



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6902/1
Permit type: Purpose

1.2. Proponent details

Proponent's name: Tronox Management Pty Ltd

1.3. Property details

Property: Exploration Licence 70/2345
Exploration Licence 70/3065
Exploration Licence 70/4129
Local Government Area: Shire of Dandaragan
Colloquial name: Cooljarloo West Drilling Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 31 March 2016

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description The clearing permit application areas have been broadly mapped as the following Beard vegetation association (GIS Database):

1030: Low woodland; *Banksia attenuata* & *B. menziesii*

A flora and fauna survey of the Cooljarloo West Project Area was undertaken by Woodman Environmental Consulting (2014). Five vegetation communities were identified within the application areas:

VT1: Low Open Heathland to Mid Closed Heathland of *Acacia lasiocarpa* var. *lasiocarpa*, *Banksia telmatiaea*, *Melaleuca seriata*, *Hakea obliqua* subsp. *parviflora*, *Regelia ciliata* and/or *Verticordia densiflora* var. *densiflora*, often with Mid Isolated Clumps of Shrubs to Mid Sparse Shrubland of *Melaleuca raphiophylla* on white grey to grey brown sand, sandy loam or sandy clay in broad damp depressions on flat to gently undulating plains;

VT2: Mid Sparse Shrubland to Mid Closed Shrubland of *Melaleuca acutifolia*, *Melaleuca brevifolia*, *Melaleuca raphiophylla* and/or *Melaleuca viminea* subsp. *viminea* over Low Isolated Clumps of Shrubs to Low Shrubland of *Calothamnus hirsutus*, *Calothamnus sanguineus* and *Grevillea thelemanniana* subsp. Cooljarloo (B.J. Keighery 28 B) on grey to grey brown sand, sandy loam or sandy clay in broad damp to wet depressions and drainage lines on flat to gently undulating plains;

VT5: Low Heathland to Mid Closed Heathland of *Banksia telmatiaea*, *Hakea obliqua* subsp. *parviflora*, *Melaleuca seriata* and/or *Regelia ciliata* on white grey to grey brown sand, sandy loam, sandy clay or clay loam in broad damp depressions on flat to gently undulating plains;

VT17: Low Isolated Clumps of Trees to Low Open Forest of *Banksia attenuata*, *Banksia menziesii* and *Eucalyptus todtiana* over Mid Isolated Clumps of Shrubs to Mid Shrubland of *Adenanthos cygnorum* subsp. *cygnorum*, *Eremaea pauciflora*, *Jacksonia floribunda*, *Jacksonia nutans*, *Stirlingia latifolia* and *Xanthorrhoea preissii* over Low Isolated Clumps of Shrubs to Low Shrubland of *Bossiaea eriocarpa*, *Dasyopogon obliquifolius*, *Eremaea asterocarpa* subsp. *asterocarpa*, *Eremaea pauciflora*, *Hibbertia crassifolia*, *Hibbertia hypericoides*, *Jacksonia nutans*, *Melaleuca clavifolia*, *Patersonia occidentalis* var. *?occidentalis* and *Petrophile linearis* over Low Isolated Clumps of Sedges to Mid Open Sedgeland of *Mesomelaena pseudostygia* on white or grey sand on undulating plains and low dunes; and

VT18: Low Isolated Clumps of Trees to Low Open Forest of *Banksia attenuata* and *Banksia menziesii* over Mid Isolated Clumps of Shrubs to Mid Shrubland of *Allocasuarina humilis*, *Conospermum stoechadis* subsp. *stoechadis*, *Eremaea pauciflora*, *Hakea costata* and/or *Xanthorrhoea preissii* over Low Isolated Clumps of Shrubs to Low Closed Shrubland of *Bossiaea eriocarpa*, *Calothamnus sanguineus*, *Dasyopogon obliquifolius*, *Eremaea pauciflora*, *Hibbertia hypericoides*, *Jacksonia nutans* and/or *Melaleuca clavifolia* over Low Isolated Clumps of Sedges to Mid Open Sedgeland of *Mesomelaena pseudostygia* on grey to yellow grey sand on undulating plains and low dunes or white grey to grey brown sand, sandy loam or sandy clay loam on simple slopes, open depressions or flats within undulating plains.

