



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6085/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Panoramic Gold Pty Ltd

1.3. Property details

Property: Mining Lease 53/153
Mining Lease 57/19
Mining Lease 57/26
Mining Lease 57/33
Mining Lease 57/71
Mining Lease 57/72
Miscellaneous Licence 53/96
Miscellaneous Licence 57/47
Local Government Area: Shire of Sandstone and Wiluna
Colloquial name: Gidgee Gold Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application:

Decision Date:

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. Two Beard vegetation associations are located within the application area (GIS Database):

Beard vegetation association 18: Low woodland; mulga (*Acacia aneura*); and

Beard vegetation association 39: Shrublands; mulga scrub (GIS Database).

A flora and vegetation survey of the application area and surrounding area conducted by Maia (2012; 2013) identified eight vegetation types within the application area:

WL1 – Sparse low woodland of *Acacia aneura* complex with a sparse to open tall shrubland of *A. ramulosa* var. *linophylla* and/or *A. minyura* and a mixed sparse low shrubland;

WL2 – Sparse low woodland of *Acacia aneura* complex with a mixed isolated low shrubland;

WL6 – Open low woodland of *Acacia aneura* complex and/or *A. ayersiana* with a sparse mid shrubland of *A. tetragonophylla* and/or *A. craspedocarpa* and a sparse low shrubland of *Ptilotus obovatus*;

WL7 – Sparse low woodland of *Acacia aneura* complex with a sparse tall shrubland of *A. aneura* complex +/- *A. quadrimarginea* and sparse low shrubland of *Eremophila jucunda* subsp. *jucunda* +/- *E. latrobei* subsp. *latrobei*;

WL8 – Open tall shrubland of *Acacia xanthocarpa* with isolated low trees of *Acacia aneura* complex and isolated low shrubs of *Prostanthera althoferi* subsp. *althoferi* and *Eremophila exilifolia*;

SL1 – Sparse mid shrubland of *Eremophila pantonii* and *E. oppositifolia* subsp. *angustifolia* with a sparse low shrubland of *Solanum lasiophyllum* and *Ptilotus obovatus* and scattered low trees of *Acacia aneura* complex and/or *A. tetragonophylla*;

SL2 – Open tall shrubland of *Acacia xanthocarpa* with a sparse mid shrubland of *Eremophila exilifolia* with a sparse low shrubland of +/- *Aluta maisonneuvei* subsp. *maisonneuvei*; and

CSL – Sparse to open chenopod shrubland of *Sclerolaena cuneata* and *Maireana triptera* with a sparse low shrubland of *Eremophila maculata* subsp. *brevifolia* and scattered trees of *Acacia aneura* complex.

There were also areas described as:

D – Significant disturbance to vegetation; and

C – Cleared for infrastructure.

Clearing Description	Gidgee Gold Project. Panoramic Gold Pty Ltd proposes to clear up to 100 hectares of native vegetation within a total boundary of approximately 2,022 hectares, for the purpose of mineral production. The project is located approximately 113 kilometres south-east of Meekatharra, in the Shires of Sandstone and Wiluna.
Vegetation Condition	Pristine: No obvious signs of disturbance (Keighery, 1994); To: Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).
Comment	The vegetation condition was derived from a vegetation survey conducted by Maia (2012; 2013).

