



Native Vegetation Clearance

MC 4540, Lot 100w Boxer Rd, Wisanger

Data Report

Clearance under the *Native Vegetation Regulations 2017*

9th September, 2022

Prepared by Michelle Haby



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1. Application information

Application Details

Applicant:			
Key contact:			
Landowner:			
Site Address:			
Local Government Area:	Kangaroo Island	Hundred:	Menzies
Title ID:	CT/5505/836	Parcel ID	H110800 S100W

Summary of proposed clearance

Purpose of clearance	Clearance required for the mining of basalt rock
Native Vegetation Regulation	Regulation 12, Schedule 1; clause 28, Operations
Description of the vegetation under application	3.04 ha of Narrow-leaf Mallee (<i>Eucalyptus cneorifolia</i>) woodland in poor condition. 2.53 ha of Sugar Gum (<i>Eucalyptus cladocalyx</i>) woodland in poor condition
Total proposed clearance - area (ha) and number of trees	1.4 ha and 8 scattered trees are proposed to be cleared.
Level of clearance	Level 4
Overlay (Planning and Design Code)	Native Vegetation Overlay

Map of proposed clearance area



Mitigation hierarchy	Avoidance is not possible as the optimal mining position is sparsely vegetated. The mining area has been positioned to minimise vegetation clearance.
SEB Offset proposal	Payment of \$33,052.40 or 12.80 points plus 3.99 ha on-ground

2. Purpose of clearance

2.1 Description

The Wisanger Plateau contains large deposits of basaltic rock, which is used as crushed metal for road building and other construction purposes. Due to the volume of construction projects happening across Kangaroo Island, there is a high demand for this material. The current basalt mines on the island do not have sufficient material left in them to meet this demand. Clearance is therefore required to open a new basalt rock mining operation on Lot 100w Boxer Road, Wisanger.

2.2 Background

Wisanger was largely cleared for agricultural purposes in the early days of settlement on Kangaroo Island. Lot 100w Boxer Rd was mostly cleared during this time, however due to the steep nature of the block and the creek lines that intersect it, some areas were either left uncleared or were left sparsely vegetated.

The property has been seasonally grazed since it was cleared. The remnant vegetation on the property has never been fenced off, so stock have had continual access to these areas.

The landholder has taken out a mineral claim (MC4540) (Figure 1) across most of the property with the intent of mining basalt out of the hills and leasing the arable acres to nearby farmers for grazing purposes. Once the basalt has been exhausted from this proposed clearance area, further applications will be lodged. It is envisaged that mining operations will only occur where they are not highly visible from the surrounding landscape. To this end, there is no intention to mine the entire claim.

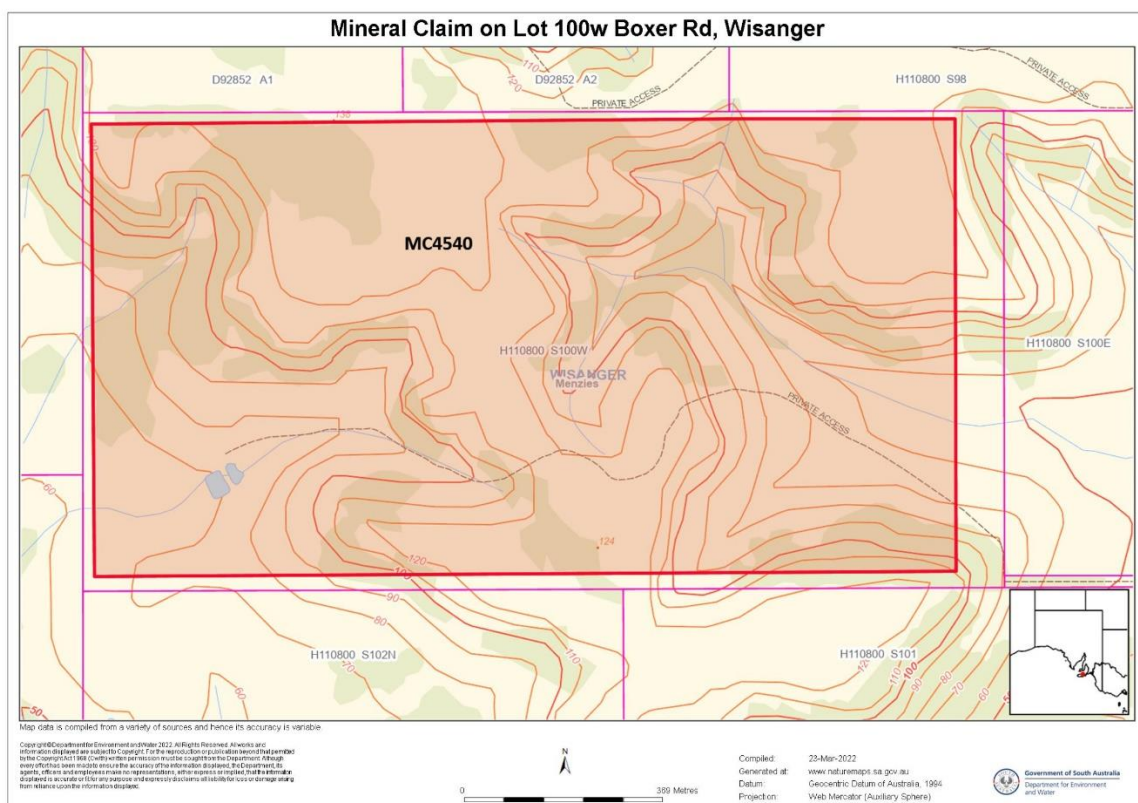


Figure 1. Mineral Claim on Lot 100w Boxer Rd, Wisanger. (Scale 1:9,028)

2.3 General location map

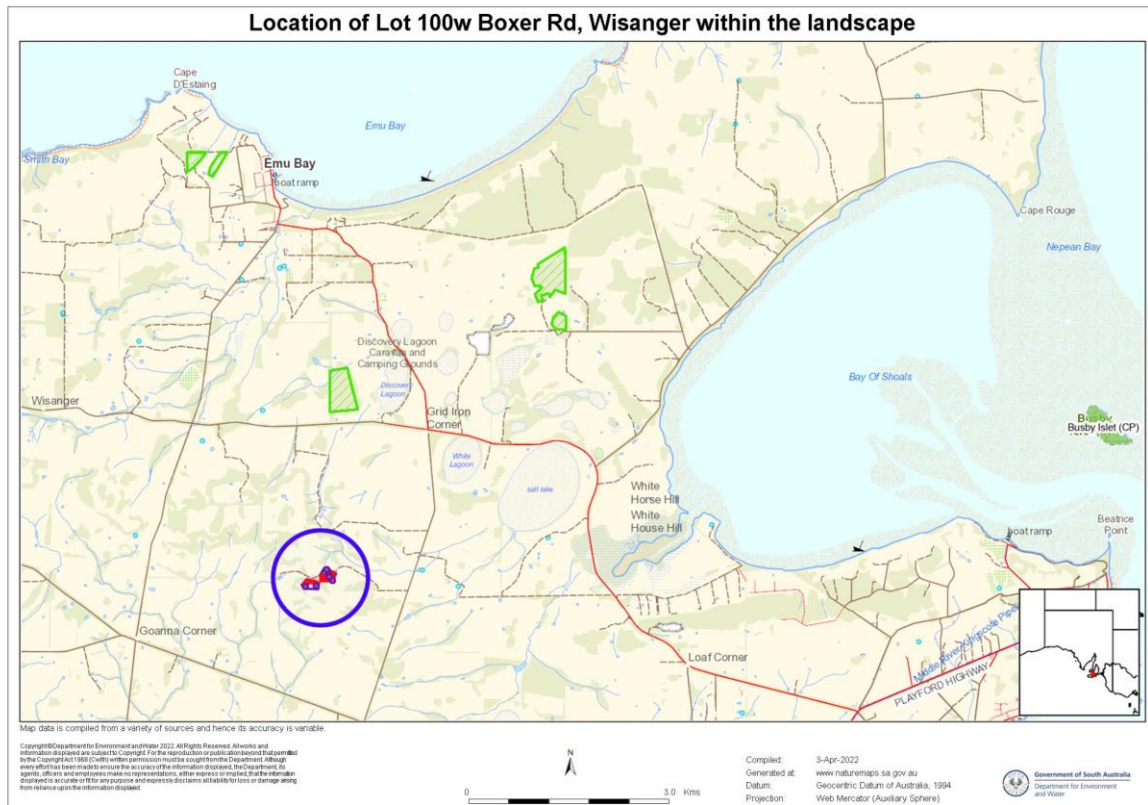


Figure 2. Location of Lot 100w Boxer Rd, Wisanger within the Hundred of Menzies. (Scale 1:72,224)

