

CPS 519211

DEK 2013/00065



Department of Environment and Conservation – Department of Mines and Petroleum

Application for a clearing permit (area permit)

Environmental Protection Act 1986 s 51E

FORM C1

Clearing of native vegetation is prohibited in Western Australia except where a clearing permit has been granted or an exemption applies. A person who causes or allows unauthorised clearing commits an offence.

CPS No.
Department of Environment
Regulation

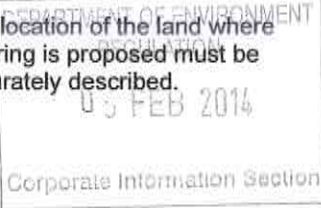
7 JAN 2014

Native Vegetation
Conservation Branch

Date stamp

Part 1 Land details

The location of the land where clearing is proposed must be accurately described.



Land description: Volume and Folio number, Lot or location number(s), Crown Lease or Reserve number, Pastoral Lease number or Mining Tenement number of all properties where clearing is proposed.

Warawagine Pastoral Lease PL3114/1169

Street address

Woodie Woodie Road, East Marble Bar

FILE REFERENCE

Local government area

East Pilbara, Shire of

Land zoning, e.g. rural, residential, industrial

Pastoral

Part 2 Proposal

An aerial photograph or map with a north arrow must be attached, clearly showing the area proposed to be cleared.

or
If you have the facilities, a digital map on CDROM of the area to clear in one of the following formats:

- ESRI Shapefile with the following properties:
 - Geometry type: Polygon shape.
 - Coordinate system: GDA 1994 (Geographic latitude/longitude).
 - Datum: GDA 1994 (Geocentric Datum of Australia 1994).
- Autocad 2000 or earlier; or
- Microstation 8 or earlier.

Total area of clearing proposed (Hectares) and/or number of individual trees to be removed

150ha

Proposed method of clearing

Mechanical

Period within which clearing is proposed to be undertaken, e.g. May 2010–June 2010

March 2014 -December 2014

Purpose of clearing

Irrigated Agriculture as described attached supporting information.

Part 3 Applicant

To apply for a permit you must either be:

- the landowner;
- acting on the landowner's behalf; or
- likely to become the landowner.

Note: If you are acting on behalf of the landowner, you must attach a letter of authority from the landowner explicitly stating that you, the applicant, has authority to clear on the said land.

Are you applying as an individual, a company or an incorporated body? – enter details for one only (please print).

An individual – applicant's given names, family name and title (Mr, Mrs, Ms, etc)

A company or incorporated body name (Note: companies must supply an Australian Company Number - ACN)

Grenleight Pty Ltd ACN 055 360 846

Ownership of land

If granted, the permit will be issued in the name of the landowner (or applicant if acting on behalf of the landowner).

A landowner can be:

- a person who holds the Certificate of Title
- a person who is the lessee of Crown land, or
- a public authority that is responsible for care of the land.

Full name of all landowners as they appear on the Certificate of Title (please print)

(1) Grenleight Pty Ltd ACN 055 360 846 Director 1 Robert Edson Jowett

(2) Director 2 Robin Frederick Mills

If more than one Certificate of Title, please include details on a separate sheet.

Information to Support NVC Permit Warrawagine Pastoral Lease PL3114/1169 – E Pilbara Shire

1. Site Information

The project area is located within the Chichester component of the Pilbara Interim Bio-geographical Region of Australia (IBRA). The vegetation communities consist of components of the Fortescue and Canning Botanical Districts typically comprised of hummock grasslands of spinifex (*Triodia* spp.) and shrub and tree steppe communities.

The area proposed for clearing consists of vegetation communities associated with the Paterson Land system defined as hard and soft spinifex hummock grasslands with isolated to very scattered shrubs. The Paterson Land System is present over 818 km² of the Pilbara region and has been assessed as 84% having very good to good vegetation condition and about 95% as having nil to minor erosion¹. By contrast it is proposed under this permit to clear 150ha of grasslands that have been degraded by grazing and utilise up to 100ha for irrigation.

The permit site does not include or is not within one kilometre of a nature reserve, coastline, wetland or any other area that may be sensitive or contain significant nature conservation values. The proposed centre pivot sites are around 300 metres from the Oakover River, which is the closest riverine feature.

