41,502	41,502	~100	Least Concern	0.0
313	68,844	68,844	~100	Least Concern	0.0

* Shepherd (2009)
** 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)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions - Subregions)

(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 likely to be at variance to this Principle**
The application areas have numerous ephemeral drainage lines transecting them (GIS Database). Based on the low rainfall and high evaporation rate of the region (Niche Environmental Services, 2010a; 2010b), these watercourses are expected to be dry for the majority of the year and only flow following heavy rainfall.

According to descriptions provided by Niche Environmental Services (2010a; 2010b) and aerial photography (GIS Database) these drainage lines appear to have been highly disturbed by mining and pastoral activities and have been modified by the pre-existing mine infrastructure. Harmony Gold (2010) reports that due to this disturbance these ephemeral watercourses have no connection to other drainage lines in the area.

Niche Environmental Services (2010a; 2010b) reports that although the density of the vegetation increased within the ephemeral drainage lines, the vegetation was noted as consisting of the same species occurring on the plains and ridges and was not groundwater dependent vegetation. There are numerous ephemeral drainage lines present outside of the mine footprint and the vegetation communities growing along the watercourses within the application areas are well represented in the local areas and within the Murchison region generally and are therefore not restricted vegetation communities.

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

Methodology

Harmony Gold (2010)
Niche Environmental Services (2010a)
Niche Environmental Services (2010b)
GIS Database:
- Mount Magnet 1.4m Orthomosaic Landgate - 2003
- Hydrography, linear

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

Comments

Proposal may be at variance to this Principle

The application areas have been mapped as occurring within five land systems (GIS Database). The following four land systems are most at risk of land degradation based on land system descriptions by Pringle et al. (1994) and Curry et al. (1994) and landforms within the application areas:

Austin Land System: saline stony plains with low rises and drainage foci supporting low halophytic shrublands with scattered mulga (Curry et al., 1994). Drainage tracts in this system may be susceptible to erosion if perennial vegetation is degraded (Curry et al., 1994).

Jundee Land System: hardpan plains with ironstone gravel mantles, supporting mulga shrublands (Pringle et al., 1994). Impedance to natural sheet flows can initiate soil erosion and cause water starvation and consequent loss of vigour in vegetation downslope (Pringle et al., 1994). Gravel mantles provide effective protection against soil erosion (Pringle et al., 1994).

Violet Land System: undulating stony and gravelly plains and low rises, supporting mulga shrublands (Pringle et al., 1994). Abundant mantles provide effective protection against soil erosion over most of this land system, except where the soil surface has been disturbed, for example by the construction of tracks and gridlines (Pringle et al., 1994). Narrow drainage tracts are mildly susceptible to water erosion (Pringle et al., 1994).

Wiluna Land System: low greenstone hills with occasional lateritic breakaways and broad stony slopes, lower saline stony plains and broad drainage tracts; supports sparse mulga shrublands with patches of halophytic shrubs (Curry et al., 1994). Sandy surfaced gravelly plains, alluvial fans and plains and drainage floors are moderately susceptible to accelerated erosion when degraded (Curry et al., 1994). The system shows extensive disturbance and localised erosion as a result of mining activities (Curry et al., 1994).

Based on the above, the proposed clearing may be at variance to this Principle.

The application areas are in an area that experiences low rainfall and the application areas have fairly gentle topography (Niche Environmental Services, 2010a; 2010b). These factors may reduce sheet flow and help mitigate the risk of soil erosion caused by vegetation removal. The areas proposed to be cleared are highly disturbed and modified by current and previous mining activities and many of the watercourses have already been dissected by existing roads and infrastructure, however the removal of native vegetation may exacerbate soil erosion in some areas, particularly during times of heavy rainfall. The risk of soil erosion may be mitigated by imposing a staged clearing condition.

Methodology

Curry et al. (1994)
Niche Environmental Services (2010a)
Niche Environmental Services (2010b)
Pringle et al. (1004)
GIS Database:
- Hydrography, linear
- 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 proposed clearing is not located within any conservation areas (GIS Database). The nearest Department of Environment and Conservation managed land is the Karroun Hill National Park, located approximately 180 kilometres south of the application areas (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

There are no permanent watercourses within the application areas although there are numerous ephemeral drainage lines (GIS Database).