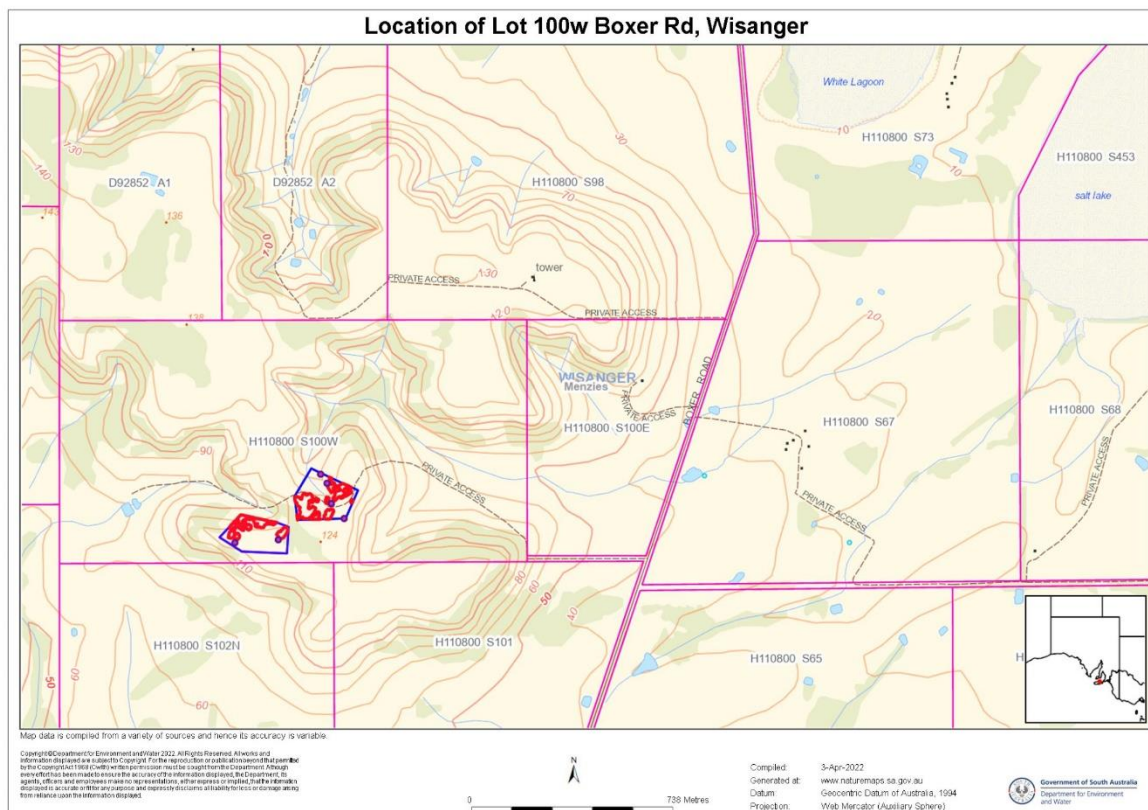


Figure 3. Location of Lot 100w on Boxer Rd, Wisanger. (Scale 1:18,056)



Figure 4. Location of the clearance area within Mineral Claim 4540 on Lot 100w Boxer Rd, Wisanger. (Scale 1:10,000)

2.4 Details of the proposal

Basalt is used for many construction purposes such as road base and asphalt pavement aggregate. Kangaroo Island has several rich deposits of basalt, some of which have been actively mined since the early days of settlement. The Wisanger Plateau runs in a north-west direction through the middle of the Menzies Hills. They contain rich deposits of basalt with varying depths of red clay-loam capping.

Many construction projects are occurring on Kangaroo Island from new residential homes and tourist developments to infrastructure upgrades such as roads and tourist facilities. Many of these projects require large amounts of basalt aggregate. A & G Willson Earthmovers supply quarry materials such as crushed limestone and basalt for construction projects on Kangaroo Island and southern Adelaide. They currently have a basalt mine on North Coast Road, however the material within this quarry has nearly been exhausted. Mr. Willson wishes to open a new quarry on Lot 100w Boxer Rd, so that he can continue to supply construction material to the many projects that are occurring across the island.

A Mineral Claim has been taken out across most of Lot 100w Boxer Rd, Wisanger. To maintain the character of the area and to reduce the drift of dust across neighbouring properties, it is proposed to only excavate material from the hill slopes in the central portion of the property.

An open pit mining operation will be undertaken to extract the basalt. An initial 5.57 hectare site has been identified towards the southern boundary of the property (Figure 5). In line with Mining Regulations only 3 hectares of the proposed mine will be open at any one time. As the material within the pit is exhausted, the pit will be covered over with the stockpiled over burden and rehabilitated into agricultural land. This will create a rolling system of active and rehabilitating areas across the mine site. When the material is beginning to be exhausted from this site, a new site will be identified on the property and appropriate approvals will be sought to begin mining from it.

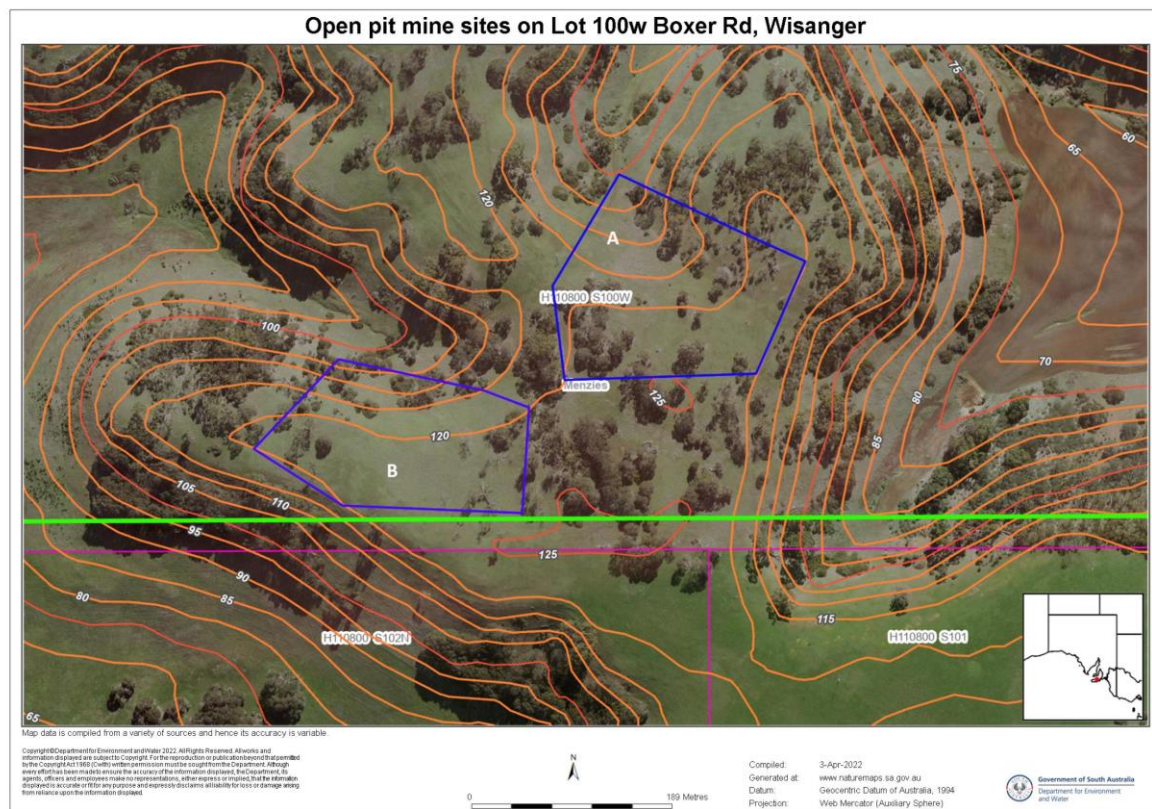


Figure 5. Location of proposed open pit mine sites on Lot 100w Boxer Rd, Wisanger. (Scale 1:4,514)

As the southern and eastern boundaries of the proposed site are on the crest of the hill, mining operations may be visible from the surrounding landscape. To prevent this from occurring, the over burden will be stockpiled along these edges.

