



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 5245/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: HBJ Minerals Pty Ltd

### 1.3. Property details

Property: Mining Lease 15/717  
Local Government Area: Shire of Coolgardie  
Colloquial name: Mt Marion Project

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 50                 |           | Mechanical Removal | Mineral Production  |

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 25 October 2012

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

**Vegetation Description** 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 associations are located within the application area (GIS Database):

9: Medium woodland; coral gum (*Eucalyptus torquata*) and goldfields blackbutt (*E. lesouefii*);  
936: Medium woodland; salmon gum; and  
1413: Shrublands; acacia, casuarina and melaleuca thicket.

A Level 1 flora and vegetation survey of the application area conducted by Native Vegetation Solutions (NVS) on 9 and 10 May 2012 identified the following eight major vegetation groups within the application area:

1. Transitional *Eucalyptus* woodland over mixed shrubland. Dominant species were *Eucalyptus transcontinentalis*, *E. lesouefii*, *E. oleosa* subsp. *oleosa*, *E. salmonophloia*, *E. gracilis*, *Melaleuca sheathiana*, *Senna artemisioides* subsp. *artemisioides*, *Eremophila scoparia* and *Olearia muelleri*.
2. *Eucalyptus ravidia* woodland over *Diocirea acutifolia* shrubland. Dominant species were *Eucalyptus ravidia*, *Diocirea acutifolia*, *Eremophila scoparia* and *Acacia erinacea*.
3. *Eucalyptus transcontinentalis* woodland over *Melaleuca sheathiana* shrubland. Dominant species were *Eucalyptus transcontinentalis*, *Melaleuca sheathiana*, *Senna artemisioides* subsp. *filifolia* and *Acacia erinacea*.
4. Transitional *Eucalyptus* woodland over *Melaleuca sheathiana* over mixed shrubland. Dominant species were *Eucalyptus transcontinentalis*, *E. gracilis*, *E. lesouefii*, *E. oleosa* subsp. *oleosa*, *E. salmonophloia*, *Melaleuca sheathiana*, *Senna artemisioides* subsp. *filifolia*, *Cratystylis conocephala* and *Acacia hemiteles*.
5. *Eucalyptus lesouefii* woodland on hill rise. Dominant species were *Eucalyptus lesouefii*, and *Eremophila oppositifolia* subsp. *angustifolia* and *Acacia erinacea*.
6. *Eucalyptus gracilis* woodland over *Diocirea acutifolia* shrubland. Dominant species were *Eucalyptus gracilis*, *Senna artemisioides* subsp. *filifolia* and *Diocirea acutifolia*.
7. *Allocasuarina helmsii* shrubland. Dominant species were *Allocasuarina helmsii*, *A. acutivalvis* subsp. *acutivalvis*, *Eremophila oppositifolia* subsp. *angustifolia* and *Acacia* sp narrow phyllode.
8. *Eucalyptus griffithsii* woodland. Dominant species were *Eucalyptus griffithsii*, *Olearia muelleri*, *Halgania andromedifolia*, *Acacia erinacea* and *Senna artemisioides* subsp. *filifolia*.

**Clearing Description** HBJ Minerals Pty Ltd has applied to clear 50 hectares within an application area of approximately 435 hectares (GIS Database). The application area is located approximately 25 kilometres north west of Kambalda (GIS Database).

The purpose of the application is to expand the existing Mt Marion mining operation. Clearing will be by

mechanical means.

**Vegetation Condition**

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);

To

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).

**Comment**

Vegetation condition surrounding the existing mining operation was determined by NVS (2012).

NVS (2012) noted that the survey was conducted in Autumn 2012 with dry conditions resulting in few emergent annuals present.

The open pit Mt Marion mining operation is located within the application area. Disturbance is also present in the form of grazing and historic exploration (NVS, 2012).

**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 may be at variance to this Principle**

The application area is located within the Eastern Goldfields subregion of the Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). The vegetation is broadly described as Mallees, *Acacia* thickets and shrubheaths on sandplains (CALM, 2002). Diverse *Eucalyptus* woodlands occur around salt lakes, on ranges, and in valleys and have been identified as having high species and ecosystem diversity (CALM, 2002). The application area also occurs within the Great Western Woodlands, a large tract of Eucalypt Woodland extending from the Wheatbelt to the inland deserts of Western Australia (Watson et al., 2008) (cited in Bamford Consulting, 2012). It is the largest remaining intact temperate woodland in the world and is of Global significance (Watson et al., 2008) (cited in Bamford Consulting, 2012).