The nearest Public Drinking Water Source Area (PDWSA) is located approximately 100 metres west of the application areas (GIS Database). Given that the application areas are highly disturbed and located within an active minesite, the further clearing of 120 hectares of native and rehabilitation vegetation is unlikely to have any significant impact on surface or underground water quality.

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

Methodology

Harmony Gold (2010)
Niche Environmental Services (2010a)
Niche Environmental Servivces (2010b)
GIS Database:
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSA)

(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

There are numerous ephemeral drainage lines within the application areas (GIS Database). Due to a climate with low annual rainfall and high annual evaporation rates, these drainage lines are expected to be dry for the majority of the year (Niche Environmental Services, 2010a; 2010b). Natural flood events are known to occur within the Murchison region following significant rainfall, however, Niche Environmental Services (2010a; 2010b) reports that there are few records of local flooding.

The application areas and adjacent areas are highly disturbed from current and previous mining and pastoral activities (Niche Environmental Services, 2010a; 2010b). The removal of sparse vegetation within an area that is already degraded and has an arid to semi-arid climate is unlikely to cause or exacerbate the incidence or intensity of flooding (Niche Environmental Services, 2010a; 2010b).

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

Methodology

Niche Environmental Services (2010a)
Niche Environmental Services (2010b)
GIS Database:
- Hydrography, linear

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

Comments

There is one Native Title claim (WC96/008) over the area under application (GIS Database). This claim has been registered with the 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.*

According to available databases there are two registered Aboriginal Sites of Significance (site ID's: 18155 and 15832) within the application areas (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.

It is noted that the proposed clearing may impact on a protected matter under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*. The proponent may be required to refer the project to the (Federal) Department of Sustainability, Environment, Water, Population and Communities (SEWPAC) for environmental impact assessment under the EPBC Act. The proponent is advised to contact the SEWPAC for further information regarding notification and referral responsibilities under the EPBC Act.

Clearing permit CPS 3713/1 was granted by the Department of Mines and Petroleum on 20 May 2010 and was valid from 19 June 2010 to 31 July 2018. An application to amend the permit was received by the Department of Mines and Petroleum on 5 April 2012. The application requested a change to the Permit Holder from Harmony Gold Pty Ltd-Mount Magnet Gold NL to Mt Magnet Gold Pty Ltd. This change is required as the parent company of Mt Magnet Gold Pty Ltd, Ramelius Resources Limited, has purchased Harmony Gold Pty Ltd-Mount Magnet Gold NL. The amount of native vegetation authorised to clear and the clearing permit boundary that was approved to clear under CPS 3713/1 will remain unchanged.

Methodology

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims

3. References

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

Curry, P., Payne, A., Leighton, K., Hennig, P. and Blood, D. (1994) Technical Bulletin: An Inventory and condition survey of the Murchison River Catchment and surrounds, Western Australia. Technical Bulletin 84. Department of Agriculture, Western Australia.

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.

Harmony Gold (2010) Clearing Permit Application Supporting Documentation. Harmony Gold - Mount Magnet Gold NL.

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

Niche Environmental Services (2010a) Level 1 Flora and Vegetation Survey over the Perseverance Project Area, Harmony Gold Mt Magnet. Harmony Gold, Western Australia.

Niche Environmental Services (2010b) Level 1 Flora and Vegetation Survey over the Saturn Project Area, Harmony Gold Mt Magnet. Harmony Gold, Western Australia.

Outback Ecology (2010) Harmony Gold Operations. Mt Magnet Project. Terrestrial Fauna Desktop Study. Unpublished Report. Outback Ecology Services, Western Australia.

Pringle, H., Van Vreeswyk, A. and Gilligan, S. (1994) An Inventory and condition survey of the north-eastern Goldfields, Western Australia. Technical Bulletin 87. Department of Agriculture, Western Australia.

Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

Western Australian Herbarium (2010) Florabase - The Western Australian Flora. Department of Environment and Conservation. Available online from: http://florabase.dec.wa.gov.au. Accessed April 2010.

4. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), 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, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
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	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

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.