2.5 Approvals required or obtained

The *Mining Act 1971*, *Mines and Works Inspection Act 1920* and *Opal Mining Act 1995*, along with associated *Mining Regulations 2020*, *Mines and Works Inspection Regulations 2013* and *Opal Mining Regulations 2012*, provide the framework for regulating the mineral exploration and mining sectors in South Australia.

2.6 Native Vegetation Regulation

This proposal falls under Regulation 12(28) as it is for a Mining Operation.

Schedule 1, Division 5, Regulation 12(28) – Operations

To allow the clearance of native vegetation for operations authorised under a Mining Act or the *Petroleum and Geothermal Energy Act 2000*.

2.7 Development Application information (if applicable)

The Menzies Hills is zoned Rural (Primary Production) and subzoned Kangaroo Island. The Native Vegetation and Water Resources Overlays apply.

3. Method

3.1 Flora assessment

The Native Vegetation proposed to be cleared for a basalt mining operation at Lot 100w Boxer Road, Wisanger, Hundred of Menzies was assessed on 21 March 2022. The flora was assessed using standard assessment techniques consisting of-

- One native vegetation community was identified;
- A Bushland Assessment Site was established in the vegetation community;
- A complete species list of all native and introduced plant species was produced for the identified vegetation community;
- Nationally Threatened, State Listed or Regionally Significant plant species populations were identified and their location recorded with a hand-held GPS to an accuracy of <5m;
- Proclaimed introduced plant species populations were identified and their location recorded with a hand-held GPS to an accuracy of <5m; and
- Survey data relating to records of Nationally Threatened, State Listed or Regionally Significant plant species was recorded, following BDBSA Minimum Data Standards, and provided to BDBSA for uploading.

[7 Appendices](#) contains the flora list for the site.

3.2 Fauna assessment

The potential fauna to occur on Lot 100w Boxer Road, Wisanger, Hundred of Menzies was determined utilising the following-

- Fauna recorded within 5km of the site;
- Observations of fauna including, tracks and traces, while undertaking the flora assessment.

The comprehensive list from above was then added to the Bushland Assessment Spreadsheet, [Appendix 2](#).

The vegetation on the allotment is very sparse with minimal understory and no herbaceous species present. It is providing limited habitat for rare or threatened species. As such, it was felt that a full fauna assessment was not required.

4. Assessment Outcomes

4.1 Vegetation Assessment

General description of the vegetation, the site and matters of significance

The Menzies Hills are located west of Kingscote and extend towards the north coast of Kangaroo Island. They are comprised of undulating uplands to an altitude of 100m and plains which contain alkaline duplex soils and grey-brown cracking clays. There are many seasonal creeks and drainage lines throughout the area and several salt lagoons.


The Wisanger Plateau, which rises to an altitude of 180m, is wholly contained within the Menzies Hills and was formed by the upwelling of basaltic lavas during the Middle Jurassic times. The hills that make up the plateau are steep sided and are intersected by many gullies. Despite the steep nature of the area, much of it was cleared for agricultural purposes. There are, however, many pockets of semi-cleared and intact patches of vegetation throughout the area.


Lot 100w Boxer Road, Wisanger is located at the eastern end of the Wisanger Plateau and contains three major drainage lines. There are several patches of intact vegetation on the allotment as well as many sparsely vegetated areas. The areas that have been completely cleared for agricultural purposes are highly visible within the landscape.


There are two main vegetation communities found on the allotment being a *Eucalyptus cneorifolia* mid open mallee forest over *Melaleuca uncinata* and a *Eucalyptus cladocalyx* mid open woodland over *Melaleuca uncinata*. There are intact areas of both communities on the allotment. This vegetation is in a senescent state due to a lack of ecological disturbance and in good to poor condition due to livestock having had continual access to it.


The vegetation within the clearance areas is in poor fragmented condition with minimal understory species and high numbers of introduced pasture grasses and patches of the declared weed *Asparagus asparagoides*. It is providing little habitat for Rare and Threatened species. This vegetation is semi-isolated within the highly fragmented agricultural landscape. A heritage agreement area (HA 895) which contains similar vegetation is located 2.5km to the north.


Details of the vegetation associates/scattered trees proposed to be impacted


Vegetation Association	KI 1101 <i>Eucalyptus cneorifolia</i> , +/- <i>Eucalyptus rugosa</i> , +/- <i>Eucalyptus odorata</i> , +/- <i>Eucalyptus diversifolia</i> ssp. <i>diversifolia</i> +/- <i>Eucalyptus phenax</i> ssp. <i>compressa</i> mid closed mallee forest over +/- <i>Melaleuca uncinata</i> , +/- <i>Melaleuca acuminata</i> ssp. <i>acuminata</i> , +/- <i>Callistemon rugulosus</i> over +/- <i>Thryptomene ericaea</i> , +/- <i>Acacia paradoxa</i> , +/- <i>Melaleuca gibbosa</i> , +/- <i>Rhagodia candolleana</i> ssp. <i>candolleana</i> , +/- <i>Xanthorrhoea semiplana</i> ssp. <i>tateana</i> mid open shrubland over +/- <i>Ozothamnus retusus</i> , +/- <i>Orthrosanthus multiflorus</i> low open shrubland				
Block A					
			<p>Direction: 292°</p> <p>Latitude: 35° 38' 35.48" S</p> <p>Longitude: 137° 30' 52.97" E</p> <p>Photo 5 Typical habitat</p>		
General description	<i>Eucalyptus cneorifolia</i> , <i>Eucalyptus odorata</i> , <i>Eucalyptus diversifolia</i> ssp. <i>diversifolia</i> mid closed woodland over <i>Melaleuca uncinata</i> and <i>Acacia paradoxa</i> shrubs Highly fragmented, semi-cleared patches of vegetation in moderate to poor weedy condition. Stock camps were found within some patches.				
Threatened species or community	No threatened species or ecological communities were observed within the clearance area. Patches of KI Narrow-leaf Mallee Woodland (EPBC Act Critically Endangered) are located nearby on the allotment and neighbouring properties. Southern Brown Bandicoots (EPBC Act Endangered) have been recorded within 5km of the clearance area. <i>Eucalyptus phenax</i> ssp. <i>compressa</i> (NPW Act Rare) has been recorded within 1km of the clearance area.				
Landscape context score	1.12	Vegetation Condition Score	17.66	Conservation significance score	1.10
Unit biodiversity Score	21.75	Area (ha)	0.88	Total biodiversity Score	19.14