The vegetation survey identified eight major vegetation groups which are predominantly eucalypt woodlands over mixed shrublands on broad loamy plains and low rises. Excluding the existing mining operation, the vegetation was found to be in excellent, very good or good condition with areas affected by grazing and historic exploration in either good or degraded condition (NVS, 2012). According to NVS (2012), most of the vegetation is typical of the region and not considered to be unusually diverse. Alcer Gold (2012) states that most of the cleared areas will be reutilised.

A total of 87 species from 43 genera and 24 families were recorded during the vegetation survey (NVS, 2012). One weed species, Burr Medic (*Medicago polymorpha*) was recorded within the application area. This species is not a declared plant under the *Agriculture and Related Resources Protection Act 1976*. Potential impacts from weeds as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Available databases show no Threatened Flora or Threatened or Priority Ecological Communities have been recorded within the application area (GIS Database).

One Priority 3 flora species, *Diocirea acutifolia*, was recorded within the application area. Seven populations were recorded over an area of 32 hectares, with 82% of this area within the application area (NVS, 2012). Population sizes were estimated by extrapolating quadrat data within each population and ranged between 25 and 11,336 individuals. The total number of plants was estimated at 32,221 individuals (NVS, 2012). These populations are mainly found in the *Eucalyptus gracilis* woodland over *Diocirea acutifolia* shrubland and *Eucalyptus ravidia* woodland over *Diocirea acutifolia* shrubland vegetation groups. According to NVS (2012), this species is both widespread and in large numbers throughout the local and regional area, is well documented by previous flora surveys and has been recorded from Coolgardie, Norseman, Kambalda, Widgiemooltha and Madoonia Downs. The location of the open pit and infrastructure is yet to be determined, therefore, the proposed impacts to this species from the proposed clearing are unknown. Potential impacts to this species as a result of the proposed clearing may be minimised by the implementation of a flora management condition.

A fauna survey by Bamford Consulting Ecologists (Bamford Consulting) (2012) on 2 and 3 February 2012 identified a total of 57 fauna species comprising three reptile, 42 bird and 12 mammal (three introduced species) species within the application area. Five vegetation and substrate associations (VSAs) were identified within the application area. These were considered to be widespread, however, the greenstone hills, rocky ridges and rock outcrops VSA and large, mature, hollow-bearing eucalypt trees were considered more significant (Bamford Consulting, 2012).

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

**Methodology**

Alcer Gold (2012)  
Bamford Consulting (2012)  
CALM (2002)  
NVS (2012)  
GIS Database:

- IBRA WA (Regions – Sub Regions)
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

**(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 may be at variance to this Principle**

Bamford Consulting (2012) conducted a Level 1 fauna assessment of the application area with fieldwork undertaken on 2 and 3 February 2012. The following five vegetation and substrate associations (VSAs) were identified within the application area:

- Greenstone hills and rocky ridges supporting Eucalypt Woodlands, with areas of dense *Acacia* spp. and *Casuarina pauper*;
- Stony lower slopes and adjacent stony plains supporting Eucalypt Woodlands and *Melaleuca pauperiflora* shrubland in minor areas;
- Drainage tracts with mixed Eucalypts including *Eucalyptus salmonophloia*, *E. salubris* woodlands on clay flats;
- Loam plains supporting Open Salmon Gum (*Eucalyptus salmonophloia*) Woodland; and
- Clay / Loam flats supporting Mixed Eucalypt Woodland.