There are no known Declared Rare Flora or Threatened Ecological Communities occurring within 100 km of the nearby Woodie Woodie mine site. Vegetation surveys have not identified any Priority Flora within mining tenement 45/432².

A report³ (attached) describes the soils and assesses the potential of the Permit area for irrigation. The reconnaissance soil/landform assessment and soil hydraulic conductivity tests were conducted in November 2010.

The area is associated with very gently to gently undulating slopes within the Paterson Land Systems that cover approximately 1600ha within the survey area. The dominant soils are red loamy earths developed on colluvium that overlies weathered Permian sandstone, siltstone and conglomerate. These soils commonly have a loamy soil texture that grade from sandy loam to clay loam, containing few to abundant gravel.

Topsoils are porous, massive to weakly structured and moderate to highly permeable. Saturated hydraulic conductivities (Ks) are in the range of 0.3-1.0m/day within the upper 50cm of the soil profile although profiles containing abundant gravel may have Ks values in the order of 1.0-4.0m/day. The field assessment and subsequent soil analysis indicate the soils within the Paterson Land Systems have a fair to high capability for irrigated agriculture.

¹ Van Vreeswyk, A.M.E, Payne, A. L., Leighton, K.A, Hennig, P. (2004) An inventory and condition survey of the Pilbara region, Western Australia. Department of Agriculture, Government of Western Australia. Technical Bulletin No 92.

² Department of Industry and Resources (undated). *Clearing Permit Decision Report. Permit No 2669/1.*

³ Smolinski, H (2011) *Soil Assessment of Potential Irrigation Areas Warrawagine Irrigation Project.* Department of Agriculture and Food Western Australia. Reference: 2009190 (Warrawagine)

2. Degradation Threats

2.1. Weed management

The surrounding area has not recorded the presence of any Declared Plants under the *Agriculture and Related Resources Protection Act 1976*, for the Shire of East Pilbara. However, several species recorded are *Declared Plants* elsewhere in the State⁴. All introduced plants detected in the proposed agricultural area will be treated in accordance with their rating on the *Pilbara Environmental Weed List*⁵.

A *Weed Management Plan*⁶ (attached) has been prepared to outline measures to: prevent the introduction, monitor the existence and control the spread of weeds that may be associated with the establishment and operation of the irrigation proposed for the Permit site. This *Weed Management Plan* assumes that the proposed irrigation project will operate under a Diversification Permit and outlines how weed control at the site will be managed. It identifies weed management priorities, potential risks and management strategies, adopting a preventative approach to weed management. This *Weed Management Plan* ensures that social, economic and environmental impacts attributable to weeds will be managed in accordance with agricultural best practice.

2.2. Land and water management

The site has been selected based on its capability to sustain the proposed land use. Production systems that account for the natural attributes of the site have been designed to minimise negative environmental impacts. This will contribute to natural resource protection during the operation and following the completion of the project.

A Nutrient and Irrigation Management Plan⁷ (attached) has been developed for the site to minimise the risks from salinization, nutrient loss and erosion. Precise water scheduling and fertiliser application via highly efficient centre pivot sprinklers; and permanent ground cover, vegetated buffers and, where needed, surface water control structures, are features of the best practices that will be implemented under the nutrient and irrigation management plan.

The Nutrient and Irrigation Management Plan is adapted for this site from one prepared and approved by the EPA for a similar project utilising surplus water from Hamersley Iron's Marandoo mine. It includes monitoring to ensure any emerging problems are detected and dealt with in a timely manner.

3. Rehabilitation

Rehabilitation will be served significantly by the ready access to irrigation and is covered in detail in the nutrient and irrigation management plan.

Centre pivots will be phased out in stages that will allow the establishment and growth of native vegetation through direct seeding. Local provenance seed will be used to do this in a way that mimics the composition of the natural vegetation as closely as possible.

⁴ Department of Agriculture and Food (2011). *Declared Plants*.

⁵ Department of Environment and Conservation (2009). *Pilbara Region Environmental Weed List*.

⁶ Global Groundwater (2012). *Woodie Woodie Trial Agriculture Project Weed Management Plan*.




⁷ Global Groundwater (2012). *Woodie Woodie Trial Agriculture Project Nutrient and Irrigation Management Plan*.