Vegetation Association	KI 0508 <i>Eucalyptus cladocalyx</i> , +/- <i>Eucalyptus diversifolia</i> ssp. <i>diversifolia</i> , +/- <i>Eucalyptus cneorifolia</i> , <i>Allocasuarina verticillata</i> mid open woodland over <i>Melaleuca uncinata</i> , <i>Allocasuarina muelleriana</i> ssp. <i>notocolpica</i> , <i>Melaleuca gibbosa</i> , <i>Xanthorrhoea semiplana</i> ssp. <i>tateana</i> , <i>Thryptomene ericaea</i> shrubs over <i>Hibbertia australis</i> shrubs				
Block B	<div>  <div> <p>Direction: 75°</p> <p>Latitude: 35° 38' 40.95" S</p> <p>Longitude: 137° 30' 40.78" E</p> <p>Photo 6 Typical habitat</p> </div> </div>				
General description	<i>Eucalyptus cladocalyx</i> ssp. <i>crassa</i> , <i>Eucalyptus cneorifolia</i> , <i>Eucalyptus odorata</i> open woodland. Highly fragmented, semi-cleared patches of vegetation in moderate to poor weedy condition.				
Threatened species or community	<p>No threatened species or ecological communities were observed within the clearance area. Patches of KI Narrow-leaf Mallee Woodland (EPBC Act Critically Endangered) are located nearby on the allotment and neighbouring properties.</p> <p>Southern Brown Bandicoots (EPBC Act Endangered) have been recorded within 5km of the clearance area.</p> <p><i>Eucalyptus phenax</i> ssp. <i>compressa</i> (NPW Act Rare) has been recorded within 1km of the clearance area.</p>				
Landscape context score	1.12	Vegetation Condition Score	17.55	Conservation significance score	1.10
Unit biodiversity Score	21.62	Area (ha)	0.52	Total biodiversity Score	11.24


Tree ID – Tree 1, Block A	
<i>Eucalyptus leucoxylon</i> ssp. <i>leucoxylon</i>	
Number of trees – 1	
Height (m) – 12	
Hollows – 1	
Diameter (cm) – 75	
Canopy dieback (%) – 20	
Total Biodiversity Score – 2.18	
Direction: 268° Latitude: 35° 38' 35.26" S Longitude: 137° 30' 50.95" E	
Semi-isolated paddock tree in good condition with minimal dieback. Providing limited habitat to threatened species.	

Tree ID – Tree 2, Block A	
<i>Eucalyptus leucoxylon</i> ssp. <i>leucoxylon</i>	
Number of trees – 1	
Height (m) – 13	
Hollows – 1	
Diameter (cm) – 83	
Canopy dieback (%) – 10	
Total Biodiversity Score – 2.61	
Direction: 316° Latitude: 35° 38' 36.33" S Longitude: 137° 30' 51.88" E	
Semi-isolated paddock tree in good condition with minimal dieback. Providing limited habitat to threatened species.	

Tree ID – Tree 3, Block A	
<i>Eucalyptus diversifolia</i> ssp. <i>diversifolia</i>	
Number of trees – 1	
Height (m) – 8	
Hollows – 0	
Diameter (cm) – 38	
Canopy dieback (%) – 30	
Total Biodiversity Score – 1.93	
Direction: 245° Latitude: 35° 38' 40.50" S Longitude: 137° 30' 52.51" E	
Isolated paddock tree in moderate condition with minimal dieback. Providing no habitat to threatened species.	

Tree ID – Tree 4, Block A	
<i>Eucalyptus odorata</i>	
Number of trees – 3	
Height (m) – 126	
Hollows – 1	
Diameter (cm) – 44	
Canopy dieback (%) – 20	
Total Biodiversity Score – 2.91	
Direction: 97° Latitude: 35° 38' 40.50" S Longitude: 137° 30' 54.37" E	
Isolated clump of paddock trees in good condition with minimal dieback. Providing limited habitat to threatened species.	

Tree ID – Tree 5, Block B	
<i>Eucalyptus odorata</i>	
Number of trees – 1	
Height (m) – 9	
Hollows – 0	
Diameter (cm) – 44	
Canopy dieback (%) – 80	
Total Biodiversity Score – 0.54	
Direction: 182° Latitude: 35° 38' 43.00" S Longitude: 137° 30' 44.80" E	
Isolated paddock tree in very poor condition with large amounts of dieback. Providing no habitat to threatened species. Suffering from high levels of herbivory.	

Tree ID – Tree 6	
<i>Eucalyptus odorata</i>	
Number of trees – 1	
Height (m) – 10	
Hollows – 0	
Diameter (cm) – 57	
Canopy dieback (%) – 35	
Total Biodiversity Score – 2.01	
Direction: 225° Latitude: 35° 38' 43.34" S Longitude: 137° 30' 38.49" E	
Isolated paddock tree in moderate condition with moderate levels of dieback. Providing no habitat to threatened species.	

Site map showing areas of proposed impact

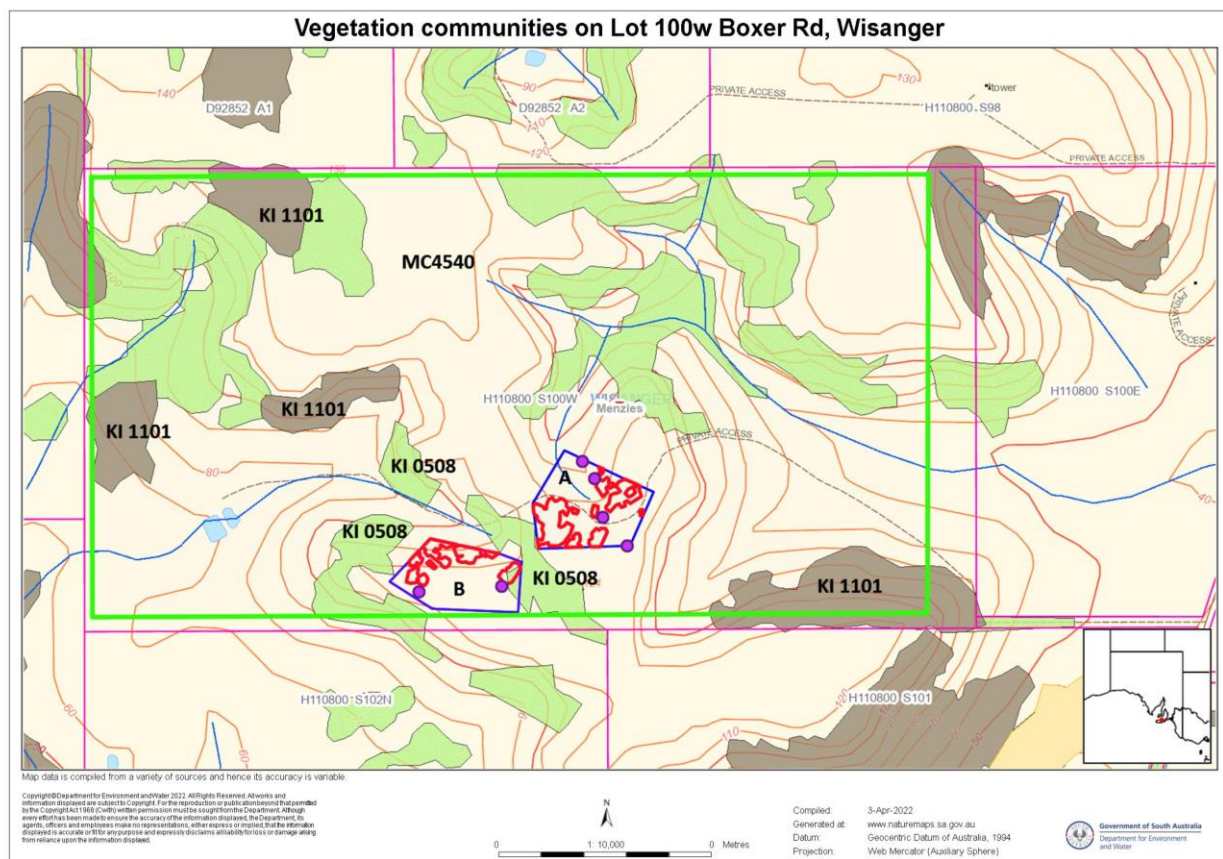


Figure 6. Vegetation communities located on Lot 100w Boxer Road, Wisanger. (Scale 1:10,000)