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 East Murchison (MUR1) subregion of the Murchison Interim Biogeographical Regionalisation for Australia bioregion (GIS Database). The East Murchison subregion is characterised by its internal drainage and extensive areas of elevated red desert sandplains with minimal dune development and broad plains of red-brown soils and breakaway complexes as well as red sandplains. Vegetation is dominated by Mulga Woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and Halosarcia shrublands (CALM, 2002).</p> <p>Maia (2012; 2013) conducted a flora and vegetation survey of the application area and surrounding region during November 2011 and March 2013. The survey identified eight vegetation types within the application area (Maia, 2012; 2013). The area proposed to be cleared is not considered to be remnant vegetation and areas have been disturbed by historical mining activities and grazing (GIS Database). The condition of the vegetation types are classified as 'completely degraded' to 'pristine' (Keighery, 1994; Maia, 2012; 2013). Species composition and vegetation types within the application area are typical of the local region and not considered to be unusually diverse (Maia, 2012; 2013).</p> <p>A search of the Department of Environment and Conservation's Threatened and Priority Flora databases revealed no records of Threatened Flora and one Priority Flora species within a 10 kilometre radius of the application area (DPaW, 2014). No Threatened Flora species were identified during the flora survey (Maia, 2012; 2013). Maia (2012; 2012) recorded four Priority Flora species within the application area; <i>Stenanthemum mediale</i> (Priority 1), <i>Acacia burrowsiana</i> (Priority 3), <i>Calytrix praecipua</i> (Priority 3) and <i>Sauropus ramosissimus</i> (Priority 3). The company has stated that infrastructure has been designed to avoid all known locations of <i>Stenanthemum mediale</i> (MBS Environmental, 2014). Potential impacts to this Priority Flora species may be minimised through the implementation of a flora management condition.</p> <p>There were four locations of <i>Acacia burrowsiana</i> recorded within the application area with a total of five plants identified (Maia, 2012; 2013). There are 21 collections of this plant recorded on FloraBase (Western Australian Herbarium, 2014); with the number of plants recorded varying from 10 to 3,000 plants (MBS Environmental, 2014). Given that the proposed clearing will only impact three individuals (Panoramic Gold, 2014); it is unlikely that the conservation significance of this species will be impacted.</p> <p>There were 10 locations of <i>Calytrix praecipua</i> recorded within the application area with a total of 81 plants identified (Maia, 2012; 2013). There are 23 collections of this plant on FloraBase (Western Australian Herbarium, 2014); with the number of plants recorded varying from six to 30 plants (MBS Environmental, 2014). Given the known records of the species within the local and regional area, the proposed clearing of 50 individuals (Panoramic Gold, 2014) is unlikely to impact the conservation significance of this species.</p> <p>There were eight locations of <i>Sauropus ramosissimus</i> recorded within the application area with a total of eight plants identified (Maia, 2012; 2013). There are 11 collections of this plant recorded on FloraBase (Western Australian Herbarium, 2014); with the number of plants recorded varying from two to 100 plants (MBS Environmental, 2014). The proposed clearing is unlikely to impact any individuals as the current disturbance footprint does not intercept this Priority Flora species (Panoramic Gold, 2014).</p> <p>The application area is located within the buffer for the Montague Range vegetation complexes, banded ironstone formation Priority Ecological Community (PEC) (Priority 1) (GIS Database). There were no banded ironstone formations recorded within the application area (Maia, 2012; 2013; Western Wildlife, 2013). Vegetation type WL7 is floristically similar to the PEC, and vegetation type WL8 shares some species occurring in the PEC (MBS Environmental, 2014). Both vegetation types have been mapped extensively in survey areas to the north and south of the application area (Maia, 2011; 2013). The proposed clearing footprint will not impact vegetation type WL8, however the proposed clearing will disturb approximately 24.6 hectares of vegetation type WL7 which represents 2.48% of the total area surveyed by Maia (2012; 2013). It is considered unlikely that the proposed clearing will impact upon the Montague Range vegetation complexes.</p>
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No Threatened Ecological Communities were recorded within the application area (GIS Database).

There was one weed species identified during the survey; Pigweed (*Portulaca oleracea*) (MBS Environmental, 2014). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

There were five fauna habitat types recorded within the application by Western Wildlife (2013). All faunal habitats within the application area are considered to be common and widespread within the subregion and faunal assemblages are unlikely to be different to those found in similar habitat located elsewhere in the region (GIS Database). The clearing of 100 hectares of native vegetation within the 2,022 hectare application area is unlikely to have a significant impact on faunal diversity in a regional and local context.

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

Methodology CALM (2002)
DPaW (2014)
Keighery (1994)
Maia (2012)
Maia (2013)
MBS Environmental (2014)
Panoramic Gold (2014)
Western Australian Herbarium (2014)
Western Wildlife (2013)
GIS Database:
- IBRA WA (Regions - Subregions)
- Pre-European vegetation
- 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 is not likely to be at variance to this Principle

There were five faunal habitat types recorded within the application area based on two Level 1 fauna surveys by Western Wildlife (2013);