Of these, the greenstone hills, rocky ridges and rock outcrops VSA was considered most significant (Bamford Consulting, 2012). This VSA has a minimal occurrence within the survey area and is located in the north east of the survey area. It extends outside the application area to the north and although considered widespread in the region has a restricted occurrence overall. It is also likely to support conservation significant and specialist species. Based on this, Bamford Consulting (2012) recommended avoiding this VSA. Alcer Gold (2012) states that clearing in this VSA is not anticipated at this stage. The remaining VSAs are considered widespread in the local area or region (Bamford Consulting, 2012). Bamford Consulting (2012) also notes that historical disturbance has led to the reduction of large, mature Eucalypt trees and that the remaining large, mature, hollow-bearing eucalypt trees provide a significant resource to local fauna and may contain nesting or roosting sites for conservation significant fauna. Potential impacts to habitat trees as a result of the proposed clearing may be minimised by the implementation of a condition that restricts clearing of habitat trees within the application area.

A total of 57 fauna species comprising three reptile, 42 bird and 12 mammal (three introduced species) species were recorded during the fauna survey (Bamford Consulting, 2012). One conservation significant species, the Rainbow Bee-eater (*Merops ornatus*) (Marine; Migratory under *EPBC Act*, Schedule 3), was recorded from Eucalypt woodland within the application area. This is a widespread and versatile species (Bamford Consulting, 2012). Six locally significant bird species including Purple-crowned Lorikeet (*Glossopsitta porphyrocephala*), Rufous Tree-creeper (*Climacteris rufa*), Chestnut Quail-thrush (*Cinlosoma castanotus*), Yellow-plumed Honeyeater (*Lichenostomus ornatus*) and Gilbert's Whistler (*Pachycephala inornata*) were recorded. These species are widespread in the Greater Western Woodlands, however, as a result of large scale habitat clearance have lost areas of habitat in the Wheatbelt and Goldfields (Bamford Consulting, 2012).

Several other conservation significant fauna species were considered likely to occur within the application area. These included Malleefowl (*Leipoa ocellata*) (Vulnerable, Schedule 1), Carpet Python (*Morelia spilota* subsp. *imbricata*) (Schedule 4), Peregrine Falcon (*Falco peregrines*) (Schedule 4), Western Rosella (*Platycercus icterotis*) (Schedule 1), Major Mitchell's Cockatoo (*Cacatua leadbeateri*) (Schedule 4), Central Long-eared Bat (*Nyctophilus timoriensis*) (central form) (Priority 4), Shy Heathwren (western) (*Hylacola cauta* subsp. *whitlocki*) (Priority 4) and Bush Stone-curlew (*Burhinus grallarius*) (Priority 4). The Peregrine Falcon, Western Rosella and Major Mitchell's Cockatoo were considered likely to be occasional visitors to the survey area (Bamford Consulting, 2012). Targeted searching of the application area did not identify any Malleefowl mounds, although this species may be an occasional visitor to the application area. Bamford Consulting (2012) considered the significance of impacts to these species as low and recommended minimising habitat loss and avoiding greenstone hills/rocky ridges and large, mature Eucalypt trees. Alcer Gold (2012) states the only proposed clearing of large, mature, hollow bearing eucalyptus trees will be for the open pit and that proposed clearing areas are walked and inspected by environmental personnel before environmental approval is given. Based on the above and given the availability of similar habitat in the surrounding area, it is considered unlikely the proposed clearing will have a significant impact on these species.

No invertebrate species of conservation significance were recorded during the fauna survey and there was little habitat that might support short range endemic species (Bamford Consulting, 2012).

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

**Methodology** Alcer Gold (2012)  
Bamford Consulting (2012)

**(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 (GIS Database). The nearest record of Threatened Flora is located approximately 50 kilometres west of the application area (GIS Database).

No Threatened Flora was recorded during the vegetation survey undertaken on 9 and 10 May 2012 (NVS, 2012).

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

**Methodology** NVS (2012)  
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 known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest known TEC is approximately 315 kilometres south east of the application area (GIS Database).

No TECs were recorded during the vegetation survey undertaken on 9 and 10 May 2012 (NVS, 2012).

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

**Methodology** NVS (2012)  
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 Coolgardie Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 98.2% 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 the following Beard vegetation associations (GIS Database):

9: Medium woodland; coral gum (*Eucalyptus torquata*) and goldfields blackbutt (*E. lesouffii*);  
936: Medium woodland; salmon gum; and  
1413: Shrublands; acacia, casuarina and melaleuca thicket.