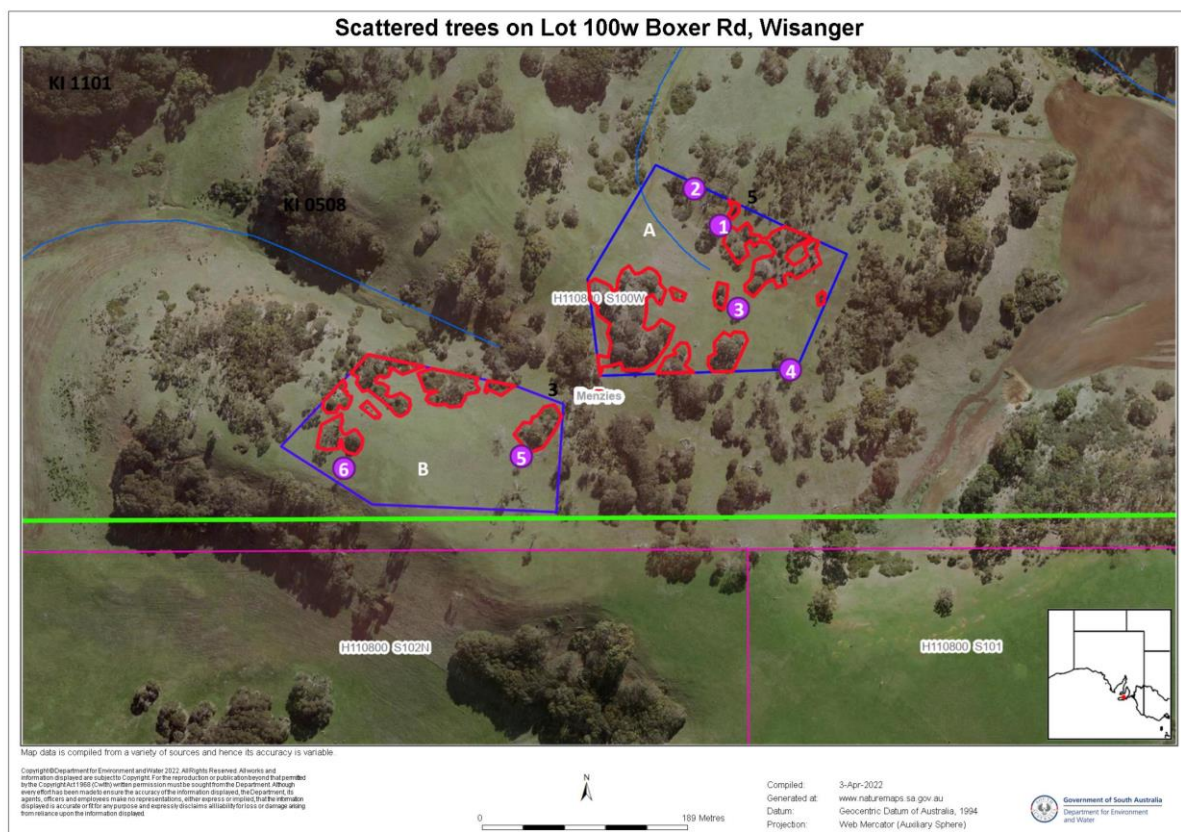


Figure 7. Location of scattered trees on Lot 100w Boxer Road, Wisanger. (Scale 1:4,514)

Photo log



Photo 1. **Direction:** 60° **Latitude:** 35° 38' 37.62" S **Longitude:** 137° 30' 47.76" E. Western side of Block A.



Photo 2. **Direction:** 275° **Latitude:** 35° 38' 36.97" S **Longitude:** 137° 30' 56.11" E. Remnant patch in Block A



Photo 3. **Direction:** 166° **Latitude:** 35° 38' 41.11" S **Longitude:** 137° 30' 45.89" E. Remnant patch in Block B



Photo 4. **Direction:** 64° **Latitude:** 35° 38' 41.47" S **Longitude:** 137° 30' 38.86" E. Northern edge of Block B

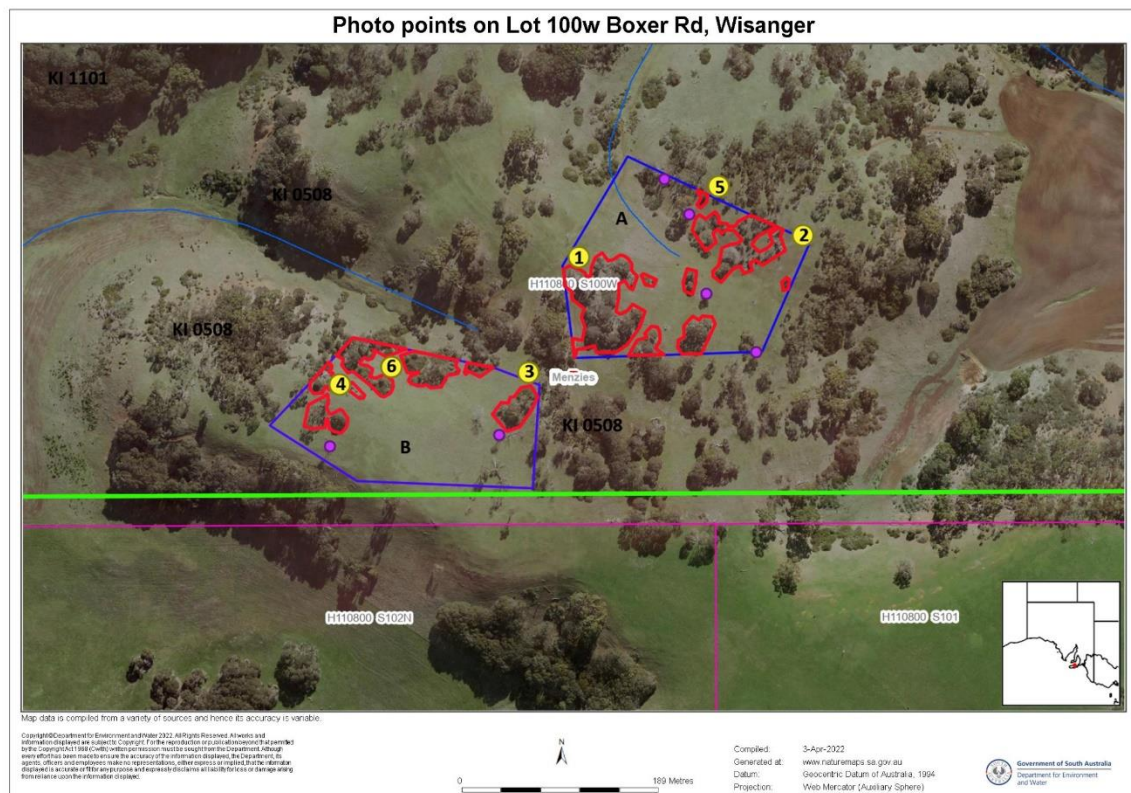


Figure 8. Locations of photo points on Lot 100w Boxer Road, Wisanger. (Scale 1:4,514)

4.2 Threatened Species assessment

Species observed on site, or recorded within 5km (50km in the arid zone) of the application area since 1995, or the vegetation is considered to provide suitable habitat

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
<i>Petroica boodang boodang</i> (Scarlet Robin)	R		3	1997	Open forest and woodlands	Likely – some suitable habitat
<i>Isodon obesulus obesulus</i>	EN	V	3	2009	Heathy forest and woodland	Unlikely – no suitable habitat
<i>Eucalyptus phenax ssp. compressa</i>	R		3	2012	Inland alkaline clays	Likely – suitable habitat present

Source; 1- BDBSA, 2 - AoLA, 3 – NatureMaps 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others
NP&W Act; E= Endangered, V = Vulnerable, R= Rare
EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable

Criteria for the likelihood of occurrence of species within the Study area.

Likelihood	Criteria
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Highly Likely/Known	Recorded in the last 10 years, the species does not have highly specific niche requirements, the habitat is present and falls within the known range of the species distribution or; The species was recorded as part of field surveys.
Likely	Recorded within the previous 20 years, the area falls within the known distribution of the species and the area provides habitat or feeding resources for the species.
Possible	Recorded within the previous 20 years, the area falls inside the known distribution of the species, but the area provide limited habitat or feeding resources for the species. Recorded within 20 -40 years, survey effort is considered adequate, habitat and feeding resources present, and species of similar habitat needs have been recorded in the area.
Unlikely	Recorded within the previous 20 years, but the area provide no habitat or feeding resources for the species, including perching, roosting or nesting opportunities, corridor for movement or shelter. Recorded within 20 -40 years; however, suitable habitat does not occur, and species of similar habitat requirements have not been recorded in the area. No records despite adequate survey effort.