1. Mulga Woodlands on Rocky hills - dominated by *Acacia aneura* and occur on rocky hillslopes, hillcrests and outcrops, as well as stony plains. The understorey includes sparse tall shrubs such as Curara (*Acacia tetragonophylla*) or *Acacia balsamea*, and a sparse shrubland of *Eremophila spp.* and *Senna artemisioides*;
2. Mulga Woodland on Plain - dominated by *Acacia aneura* and occurs on a range of hardpan, stony quartz, laterite and ironstone plains. The understorey in parts has a sparse tall shrubland of species such as Bowgada (*Acacia ramulosa*) and/or *Acacia minyura*. The understorey also usually consists of a sparse low shrubland of *Eremophila spp.*, *Acacia ayersiana*, Curara (*Acacia tetragonophylla*), Hop Mulga (*Acacia craspedocarpa*) and/or Cotton Bush (*Ptilotis obovatus*);
3. Acacia Shrubland - The Acacia shrubland occurs on the low rocky hills of dolerite and laterite and is dominated by *Acacia xanthocarpa* over *Eremophila exilifolia*, *Eremophila forrestii* and Cotton Bush (*Ptilotis obovatus*);
4. Chenopod Shrubland - The Chenopod shrubland occurred mainly on quartz stony plains and consisted of Yellow Bindii (*Sclerolaena cuneata*), Three-winged Bluebush (*Maireana triptera*) and Fuchsia Bush (*Eremophila maculata*), with scattered Mulga (*Acacia aneura*); and
5. Sparse Shrubland - The sparse shrubland occurred mainly on undulating calcrete plains and hardpan plains. The shrubland consists of sparse *Eremophila patonii*, *Eremophila oppositifolia*, Flannel Bush (*Solanum lasiophyllum*) and Cotton Bush (*Ptilotis obovatus*). There are also scattered Mulga (*Acacia aneura*) trees.

The landforms and habitats found within the application area are considered as being well represented in the local region (GIS Database). The application area does not contain habitats or faunal assemblages that are ecologically significant (Western Wildlife, 2013; GIS Database). The clearing of 100 hectares of native vegetation is not likely to contain significant habitat for fauna.

Western Wildlife (2013) conducted two Level 1 fauna surveys of the application area and surrounding region and a targeted survey for Mulgara during November 2011 and March 2013. There was one species of conservation significance recorded by Western Wildlife (2013) during the faunal survey;

- Peregrine Falcon (*Falco peregrinus*) (WC Act – Schedule 4).

Given that this species is highly mobile and has a large distribution, the proposed clearing of 100 hectares of native vegetation (a portion of which is completely degraded) is unlikely to significantly impact the conservation

significance of this species.

There are five conservation significant species listed under the *Environment Protection and Biodiversity Conservation Act 1999* or protected under Western Australian legislation (*Wildlife Conservation Act, 1950*), that may potentially occur within the application area based on habitat type recorded by Western Wildlife (2013);

- Oriental Plover (*Charadrius veredus*) (WC Act – Schedule 3);
- Rainbow Bee-eater (*Merops ornatus*) (EPBC Act - Migratory species; JAMBA, CAMBA);
- Bush Stone-curlew (*Burhinus grallarius*) (DEC – Priority 4);
- Australian Bustard (*Ardeotis australis*) (DEC – Priority 4); and
- Brush-tailed Mulgara (*Dasyercus blythi*) (DEC – Priority 4).

The Rainbow Bee-eater is seasonally widespread and common in southern Western Australia, and utilises both natural and degraded habitats. This bird could potentially use the application area and adjoining areas for foraging, roosting and possibly breeding but they would not be specifically attracted to the site (Western Wildlife, 2014). The Bush Stone-curlew and Australian Bustard may use the application area for foraging as part of a larger territory area and are considered highly mobile (Western Wildlife, 2013). The Oriental Plover inhabits sparsely vegetated plains, and a site is deemed important for the species if it supports more than 1% of the flyway population for the species (Bamford et al., 2008). Western Wildlife (2013) state that it is unlikely that such large numbers of the Oriental Plover would visit the application area.

The Mulgara is a ground-dwelling species with limited dispersal abilities and is more likely to be impacted on by any development. A targeted survey for the Brush-tailed Mulgara did not record any individuals within the application area and surrounding region (Western Wildlife, 2013). Given that the habitat for this species is abundant in the local and regional area, the proposed clearing is unlikely to impact the conservation significance of this species (GIS Database).

