GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 7793/1
Permit Holder:	Pilbara Minerals Limited
Duration of Permit:	20 January 2018 – 20 January 2023

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of road construction or upgrades.

2. **Land on which clearing is to be done**
   Lot 338 on Plan 217390, Marble Bar.

3. **Area of Clearing**
   The Permit Holder must not clear more than 0.278 hectares of native vegetation within the area cross-hatched yellow on attached Plan 7793/1.

4. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II – MANAGEMENT CONDITIONS

5. **Weed control**
   (a) When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
      (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
      (ii) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
      (iii) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

DEFINITIONS

The following meanings are given to terms used in this Permit:

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant -

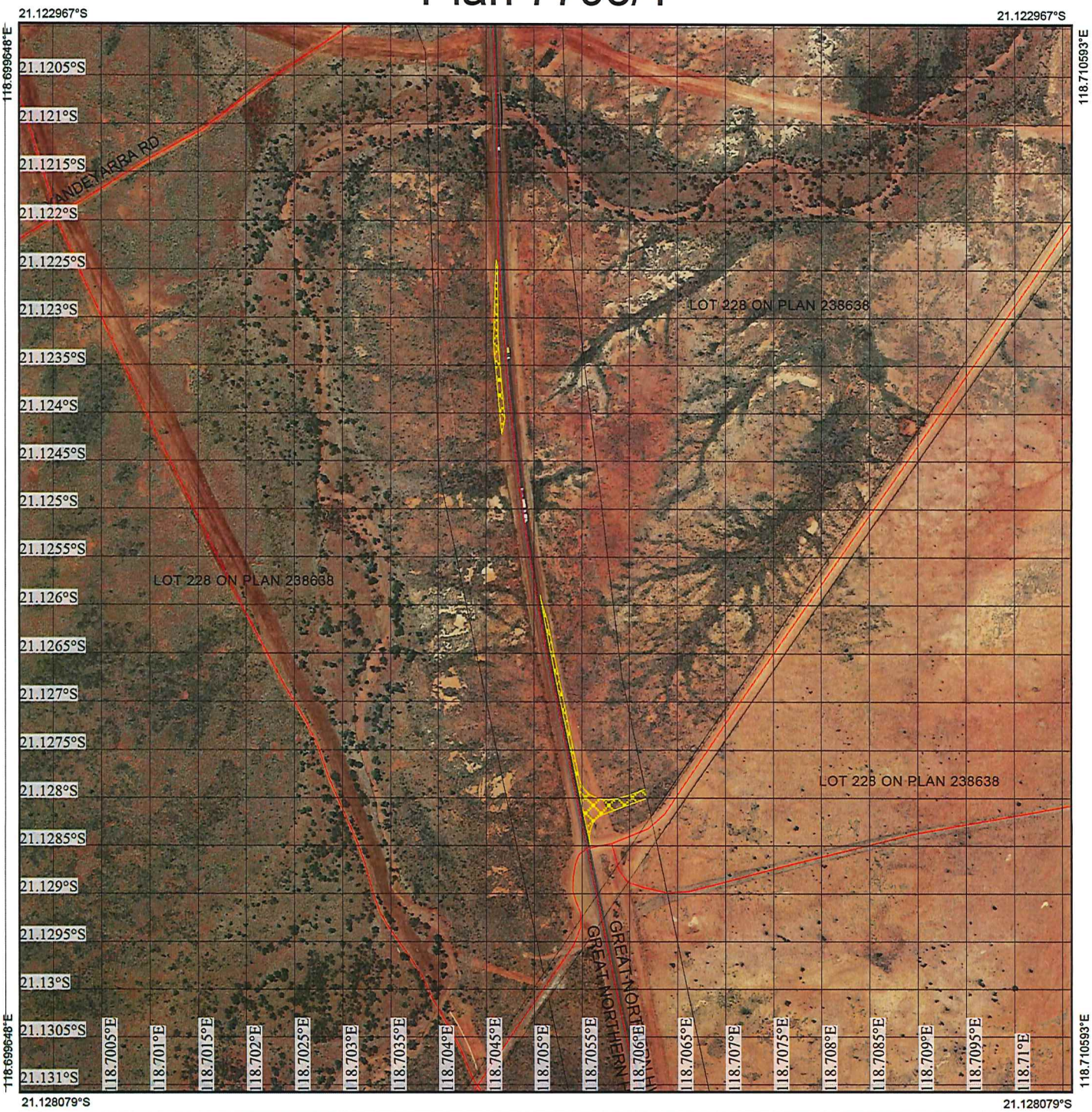
a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
b) published in a Department of Biodiversity, Conservation and Attractions species-led ecological impact and invasiveness ranking summary, regardless of ranking; or
c) not indigenous to the area concerned