Clearing Description	Cooljarloo West Drilling Project. Tronox Management Pty Ltd proposes to clear up to 0.05 hectares of native vegetation within a total boundary of approximately 3.3 hectares, for the purpose of mineral exploration. The project is located approximately 29 kilometres east of Dandaragan, in the Shire of Dandaragan.
Vegetation Condition	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).
Comment	Vegetation condition was based on vegetation descriptions provided by Tronox Management (2015)

3. Assessment of application against clearing principles

Comments The proposed clearing of 0.05 hectares is part of the 2016 Cooljarloo West Drilling Program. This application is to allow for the clearing of three drill lines out of a total of 13 that are currently proposed for the program. The application area has been mapped as Beard vegetation association 1030 of which more than 50% is remaining at a state, bioregional, and sub-bioregional level (Government of Western Australia, 2014). The vegetation to be cleared is not considered to represent a significant remnant within an extensively cleared area. There are no known Threatened Ecological Communities (TEC's) or Priority Ecological Communities (PECs) within the application area (GIS Database). The application area is not located within or in close proximity to a conservation reserve (GIS Database).

As stated above, five vegetation communities occur within the application area based on a flora and vegetation assessment undertaken by Woodman Environmental Consulting (2014). All five of the vegetation communities are well represented within the surrounding area (Tronox Management, 2015). Due to the small scale of the proposed clearing (0.05 hectares) and abundance of similar vegetation in the surrounding region it is unlikely that the clearing will result in a significant impact to any vegetation community.

A flora and vegetation survey was undertaken by Woodman Environmental Consulting (2015). A total of 79 flora species of conservation significance were recorded within the Cooljarloo West Project Area (Woodman Environmental Consulting, 2015). Of these 79 species, six were recorded within the application area:

- *Andersonia gracilis* – Threatened under the WC Act
- *Anigozanthos viridis* subsp. *terraspectans* – Threatened under the WC Act
- *Babingtonia urbana* – Priority 3 as listed by DPaW
- *Chordifex chaunocoleus* – Priority 4 as listed by DPaW
- *Conostephium magnum* – Priority 4 as listed by DPaW
- *Verticordia lindleyi* subsp. *lindleyi* – Priority 4 as listed by DPaW

Whilst not recorded within the application areas themselves, the following species may be impacted during access to the application areas (Tronox Management, 2015):

- *Grevillea thelemanniana* subsp. Cooljarloo – Priority 1 as listed by DPaW
- *Isopogon panduratus* subsp. *palustris* – Priority 3 as listed by DPaW
- *Onychosepalum nodatum* – Priority 3 as listed by DPaW

The proposed clearing is within 50 metres of Declared Rare Flora (DRF) and will involve the removal or destruction of DRF (Tronox Management, 2015). DPaW (2016a) advises that a licence to take application has been granted for the 2016 Cooljarloo West Drilling Program authorising the taking of up to 159 plants of *Andersonia gracilis* (DRF) and potential damage to up to eight individuals of *Anigozanthos viridis* subsp. *terraspectans* (DRF).

The flora and vegetation survey undertaken by Woodman Environmental (2015) recorded 42 individuals of *Grevillea thelemanniana* subsp. Cooljarloo within the area targeted by the 2016 Cooljarloo West Drilling Program. From previous flora surveys at least 842 individuals are known to occur within the Cooljarloo West Project Area. *Grevillea thelemanniana* subsp. Cooljarloo is thought to be well distributed locally and has a broad habitat (Tronox Management, 2015). Identified individuals have been flagged and will be avoided where possible, in this case when obtaining access to the clearing permit application area (Tronox Management, 2015).

The remaining species listed above are found outside of the application area within and surrounding the Cooljarloo West Project Area. Due to the small area applied to be cleared (0.05 hectares) and the distribution of these species outside of the application area, it is unlikely the proposed clearing will have a significant impact on the population of these species.

The weed species *Ehrhata calycina* was recorded within the application area (Tronox Management, 2015). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. Dieback may also occur within the application area (Tronox Management, 2015). Tronox has strict hygiene procedures in place including the requirement for dieback

interpretation and risk mapping. In addition Tronox operate under an Exploration Environmental Management Plan which identifies that where there is a requirement to move soil in wet conditions, additional hygiene measures must be implemented (Tronox Management, 2014). Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a dieback and weed management condition.

No significant fauna habitat was identified within the application area (Tronox Management, 2015). Vegetation within the area is considered suitable foraging habitat for the Carnaby Cockatoo (Tronox Management, 2015). This habitat is widespread in the local area and the proposed clearing is not likely to have an impact on availability of foraging habitat in the region. Given the small area to be cleared (0.05 hectares) and the nature of the clearing, it is unlikely there will be a significant impact on fauna species.