Cleared and highly disturbed areas are not likely to support many species, but a few may occur including waterbirds in the water at the bottom of open pits, birds of prey that roost or nest on the edges of open pits and reptiles that bask on roads (Western Wildlife, 2013). However, the proposed clearing of 100 hectares of native vegetation within a 2,022 hectare application area is not likely to impact critical feeding or breeding habitat for any conservation significant fauna species.

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

Methodology Bamford et al (2008)
Western Wildlife (2013)
GIS Database:
- Western Australia Landsat Mosaic 25m - AGO 2006

(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 known records of Threatened Flora within the application area (GIS Database). A search of the Department of Parks and Wildlife's Threatened and Priority Flora databases identified no Threatened Flora species as occurring within a 10 kilometre radius of the application area (DPaW, 2014).

Maia (2012; 2013) conducted a flora and vegetation survey of the application area and surrounding region during November 2011 and March 2013. No Threatened Flora was recorded within the survey area.

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

Methodology DPaW (2014)
Maia (2012)
Maia (2013)
GIS Database:
- Threatened and Priority Flora List

(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

A search of the available databases shows that there are no Threatened Ecological Communities situated within 100 kilometres 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 Murchison IBRA bioregion (GIS Database). The vegetation within the application area is recorded as:

Beard vegetation association 18: Low woodland; mulga (*Acacia aneura*); and

Beard vegetation association 39: Shrublands; mulga scrub (GIS Database).

According to the Government of Western Australia (2013), Beard vegetation associations 18 and 39 retain approximately 99% of their pre-European extent. The local area has been extensively cleared, however the area proposed to be cleared is not a significant remnant of native vegetation in either a local or regional context.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves (and post clearing %)
IBRA Bioregion - Murchison	28,120,587	28,044,823	~99.73	Least Concern	1.05 (1.05)
Beard vegetation associations - State					
18	19,892,305	19,843,707	~99.76	Least Concern	2.13 (2.14)
39	6,613,569	6,602,580	~99.83	Least Concern	7.25 (7.26)
Beard vegetation associations - Bioregion					
18	12,403,172	12,363,252	~99.68	Least Concern	0.37 (0.37)
39	1,148,400	1,138,064	~99.10	Least Concern	0.02 (0.02)

* Government of Western Australia (2013)

** 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 (2013)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation

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

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

According to available databases, there are no permanent watercourses or waterbodies within the application area. Surface drainage in the application area is through several ephemeral drainage lines (GIS Database). The vegetation within the application area is not considered to be growing in association with any watercourse or wetland (Maia, 2012; 2013).

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

Methodology Maia (2012)
Maia (2013)
GIS Database:
- Geodata, Lakes
- 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 area intercepts the Jundee, Felix, Gransal and Bevon land systems (GIS Database).

The Jundee land system is comprised of hardpan wash plains with variable dark gravelly mantling and weakly groved vegetation. It contains minor sandy banks and supports scattered mulga shrublands. Concentrated drainage zones are mildly susceptible to accelerated erosion when degraded (Curry et al., 1994).

The Felix land system is characterised by plains with quartz mantles supporting mulga shrublands with wanderrie grasses. The stone mantles provide effective protection of the soil against erosion (Pringle et al., 1994).

The Bevon land system is characterised by irregular low ironstone hills with stony lower slopes supporting mulga shrubland. There are minor areas within the Bevon land system on breakaway footslopes and drainage tracts that are susceptible to soil erosion if cleared or the surface is disturbed (Pringle et al., 1994).

The Gransal land system is characterised by stony plains and low rises based on granite supporting mainly halophytic shrublands. Soil erosion is likely to occur where perennial shrub cover is substantially reduced (Payne et al., 1998).

Due to the large area of native vegetation proposed to be cleared (100 hectares) potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

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

Methodology Curry et al (1994)
Payne et al (1998)
Pringle et al (1994)
GIS Database:
- Rangeland Land System Mapping

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

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

The application area is not located within any conservation area (GIS Database). The nearest conservation area is Wanjarri Nature Reserve, located approximately 120 kilometres south-west of the application area (GIS Database).

Given the distance of the application area from Wanjarri Nature Reserve, the proposed clearing is not likely to provide a significant ecological linkage or fauna movement corridor and is not likely to impact the environmental values of the 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

The application area is not located within a Public Drinking Water Source Area (GIS Database).