Emma Bramwell
A/ MANAGER
CLEARING REGULATION

Officer delegated under Section 20
of the Environmental Protection Act 1986

21 December 2017

Plan 7793/1



Legend

- Roads
- Imagery
- Clearing Instruments Activities

N

0 200m

1:6,025

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

E BRAMWELL Date 21/12/17

E BRAMWELL

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

GOVERNMENT OF WESTERN AUSTRALIA

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Government of Western Australia
Department of Water and Environmental Regulation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7793/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Pilbara Minerals Limited
Application received date: 5 October 2017

1.3. Property details

Property: Lot 338 on Plan 217390 at the intersection Great Northern Highway (H006) and Wodgina Road East (Road No. 812 0059)
Local Government Authority: East Pilbara, Shire of
DWER Region: North West
DBCA District: Pilbara
LCDC: Roebourne – Port Hedland
Localities: Marble Bar

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	Purpose category:
0.278		Mechanical Removal	Road construction and upgrades

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 21/12/2017
Reasons for Decision: The clearing permit application was received on 5 October 2017, and has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986* (EP Act). It has been concluded that the proposed clearing is not likely to be at variance to the clearing principles.

The Delegated Officer determined that the proposed clearing is not likely to have any significant impacts, however may impact on the environmental values of adjacent vegetation through the spread of weeds. The Delegated Officer had regard to the purpose of the proposed clearing in the decision to grant a clearing permit subject to a condition requiring the permit holder to implement weed management measures to assist in managing potential impacts to adjacent vegetation.

2. Site Information

Clearing Description: The application is for the clearing of 0.278 hectares of native vegetation at the intersection of the Great Northern Highway (H006) and Wodgina Road East (Road No. 812 0059). The proposed clearing is to facilitate an increase in the length of the existing acceleration lane and the construction of a channelised turning lane onto the Great Northern Highway, to provide road train access to Pilbara Minerals Limited's Pilgangoora Lithium – Tantalite Project.

Vegetation Description: Ecologia Environment conducted a targeted threatened flora search, vegetation assessment and fauna habitat assessment, including a field survey on 5 September 2017, within a project area that included the application area (flora, vegetation and habitat survey). The flora, vegetation and habitat survey identified two vegetation types within the application area (Ecologia Environment 2017):

- S1, described as *Acacia ancistrocarpa* and *Acacia orthocarpa* tall open shrubland over *Triodia epactia* hummock grassland; occurring on stony plains with clay loam soils; and
- Devoid, described as areas without significant native vegetation coverage.