Prior to the commencement of rehabilitation, exit crops will be used to reduce nutrient levels. Crop residues will be removed, and any remaining introduced species controlled. If indicated, cultivation to encourage water infiltration and seed capture will be part of the rehabilitation process.

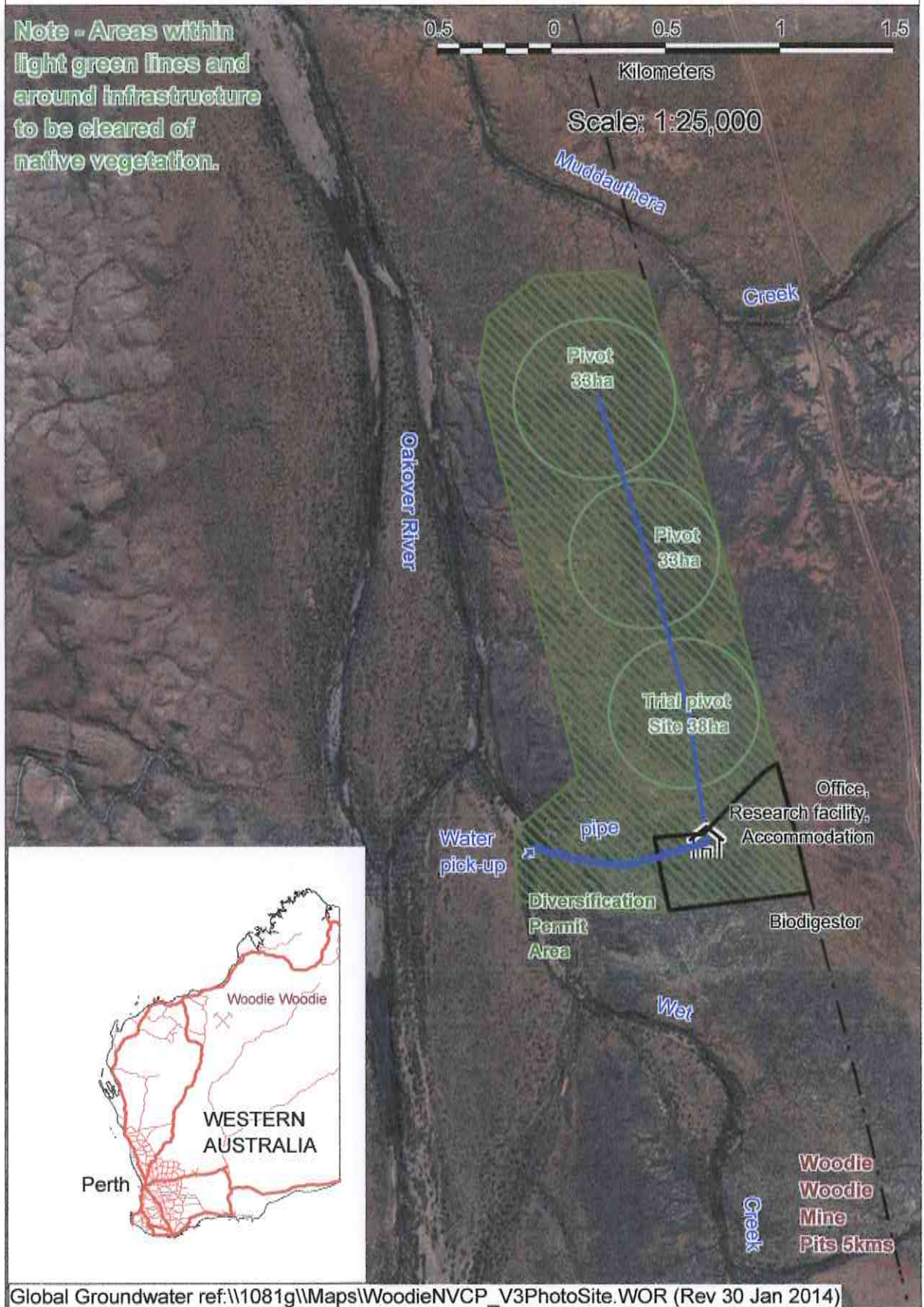
Salinization, which could impede rehabilitation efforts, will be avoided through the implementation of the Nutrient and Irrigation Management Plan.

All infrastructure, equipment, fences, buildings and irrigation systems will be removed from the site through the decommissioning process.