Over 70% and 95% of these Beard vegetation associations remain at a state and bioregional level, respectively (Government of Western Australia, 2011). 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 – Coolgardie  | 12,912,205              | 12,677,932           | ~98.2        | Least Concern         | 10.86                                      |
| Beard veg assoc. – State     |                         |                      |              |                       |  |
| 9                            | 240,509                 | 235,162              | ~97.8        | Least Concern         | 1.26                                       |
| 936                          | 698,752                 | 675,562              | ~96.7        | Least Concern         | 2.24                                       |
| 1413                         | 1,679,882               | 1,252,224            | ~74.54       | Least Concern         | 11.47                                      |
| Beard veg assoc. – Bioregion |                         |                      |              |                       |  |
| 9                            | 240,442                 | 235,101              | ~97.8        | Least Concern         | 1.26                                       |
| 936                          | 586,792                 | 584,334              | ~99.6        | Least Concern         | 1.20                                       |
| 1413                         | 1,061,213               | 1,041,319            | ~98.13       | Least Concern         | 16.80                                      |

\* 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 at variance to this Principle**

There are four minor, non-perennial watercourses that intersect the application area (GIS Database). Available databases show three of these drain into the fourth drainage line which is predominantly located outside the application area and crosses into the north western corner of the application area. Vegetation mapping does not show any of the vegetation groups as being solely associated with these drainage lines (NVS, 2012). The fauna survey identified one vegetation and substrate association associated with drainage tracts. This is described as mixed Eucalypts including *Eucalyptus salmonophloia*, *Eucalyptus salubris* woodlands on clay flat and occurs in minor areas throughout the survey area, particularly in the southern half (Bamford Consulting, 2012). Potential impacts to riparian vegetation as a result of the proposed clearing may be minimised by the implementation of a vegetation management condition.

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

**Methodology** Bamford Consulting (2012)  
NVS (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 may be at variance to this Principle**

Land system information is available from adjacent clearing permit CPS 3549/1. This permit extends into the application area and occurs within the Granites, Gumland and Moriarty land systems (DMP, 2010). A portion of the application area will therefore occur on one or more of these land systems. A review of the decision report for CPS 3549/1 shows these land systems have varying susceptibility to erosion, particularly within drainage areas (DMP, 2010). Based on this there is potential for erosion to occur within the application area. Potential impacts from erosion as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

The decision report for CPS 3549/1 indicates groundwater in the area is below 70 to 100 metres depth (DMP, 2010). Based on this and given the average annual evaporation rate is over nine times the average annual rainfall, there is a low likelihood of raised saline water tables occurring as a result of the proposed clearing (GIS Database; BoM, 2012).

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

**Methodology** BoM (2012)  
DMP (2010)  
GIS Database:  
- Evaporation Isopleths

**(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 does not lie within any conservation areas or Department of Environment and Conservation (DEC) managed lands (GIS Database). The nearest conservation area is the Yallari Timber Reserve, located approximately four kilometres south west of the application area (GIS Database). Based on the distance between the application area and Yallari Timber Reserve, the proposed clearing is not likely to impact the environmental values of any conservation area.

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). There are no permanent waterbodies or watercourses within the application area, however, there are four minor non perennial watercourses within the application area (GIS Database). Three of these drain into the fourth drainage line which crosses the north western corner of the application area (GIS Database). Clearing in the vicinity of these is likely to lead to soil erosion and may result in increased sedimentation in watercourses within the area. Potential impacts to watercourses as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition and a vegetation management condition.

The climate of the area is arid to semi-arid with 200 to 300 millimetres of rainfall that usually occurs in winter but sometimes occurs in summer (CALM, 2002). The annual average rainfall for Coolgardie is 270.3 millimetres and the average annual evaporation rate for the application area is 2,600 millimetres (BoM, 2012; GIS Database). Based on this, there is likely to be little surface flow during normal seasonal rains.

According to available databases, groundwater salinity within the application area is between 14,000 and 35,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be saline. Given the high TDS and indicative groundwater depth, the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

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

**Methodology** BoM (2012)  
CALM (2002)  
GIS Database:  
- Evaporation Isopleths  
- 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**

The application area is located within the Lake Lefroy catchment area (GIS Database). Given the size of the area to be cleared (50 hectares) in relation to the size of the catchment area (2,488,250 hectares) (GIS Database), the proposed clearing is not likely to increase the potential of flooding on a local or catchment scale.