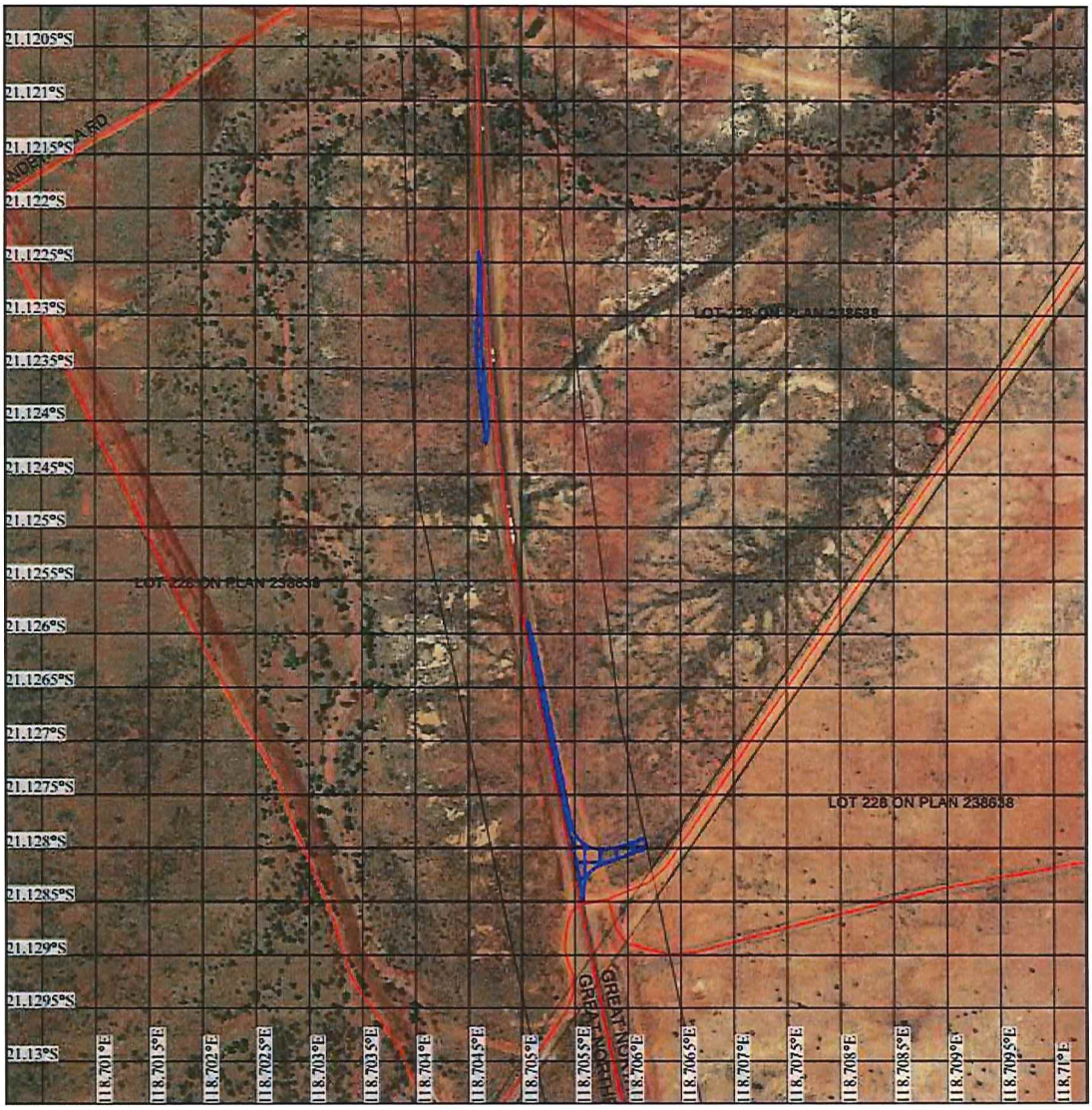
Vegetation Condition: A review of the application area using aerial photography has determined that most of the application area is within the previously cleared road reserve, with the exception of the proposed turning lane. Based on the aerial imagery of the application area, the vegetation within the road reserve area is assessed to be in completely degraded (Trudgen 1988) condition.

The proposed turning lane comprises approximately 0.074 hectares of the application area, and contains remnant vegetation. The flora, vegetation and habitat survey identified this vegetation to be in very good (Trudgen 1988) condition; defined as some relatively slight signs of damage caused by human activities since European settlement (Trudgen 1988).

Soil/Landform Type: The application area is mapped by the Department of Primary Industry and Regional Development as being situated within the Macroy Land System, which is described as comprising stony plains and occasional tor fields based on granite and supporting hard and soft spinifex grasslands (Department of Primary Industries and Regional Development 2017).

Comment: The local area referred to in the below assessment is defined as the area within a ten kilometre radius of the application area.

Figure 1: Map of application area.



3. Assessment of application against clearing principles

The flora, vegetation and habitat survey was undertaken outside the ideal survey timeframe for flora and vegetation communities in the Pilbara Region, as defined in the *Technical Guidance Flora and Vegetation Surveys for Environmental Impact Assessment* (Environmental Protection Authority 2016). The report notes that the low diversity of annual species recorded is indicative of the survey timing and the low rainfall which preceded the survey (Ecologica Environment 2017). The vegetation community identified in the proposed turning lane portion of the application area is considered to be widespread in the surrounding region (Ecologia Environment 2017). A review of aerial photography found the remainder of the application area is situated in the existing road reserve and the vegetation in this area was assessed to be in completely degraded (Trudgen 1988) condition.

As indicated in Figure 1, the environment surrounding the application area includes large tracts of similar habitats to those found in the proposed turning lane portion of the application area.A search of available databases determined that six conservation significant flora species have been recorded within the local area (Department of Biodiversity, Conservation and Attractions 2007). A review of the Western Australian Herbarium database determined that the closest recorded occurrence of a conservation significant flora species to the application area is an occurrence of *Heliotropium muticum* recorded approximately one kilometre from the application area. The flora, vegetation and habitat survey did not identify any flora species of conservation significance within the application area, however noted that the threatened flora taxon *Pityrodia* sp. Marble Bar may occur in the application area (Ecologia Environment 2017). The Department of Biodiversity, Conservation and Attractions (DBCA) advised that based on currently available information and knowledge regarding this taxon, it is unlikely the application area would support significant habitat for *Pityrodia* sp. Marble Bar (Department of Biodiversity, Conservation and Attractions 2017). DBCA also advised that this taxon is distinctive and identifiable outside the usual recommended flora survey period for the Pilbara region and would likely have been identified during the flora, vegetation and habitat survey if it were present in the application area (Department of Biodiversity, Conservation and Attractions 2017). Noting the extent of the proposed clearing, the condition of the majority of the vegetation in the application area, and the advice of DBCA, it is unlikely the application area includes conservation significant flora species.