There are no permanent watercourses or water bodies within the application area (GIS Database). Few ephemeral drainage tracts transect the application area (GIS Database). These drainage tracts are dry for most of the year and only flow and hold surface water for short durations following significant rainfall events (GIS Database). Some localised increase in surface runoff may occur where native vegetation has been cleared; however the impact is unlikely to be detectable in the context of the range of the natural variability of runoff (MBS Environmental, 2014). Any minor effects of runoff will be mitigated by the revegetation of cleared areas at the completion of operations, and the use of pre-existing flood bunds/diversion channels in the north and west of the application area (MBS Environmental, 2014).

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

Methodology MBS Environmental (2014)
GIS Database:

- Geodata, Lakes
- Groundwater Salinity, Statewide
- Hydrography, Linear
- Public Drinking Water Source Areas
- RIWI Act, Groundwater Areas

(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 experiences an arid climate, with mainly winter rainfall of approximately 240 millimetres per year (CALM, 2002; BoM, 2014). Based on an average annual evaporation rate of 2,800 - 3,200 millimetres (BoM, 2014), any surface water resulting from rainfall events is likely to be relatively short lived.

Given the size of the area to be cleared (100 hectares) compared to the size of the Raeside-Ponton catchment area (11,589,500 hectares) and Lake Carey catchment area (11,378,200 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate 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 (2014)
CALM (2002)
GIS Database:
- Hydrographic Catchments - Catchments

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

Comments

There is one Native Title claim over the area under application (GIS Database). The claim WC2011/007 has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are several 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 Regulation, Department of Parks and Wildlife 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 - Registered with the NNTT
- Native Title Claims - Filed at the Federal Court
- Native Title Claims - Determined by the Federal Court

4. References

- Bamford, M., Watkins, D., Bancroft, W., Tischler, G. and Wahl, J (2008) Migratory Shorebirds of the East Asian - Australian Flyway: Population Estimates and Internationally Important Sites. Wetlands International - Oceania, Canberra, Australia.
- BoM (2014) Climate Statistics for Australian Locations. A Search for Climate Statistics for Yeelirrie, Australian Government Bureau of Meteorology, viewed 9 June 2014, <http://reg.bom.gov.au/climate/averages/tables/cw_012090.shtml>.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Murchison 1 (MUR1 - East Murchison subregion) Department of Conservation and Land Management, Western Australia.
- Curry, P.J., Payne, A.L., Leighton, K.A., Hennig, P., & Blood, D.A (1994) An Inventory and Condition Survey of the Murchison River Catchment, Western Australia, 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.
- Department of Parks and Wildlife (DPaW) (2014) NatureMap Department of Parks and Wildlife, viewed 26 May 2013 <<http://naturemap.dec.wa.gov.au>>.
- Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. 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.
- Maia Environmental Consultancy (Maia) (2012) Panoramic Resources: Gidgee Project Area, Level 1 Flora and Vegetation Assessment. Report prepared for Panoramic Resources Limited, November 2011.

- Maia Environmental Consultancy (Maia) (2013) Panoramic Resources Limited: Wilsons Project Area and Proposed Manakado to Howards Haul Road, Flora and Vegetation Assessment. Prepared for Panoramic Resources Limited, July 2013.
- MBS Environmental (2014) Gidgee Gold Project Purpose Permit Application. Report prepared for Panoramic Gold Pty Ltd, April 2014.
- Panoramic Gold Pty Ltd (Panoramic Gold) (2014) Internal email to the assessing officer regarding Priority Flora, received June 2014.
- Payne, A.L., Van Vreeswyk, A.M.E., Pringle, H.J.R., Leighton, K.A, Hennig, P (1998) Technical Bulletin No. 90: An inventory and condition survey of the Sandstone- Yalgoo-Paynes Find area, Western Australia. Department of Agriculture, Western Australia, South Perth.
- Pringle, H. J. R., Van Vreeswyk, A. M.E. and Gilligan, S.A. (1994) An inventory and condition survey of the north-eastern Goldfields, Western Australia, Technical Bulletin No. 87, Department of Agriculture, Western Australia, Perth.
- Western Australian Herbarium (2014) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <<http://florabase.dpaw.wa.gov.au/>> Accessed 17 June 2014.
- Western Wildlife (2013) Gidgee Gold Project: Level 1 Vertebrate Fauna Survey. Prepared for Panoramic Resources Pty Ltd, June 2013.

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.