With an average annual rainfall of 270.3 millimetres and an average annual evaporation rate of 2,600 millimetres there is likely to be little surface flow during normal seasonal rains (BoM, 2012; GIS Database). Given the likelihood of little surface flow, the proposed clearing is not likely to cause or 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** BoM (2012)  
GIS Database:  
- Evaporation Isopleths  
- Hydrographic Catchments - Catchments

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

**Comments**

The clearing permit application was advertised on 17 September 2012 by the Department of Mines and Petroleum inviting submissions from the public. There was one submission received regarding a creek that intersects the north western corner of the application area. The submission identifies this creek as potentially significant in capture area and downstream flow and that consideration should be given to protecting it by limiting activities within a reasonable set distance from the floodway. Potential impacts to this creek from the proposed clearing are addressed under Clearing Principles (f), (g) and (i) and may be minimised by the implementation of a vegetation management condition and a staged clearing condition.

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 two 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.

- 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

- Alcer Gold (2012) Further Information provided by Alcer Gold in email correspondence dated 15 to 22 October 2012.
- Bamford Consulting (2012) Fauna Assessment of the Mt Marion Mining Lease Area. Unpublished report prepared by Jeff Turpin, Mike Bamford, M.J. & A.R. Bamford Consulting Ecologists for Alcer Gold Corp dated 2 April 2012.
- BoM (2012) Climate Statistics for Australian Locations. A Search for Climate Statistics for Coolgardie, Australian Government Bureau of Meteorology, viewed 19 October 2012, <[http://www.bom.gov.au/climate/averages/tables/cw\\_012018.shtml](http://www.bom.gov.au/climate/averages/tables/cw_012018.shtml)>.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Coolgardie 3 (COO3 – Eastern Goldfields subregion) Department of Conservation and Land Management, 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.
- DMP (2010) Clearing Permit Decision Report for CPS 3549/1. Prepared by the Department of Mines and Petroleum, 24 June 2010.
- 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.
- NVS (2012) Level 1 Flora and Vegetation Survey for the Expansion of the Mt Marion Mining Area Alcer Gold South Kalgoorlie Operations (M15/717). Unpublished report prepared by Native Vegetation Solutions for Alcer Gold dated July 2012.

#### 5. Glossary

##### Acronyms:

|                 |   |
|-----------------|---|
| <b>BoM</b>      | Bureau of Meteorology, Australian Government  |
| <b>CALM</b>     | Department of Conservation and Land Management (now DEC), Western Australia   |
| <b>DAFWA</b>    | Department of Agriculture and Food, Western Australia   |
| <b>DEC</b>      | Department of Environment and Conservation, Western Australia   |
| <b>DEH</b>      | Department of Environment and Heritage (federal based in Canberra) previously Environment Australia                       |
| <b>DEP</b>      | Department of Environment Protection (now DEC), Western Australia   |
| <b>DIA</b>      | Department of Indigenous Affairs  |
| <b>DLI</b>      | Department of Land Information, Western Australia   |
| <b>DMP</b>      | Department of Mines and Petroleum, Western Australia  |
| <b>DoE</b>      | Department of Environment (now DEC), Western Australia  |
| <b>DoIR</b>     | Department of Industry and Resources (now DMP), Western Australia   |
| <b>DOLA</b>     | Department of Land Administration, Western Australia  |
| <b>DoW</b>      | Department of Water   |
| <b>EP Act</b>   | Environmental Protection Act 1986, Western Australia  |
| <b>EPBC Act</b> | Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)   |
| <b>GIS</b>      | Geographical Information System   |
| <b>ha</b>       | Hectare (10,000 square metres)  |
| <b>IBRA</b>     | Interim Biogeographic Regionalisation for Australia   |
| <b>IUCN</b>     | International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union |
| <b>RIWI Act</b> | Rights in Water and Irrigation Act 1914, Western Australia  |
| <b>s.17</b>     | Section 17 of the Environment Protection Act 1986, Western Australia  |
| <b>TEC</b>      | 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.