A review of the NatureMap database identified that nine conservation significant fauna species occur within the local area (Department of Biodiversity, Conservation and Attractions 2007). A review of aerial photography of the application area indicated that the preferred habitat for these species is not likely to occur in the application area. Noting the extent of the proposed clearing and the condition of the vegetation within the application area, and that the application area is adjacent to significant areas of remnant vegetation, the application area is unlikely to comprise significant habitat for indigenous fauna, including species of conservation significance.

According to available datasets, no threatened ecological communities (TEC) or priority ecological communities (PEC) exist within the local area. The vegetation communities identified in the application area during the flora, vegetation and habitat survey are unlikely to comprise or be necessary for the maintenance of a TEC (Ecologia Environment 2017).

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001). The mapped vegetation association within the Pilbara IBRA bioregion retains over 99 per cent of its pre-European extent (Government of Western Australia 2016). The Shire of East Pilbara also retains over 99 percent of its pre-European vegetation coverage (Government of Western Australia 2016). On this basis, the application area is not likely to be significant as a remnant of native vegetation in an extensively cleared area.

According to available databases, the application area is situated approximately 1.2 kilometres from the nearest watercourse and there are no wetlands within the local area. Noting the vegetation types present within the application area, the proposed clearing is not likely to impact on native vegetation growing in association with a wetland or watercourse.

The application area is situated within the Macroy Land System, which is assessed to have a low to very low risk of erosion (van Vreeswyk et al 2004). Noting the extent of the proposed clearing and the location of the application area adjacent to an existing road, it is unlikely that the proposed clearing will cause appreciable land degradation.

No conservation areas are present within the local area. Consequently, no impacts to conservation areas will result from the proposed clearing activities.

The application area is situated within the Macroy Land System which comprises stony plains and occasional tor fields based on granite and features a low to very low risk of erosion. It is considered based on the above that the proposed clearing is not likely to result in a substantial increase in the sediment load or turbidity of surface water flows during significant rainfall events. Noting the extent of the proposed clearing and the location of the application area adjacent to an existing road, it is unlikely that the proposed clearing will cause deterioration in the quality of surface or underground water.

The application area is situated within the Turner River Catchment, which has an area of approximately 4,000 square kilometres. Wet weather events in the Pilbara region usually generate significant surface water flows and it is not anticipated that the small area of clearing under consideration will meaningfully impact the incidence or severity of flooding in the local environment or the surrounding region.

Given the above, the proposed clearing is not likely to have any significant impacts, and is not likely to be at variance to any of the clearing principles.

GIS Databases:
Department of Biodiversity Conservation and Attractions, Tenure
GNLWRA, Current Extent of Native Vegetation
Groundwater salinity
Hydrography, linear
IBRA WA (Regions - Sub Regions)
Land Degradation datasets
SAC bio datasets (accessed October 2017)
Soils, Statewide
Topographic contours

Planning instruments and other relevant matters.

No Aboriginal sites of significance have been mapped within the application area.

The clearing permit application was advertised on the Department of Water and Environmental Regulation website on 25 October 2017 with a 14 day submission period. No public submissions have been received in relation to this application.

GIS Databases:
Aboriginal Sites of Significance

4. References

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Department of Biodiversity, Conservation and Attractions (2017) Department of Biodiversity Conservation and Attractions Advice Request Proforma – *Pityrodia* sp. Marble Bar. Department of Biodiversity, Conservation and Attractions.

Department of Biodiversity, Conservation and Attractions (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: http://naturemap.dpaw.wa.gov.au/. Accessed November 2017.

Ecologia Environment (2017) Pilbara Minerals Limited Targeted Threatened Flora Search, Vegetation Assessment and Fauna Habitat Assessment. Great Northern Highway Intersection and Realignment. Prepared on the behalf of Pilbara Minerals Ltd.

Environmental Protection Authority (2016) Technical Guidance; Flora and Vegetation Surveys for Environmental Impact Assessment. Prepared by the Environmental Protection Authority.

Government of Western Australia (2016). 2016 State wide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2016. WA Department of Parks and Wildlife, Perth.

Trudgen, M.E. (1988). A Report on the Flora and Vegetation of the Port Kennedy Area. Unpublished report prepared for Bowman Bishaw and Associates, West Perth.

Van Vreeswyk, A.M.E., Leighton, K.A., Payne, A.L. and Hennig, P. (2004) An inventory and condition survey of the Pilbara region, Western Australia. Prepared by the Department of Agriculture and Food.