4.3 Cumulative impact

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must consider the potential cumulative impact, both direct and indirect, that is reasonably likely to result from a proposed clearance activity.

Clearance is required to create an open pit mine for the extraction of basalt from the Wisanger Plateau. This clearance will be undertaken in a sensitive manner, so that the surrounding vegetation will not be impacted.

Whilst there are drainage lines within the clearance area, the mining operation will have a minimal impact on the hydrology of the area. The basalt deposits are predominately towards the upper reaches of the hills, therefore minimal clearance will occur within the lower reaches of the hill faces where earthworks could alter the flow of surface water.

The clearance and mining operation will generate some dust, however this will have a minimal impact on the surrounding vegetation as the soils are predominately heavy and the surrounding vegetation is able to withstand moderate levels of smothering by dust.

It is anticipated that further clearance will be required in the future when the current proposed site has been exhausted of basalt material. As with this application, the native vegetation and character of the area will be taken into consideration.

4.4 Address the Mitigation Hierarchy

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must have regard to the mitigation hierarchy. The NVC will also consider, with the aim to minimize, impacts on biological diversity, soil, water and other natural resources, threatened species or ecological communities under the EPBC Act or listed species under the NP&W Act.

a) Avoidance – outline measures taken to avoid clearance of native vegetation

Representatives from the Department for Energy and Mining have undertaken an assessment of Lot 100w Boxer Road, Wisanger and suggested that the optimal site for the open pit basalt mine is on the crest of the highest hill on the property where there is very little native vegetation.

This site would be highly visible from the surrounding landscape and would have a detrimental affect on the character of the area. Mr Willson wishes to sensitively mine the basalt from the hill, so does not want a mine site that is highly visible from the surrounding landscape, nor a site where noise and dust creation would drift across neighbouring properties. The avoidance of native vegetation clearance is therefore not possible. The proposed site does, however, avoid the clearance of intact vegetation.

b) Minimization – if clearance cannot be avoided, outline measures taken to minimize the extent, duration and intensity of impacts of the clearance on biodiversity to the fullest possible extent (whether the impact is direct, indirect or cumulative).

The proposed open pit mine site has been placed within an area of sparse degraded vegetation to minimise the amount of vegetation that needs to be cleared to create the mine. Where possible large trees will be left undisturbed.

Existing vehicle tracks will be used by machinery and transport vehicles to access the site and cart the material away, thereby minimising the need for further vegetation clearance.

c) Rehabilitation or restoration – outline measures taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been degraded, or destroyed by the impact of clearance that cannot be avoided or further minimized, such as allowing for the re-establishment of the vegetation.

Once all the basalt has been extracted from an area, it will be rehabilitated into productive agricultural land. No restoration of native vegetation will occur on the site, however areas of intact vegetation will be left to provide habitat for fauna species.

d) Offset – any adverse impact on native vegetation that cannot be avoided or further minimized should be offset by the achievement of a significant environmental benefit that outweighs that impact.

The NVC will only consider an offset once avoidance, minimization and restoration have been documented and fulfilled. The SEB Policy explains the biodiversity offsetting principles that must be met.

The SEB will be fulfilled by way of payment into the Native Vegetation Fund.

4.5 Principles of Clearance (Schedule 1, *Native Vegetation Act 1991*)

The Native Vegetation Council will consider Principles 1(b), 1(c) and 1(d) when assigning a level of Risk under Regulation 16 of the Native Vegetation Regulations. The Native Vegetation Council will consider all the Principles of clearance of the Act as relevant, when considering an application referred under the *Planning, Development and Infrastructure Act 2016*.

Principle of clearance	Considerations
Principle 1a - it comprises a high level of diversity of plant species	<u>Relevant information</u> KI 1101 <i>Eucalyptus cneorifolia</i> mid closed mallee forest over <i>Melaleuca uncinata</i> tall open shrubland Native species: 12; Introduced species: 5 Bushland Plant Diversity Score – 10 KI 0508 <i>Eucalyptus cladocalyx</i> mid open woodland over <i>Melaleuca uncinata</i> shrubs Native species: 14; Introduced species: 5 Bushland Plant Diversity Score – 12
	<u>Assessment against the principles</u> At Variance - KI 1101 <i>Eucalyptus cneorifolia</i> mid closed mallee forest over <i>Melaleuca uncinata</i> tall open shrubland - KI 0508 <i>Eucalyptus cladocalyx</i> mid open woodland over <i>Melaleuca uncinata</i> shrubs
	<u>Moderating factors that may be considered by the NVC</u> The clearance area is very small and only consisting of sparse degraded vegetation. Less than 0.25% of the vegetation within the area will be cleared.
Principle 1b - significance as a habitat for wildlife	<u>Relevant information</u> Southern Brown Bandicoots (EPBC Act Endangered) have been recorded within 5km of the clearance area. The vegetation within the clearance area is in poor condition and semi-isolated within agricultural land. As such, it would be providing limited habitat for threatened species. Patches; Threatened Fauna Score – 0.1 Unit biodiversity Score – 21.75 (Block A), 21.62 (Block B) Trees; Fauna Habitat Score – 0.1 Biodiversity Score – 9.64 (Block A), 2.55 (Block B)

	<p><u>Assessment against the principles</u></p> <p><u>Seriously at Variance</u></p> <ul style="list-style-type: none"> - KI 1101 <i>Eucalyptus cneorifolia</i> mid closed mallee forest over <i>Melaleuca uncinata</i> tall open shrubland - KI 0508 <i>Eucalyptus cladocalyx</i> mid open woodland over <i>Melaleuca uncinata</i> shrubs - Trees 1-6 <p><u>Moderating factors that may be considered by the NVC</u></p> <p>The threatened species that have been recorded within 5km of Lot 100w Boxer Road, Wisanger are highly mobile and the clearance area is very small within an area of degraded vegetation. Because of these two factors, the clearance will have minimal impact on the threatened species.</p>
<p>Principle 1c - plants of a rare, vulnerable or endangered species</p>	<p><u>Relevant information</u></p> <p>No threatened plant species were observed during the vegetation assessment.</p> <p><i>Eucalyptus phenax ssp. compressa</i> (NP&WS Act Rare) grows within the vicinity of the site, however none were observed during the vegetation survey.</p> <p>Threatened Flora Score(s) - 0</p> <p><u>Assessment against the principles</u></p> <p><u>Not At Variance</u></p> <ul style="list-style-type: none"> - KI 1101 <i>Eucalyptus cneorifolia</i> mid closed mallee forest over <i>Melaleuca uncinata</i> tall open shrubland - KI 0508 <i>Eucalyptus cladocalyx</i> mid open woodland over <i>Melaleuca uncinata</i> shrubs - Trees 1-6 <p><u>Moderating factors that may be considered by the NVC</u></p>
<p>Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered:</p>	<p><u>Relevant information</u></p> <p>No threatened ecological communities or ecosystems were observed within the clearance area.</p> <p>Threatened Community Score - 1</p> <p><u>Assessment against the principles</u></p> <p><u>Not at Variance</u></p> <ul style="list-style-type: none"> - KI 1101 <i>Eucalyptus cneorifolia</i> mid closed mallee forest over <i>Melaleuca uncinata</i> tall open shrubland - KI 0508 <i>Eucalyptus cladocalyx</i> mid open woodland over <i>Melaleuca uncinata</i> shrubs - Trees 1-6 <p><u>Moderating factors that may be considered by the NVC</u></p>
<p>Principle 1e - it is significant as a remnant of vegetation in</p>	<p><u>Relevant information</u></p> <p>IBRA Association: Amberley, 21% remnancy IBRA subregion: Kangaroo Island, 52% remnancy</p>