The application area intersects seasonal wetland areas which were identified during a flora and vegetation survey by Woodman Environmental Consulting (2015). These wetlands were not classed as significant by Woodman Environmental Consulting (2015). Given the small amount of clearing proposed (0.05 hectares) and the nature of clearing (exploration purposes) there is unlikely to be a significant environmental impact on these wetland areas. Woodman Environmental Consulting (2015) advises that in order to reduce potential impacts, ground conditions within the wetland areas will be assessed prior to drilling, and access will be avoided if the ground is wet, as bogging and associated damage to soil and vegetation could occur. The small scale of clearing proposed (0.05 hectares) is unlikely to have a significant impact on surface water or groundwater quality, or contribute to significant land degradation.

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*, and the proposed clearing is at variance to Principles (c) and (f), is not likely to be at variance to Principles (a), (b), (d), (g), (h), (i), and (j) and is not at variance to Principle (e).

DPaW (2016a)
DPaW (2016b)
Government of Western Australia (2014)
Tronox Management (2014)
Tronox Management (2015)
Woodman Environmental Consulting (2014)
Woodman Environmental Consulting (2015)

GIS Database:
- DPaW Tenure

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

Comments: There is one native title claim (WC 1997/071) over the area under application (DAA, 2016). This claim has been registered with the Native Title Tribunal on behalf of the claimant group. However, the tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (ie. 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 no registered Sites of Aboriginal Significance located in the area applied to clear (DAA, 2016). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, the 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.

The clearing permit application was advertised on 1 February 2016 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Advice was requested from the Office of the Environmental Protection Authority (OEPA) as the application area falls within the Cooljarloo West Project Development Envelope which is currently under EPA assessment. The OEPA advised that the clearing proposed under this permit (CPS 6902/1) could proceed as it was considered a minor or preliminary works (OEPA, 2016).

Methodology: DAA (2016)

4. References

- DAA (2016) Aboriginal Heritage Inquiry System, Department of Aboriginal Affairs, Perth. <http://maps.dia.wa.gov.au/AHIS2/>. (Accessed 28 January 2016).
- DPaW (2016a) Advice received in relation to Clearing Permit Application CPS 6902/1 – Licence to take. Department of Parks and Wildlife, Western Australia, March 2016.
- DPaW (2016b) NatureMap. Department of Parks and Wildlife. <http://naturemap.dec.wa.gov.au> (Accessed 11 March 2016)
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics Incorporating the CAR reserve analysis (Full Report). Department of Environment and Conservation, Western Australia, June 2014.
- OEPA (2016) Advice received in relation to Clearing Permit Application CPS 6902/1. Office of the Environmental , Western Australia, March 2016.
- Tronox Management (2014) Exploration Environmental Management Plan. Tronox Management Pty Ltd, Western Australia, June 2014.
- Tronox Management (2015) Cooljarloo West 2016 Exploration Drilling. Environmental Screening. Tronox Management Pty Ltd, Western Australia, December 2015.
- Woodman Environmental Consulting (2014) Botanical Survey of 2014/2015 Cooljarloo Drill and Access Lines. Report prepared for Tronox Management Pty Ltd, by Woodman Environmental Consulting Pty Ltd, March 2014.
- Woodman Environmental Consulting (2015) Exploration Environmental Assessment 2016. Desktop Review and Risk Assessment. Report prepared for Tronox Management Pty Ltd, by Woodman Environmental Consulting Pty Ltd, October 2015.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DPaW (2015) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

- T** **Threatened species:**
Published as Specially Protected under the *Wildlife Conservation Act 1950*, listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).
Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.
Threatened flora is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.
The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.
- CR** **Critically endangered species**
Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
- EN** **Endangered species**
Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
- VU** **Vulnerable species**
Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.
- EX** **Presumed extinct species**
Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.
- IA** **Migratory birds protected under an international agreement**
Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- CD** **Conservation dependent fauna**
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- OS** **Other specially protected fauna**
Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950*, in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P** **Priority species**
Species which are poorly known; or
Species that are adequately known, are rare but not threatened, and require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 Priority One - Poorly-known species:

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 Priority Two - Poorly-known species:

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 Priority Three - Poorly-known species:

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4 Priority Four - Rare, Near Threatened and other species in need of monitoring:

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Principles for clearing native vegetation:

- (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
- (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.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare 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.
- (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.
- (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- (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.
- (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.
- (j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.