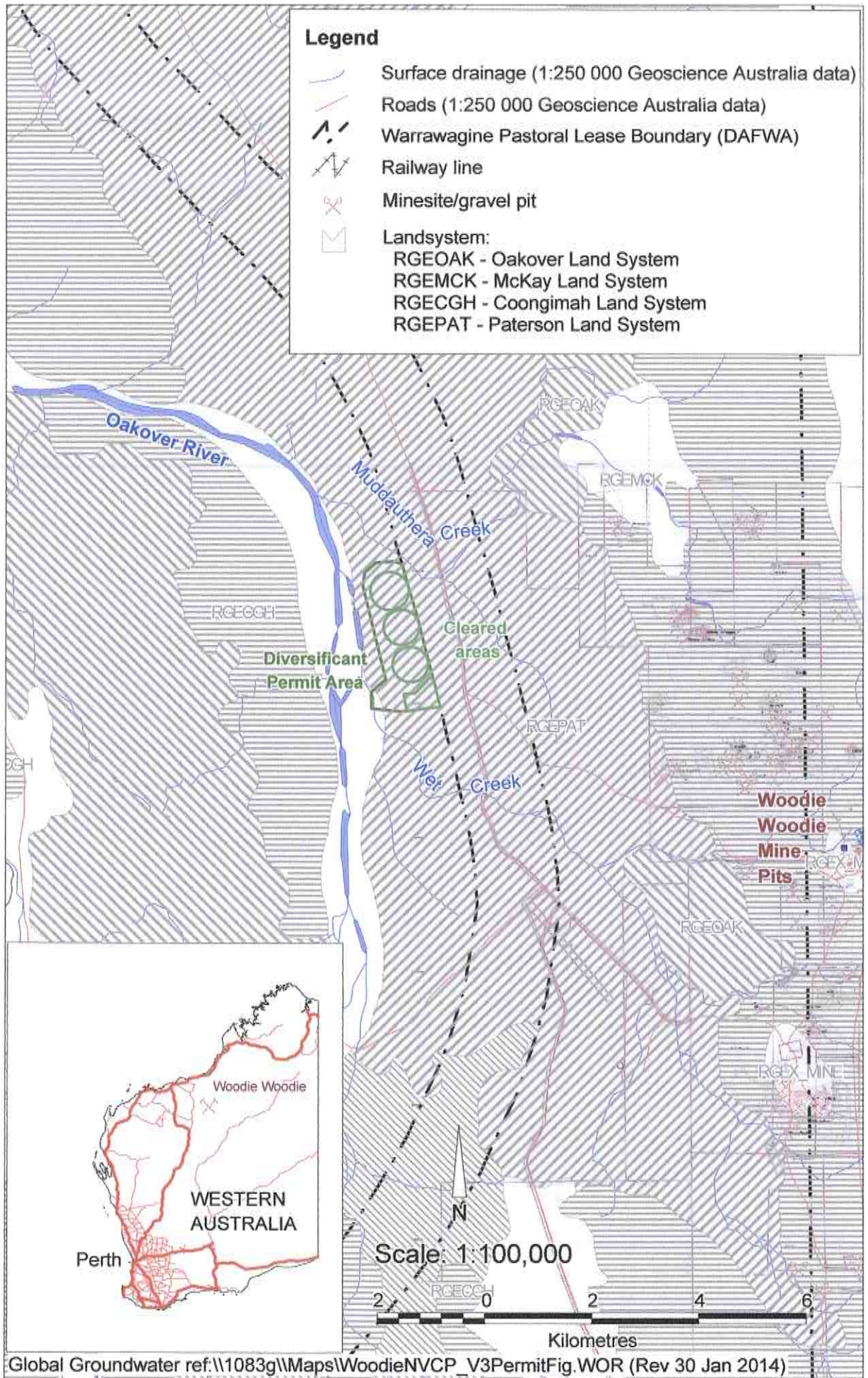
Legend

-  Surface drainage (1:250 000 Geoscience Australia data)
-  Roads (1:250 000 Geoscience Australia data)
-  Warrawagine Pastoral Lease Boundary (DAFWA)

Note - Areas within light green lines and around infrastructure to be cleared of native vegetation.



Woodie Woodie Pilot Location



Woodie Woodie Pilot Soils