<p>an area which has been extensively cleared.</p>	<p>There are several remnant patches of vegetation within the surrounding area. All remnants are senescent due to a lack of ecological disturbance. Some remnants are protected from grazing livestock, whilst others remain unfenced. In the absence of appropriate disturbance events and protection from overgrazing by livestock and native herbivores, these remnants will gradually decline in health over time.</p> <p>Total Biodiversity Score – 28.78 (Block A), 13.79 (Block B)</p> <p><u>Assessment against the principles</u></p> <p>Not At Variance</p> <ul style="list-style-type: none"> - KI 1101 <i>Eucalyptus cneorifolia</i> mid closed mallee forest over <i>Melaleuca uncinata</i> tall open shrubland - KI 0508 <i>Eucalyptus cladocalyx</i> mid open woodland over <i>Melaleuca uncinata</i> shrubs - Trees 1-6 <p><u>Moderating factors that may be considered by the NVC</u></p>
<p>Principle 1f - it is growing in, or in association with, a wetland environment.</p>	<p><u>Relevant information</u></p> <p>Lot 100w Boxer Road, Wisanger is not located within or in association with a wetland.</p> <p><u>Assessment against the principles</u></p> <p>Not At Variance</p> <ul style="list-style-type: none"> - KI 1101 <i>Eucalyptus cneorifolia</i> mid closed mallee forest over <i>Melaleuca uncinata</i> tall open shrubland - KI 0508 <i>Eucalyptus cladocalyx</i> mid open woodland over <i>Melaleuca uncinata</i> shrubs - Trees 1-6 <p><u>Moderating factors that may be considered by the NVC</u></p>
<p>Principle 1g - it contributes significantly to the amenity of the area in which it is growing or is situated.</p>	<p><u>Relevant information</u></p> <p>The clearance area is positioned below the crest of the hills and on slopes that face the centre of the property, so will not be visible from the surrounding landscape. This ensures that the character of the area will not be affected by the open pit mine.</p> <p>N/A</p> <p><u>Moderating factors that may be considered by the NVC</u></p>

Principles of Clearance (h-m) will be considered by comments provided by the local NRM Board or relevant Minister. The Data Report should contain information on these principles where relevant and where sufficient information or expertise is available.

4.6 Risk Assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	8
	Area (ha)	1.4ha
	Total biodiversity Score	42.57
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(b)
Risk assessment outcome		Level 4

4.7 NVC Guidelines

Provide any other information that demonstrates that the clearance complies with any relevant NVC guidelines related to the activity.

All relevant details have been discussed above

5. Clearance summary

Clearance Area(s) Summary table

Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
A	1	10	1	0	.1	21.8	.88	19.1	1	0	0	20.10	\$14,085.94	\$774.73
B	1	12	1	0	.1	21.6	.52	11.24	1	0	0	11.81	\$8,273.42	\$455.04
						Total	1.4	30.38				31.91	\$22,359.36	\$1,229.77

Scattered trees Summary table

Tree or Cluster ID	Number of trees	Fauna Habitat score	Threatened flora score	Biodiversity score	Loss factor	SEB Points required	SEB Payment	Admin Fee
1	1	1	0	2.18	1	2.29	\$1,684.02	
2	1	1	0	2.61	1	2.74	\$2,017.88	
3	1	1	0	1.93	1	2.03	\$1,494.50	
4	3	1	0	2.91	1	3.06	\$2,250.11	
5	1	1	0	0.54	1	0.57	\$416.30	
6	1	1	0	2.01	1	2.11	\$1,555.60	
Total	8			12.18		12.80	\$9,418.41	\$0.00

Totals summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	42.56	44.71	\$31,329.28	\$1,723.12	\$33,052.40

Economies of Scale Factor	0.5
Rainfall (mm)	524

6. Significant Environmental Benefit

A Significant Environmental Benefit (SEB) is required for approval to clear under Division 5 of the *Native Vegetation Regulations 2017*. The NVC must be satisfied that as a result of the loss of vegetation from the clearance that an SEB will result in a positive impact on the environment that is over and above the negative impact of the clearance.

ACHIEVING AN SEB

Indicate how the SEB will be achieved by ticking the appropriate box and providing the associated information:

- ☐ Establish a new SEB Area on land owned by the proponent.
- ☐ Use SEB Credit that the proponent has established. Provide the SEB Credit Ref. No. _____
- ☐ Apply to have SEB Credit assigned from another person or body. The [application form](#) needs to be submitted with this Data Report.
- ☐ Apply to have an SEB to be delivered by a Third Party. The [application form](#) needs to be submitted with this Data Report.
- ☒ Pay into the Native Vegetation Fund.

PAYMENT SEB

If a proponent proposes to achieve the SEB by paying into the Native Vegetation Fund, summary information must be provided on the amount required to be paid and the manner of payment:

- Payment amount of \$31,329.28 plus \$1,723.12 administration fee
- Full payment will be made before any clearance is undertaken.

7. Appendices

Appendix 1. Fauna Species List (desktop)

Threatened or Introduced Animal Species Recorded or Observed (Native and Introduced)		Threatened Species				Introduced Species
Species	Common Name	EPBC	SA	Past Record	Observed	
<i>Gymnorhina tibicen</i>	Australian Magpie			Yes		
<i>Corvus coronoide s</i>	Australian Raven			Yes		
<i>Threskiomis moluccus</i>	Australian White Ibis			Yes		
<i>Acanthiza pusilla zietzi</i>	Brown Thornbill (KI)			Yes		
<i>Eolophus roseicapilla</i>	Galah			Yes		
<i>Anthochaera chrysoptera halmaturina</i>	Little Wattlebird (KI)			Yes		
<i>Vanellus miles</i>	Masked Lapwing			Yes		
<i>Lichenostomus cratitius cratitius</i>	Purple-gaped Honeyeater (KI)			Yes		
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet			Yes		
<i>Anthochaera carunculata clelandi</i>	Red Wattlebird (KI)			Yes		
<i>Petroica boodang boodang</i>	Scarlet Robin		R	Yes		
<i>Pardalotus punctatus</i>	Spotted Pardalote			Yes		
<i>Malurus cyaneus ashbyi</i>	Superb Fairywren (KI)			Yes		
<i>Isoodon obesulus obesulus</i>	Southern Brown Bandicoot (S)	EN	V	Yes		
<i>Pogona barbata</i>	Eastern Bearded Dragon			Yes		
<i>Austrelaps labialis</i>	Pygmy Copperhead			Yes		

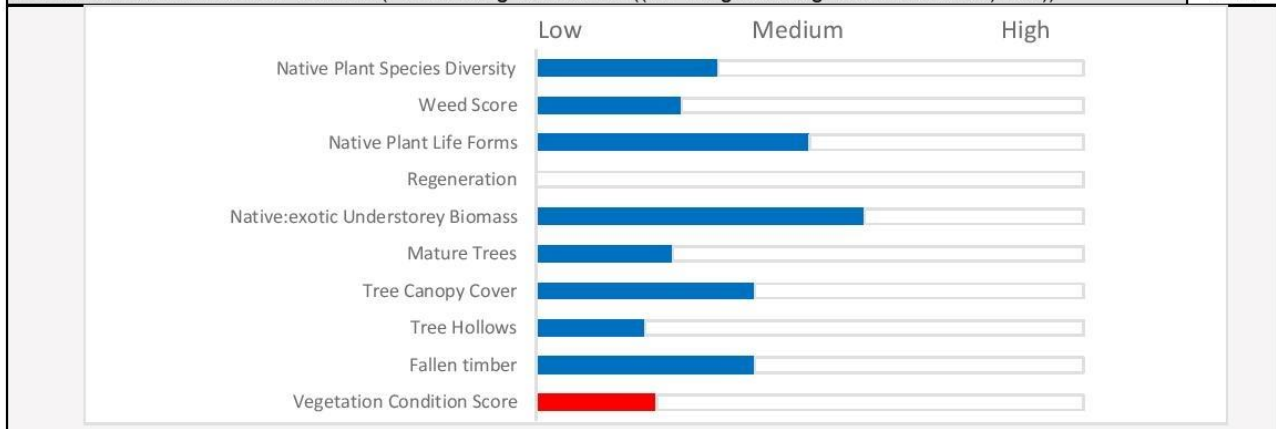
Vegetation Condition Scores

SITE:	Block A
BCM COMMUNITY	KI 5.1 Mallee with an open to very open shrub understorey on clay based soils
VEGETATION ASSOCIATION DESCRIPTION	KI 1101 Eucalyptus cneorifolia mid closed mallee over Mel. uncinata
SIZE OF SITE (Ha)	0.88

Benchmarked attributes (Scores determined by comparing to a Benchmark community)				Native Plant Life Forms	Cover rating
Number of Native Species (Minus herbaceous annuals for spring Surveys)	13			Trees > 15m	
Native Plant Species Diversity Score (max 30) from benchmark score <i>weighted by a factor of 2</i>	10.0			Trees 5 - 15 m	2
				Trees < 5m	
				Mallee > 5m	3
				Mallee < 5m	
Number of regenerating native species	0			Shrubs > 2m	2
Regeneration Score (max 12) from benchmark community weighted by a factor of 1.5	0			Shrubs 0.5 - 2m	2
				Shrubs < 0.5	
				Forbs	
Weed species (Top 5 Cover x Invasiveness)	Cover (max 6)	Weed Threat Rating (max 5)	C x I	Mat Plants	
Asparagus asparagoides forma	3	5	15	Grasses > 0.2m	
Avena spp.	3	2	6	Grasses < 0.2m	
Lagurus ovatus	3	2	6	Sedges > 1m	
Trifolium spp.	2	2	4	Sedges < 1m	2
			0	Hummock grasses	
				Vines, scramblers	
				Mistletoe	
				Ferns	
				Grass-tree	
				Total	11
Weed Score (max 15) from benchmark community			4		
Native Plant Life Forms (max 20) from benchmark score weighted by a factor of 2					10.0

Non-Benchmarked Attributes (Scores determined from direct field observations)		<i>Is the community naturally treeless?</i>	<input type="checkbox"/>
Native:exotic Understorey biomass Score (max 5)	3	Fallen Timber/Debris (max 5)	2
		Hollow-bearing trees Score (max 5)	1
		Mature Tree Score (max 8)	2
		Tree Canopy Cover Score (max 5)	2

Vegetation Condition Score calculation	
Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms Fallen timber/debris + Hollow-bearing trees	
- If the community Score is Not Benchmarked (SNB) for regeneration this score is multiplied 1.24	
- If the community is naturally treeless this score is multiplied by 1.29	25.00
Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2)	23.50
VEGETATION CONDITION SCORE (Positive veg attributes x ((80 - Negative vegetation attributes) / 80))	17.66



Conservation Significance Score

Is the vegetation association considered a Threatened Ecological community or Ecosystem?		Yes/No
State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)		<input type="checkbox"/>
State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)		<input type="checkbox"/>
State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)		<input type="checkbox"/>
Nationally (EPBC Act) Vulnerable community (0.35 pts)		<input type="checkbox"/>
Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)		<input type="checkbox"/>
Note: all sites will score a minimum Conservation Significance Score of 1		
Threatened Community Score		1
Number of Threatened Flora Species recorded for the site (within the site)		Number
*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.		
State Rare species recorded (1 pt each)		0
State Vulnerable species recorded (2.5 pt each)		0
State Endangered recorded (5 pts each)		0
Nationally Vulnerable species recorded (10 pts each)		0
Nationally Endangered or Critically endangered species recorded (20 pts each)		0
0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts		0
Threatened Flora Score		0
Potential habitat for Threatened Fauna Species (number observed or previously recorded)		Number
*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.		
State Rare species observed or locally recorded (1 pt each)		1
State Vulnerable species observed or locally recorded (2.5 pt each)		0
State Endangered species observed or locally recorded (5 pt each)		0
Nationally Vulnerable species observed or locally recorded (10 pts each)		0
Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each)		1
0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08pts; 20 or > = 0.1 pts		21
Threatened Fauna Score		0.1
CONSERVATION SIGNIFICANCE SCORE		1.1

Total Scores for the Site		Vegetation Condition x Landscape Context x Conservation Significance =	
LANDSCAPE CONTEXT SCORE	Score	UNIT BIODIVERSITY SCORE	21.75
	1.12		
VEGETATION CONDITION SCORE	17.66	Total Biodiversity Score	
CONSERVATION SIGNIFICANCE SCORE	1.10	(Biodiversity Score x hectares)	19.14

Photo Point and Vegetation Survey Location		Direction of the Photo	
		292 degrees	
		GPS Reference	
		Datum	WGS84
		Zone (52, 53 or 54)	53
		Easting (6 digits)	727685
		Northing (7 digits)	6052713
Description		Highly degraded scattered patches and single paddock trees within improved agricultural land	

What is the purpose of Assessment?

Clearance

SEB Area

Other

Assessment for Clearance

Loss Factor	1.0	Approximate hectares required	2.51
Loadings for clearance of protected areas		Economies of Scale Factor	0.5
Reductions for rehabilitation of impact site		Mean Annual rainfall for the site (mm)	524
SEB Points required	20.10	Payment into the fund (GST Exclusive)	\$14,085.94
		Administration fee (GST Inclusive)	\$774.73

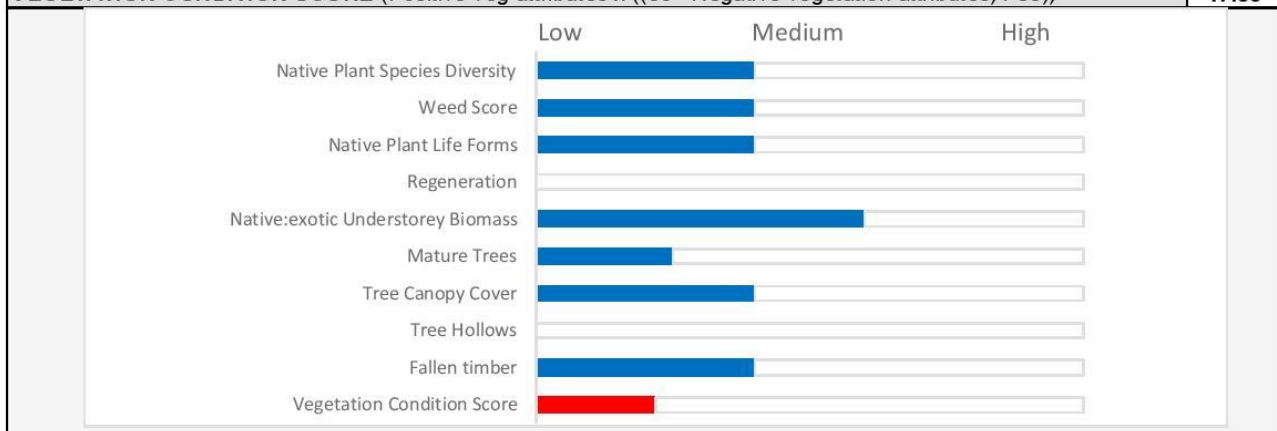
Vegetation Condition Scores

SITE:	Block B
BCM COMMUNITY	KI 2 Open forests and woodlands with an open sclerophyll shrub understorey
VEGETATION ASSOCIATION DESCRIPTION	KI 0508 Eucalyptus cladocalyx mid open woodland over Mel. uncinata
SIZE OF SITE (Ha)	0.52

Benchmarked attributes (Scores determined by comparing to a Benchmark community)				Native Plant Life Forms	Cover rating
Number of Native Species (Minus herbaceous annuals for spring Surveys)	15			Trees > 15m	
Native Plant Species Diversity Score (max 30) from benchmark score weighted by a factor of 2	12.0			Trees 5 - 15 m	
				Trees < 5m	
Number of regenerating native species	0			Mallee > 5m	3
Regeneration Score (max 12) from benchmark community weighted by a factor of 1.5	0			Mallee < 5m	
				Shrubs > 2m	2
				Shrubs 0.5 - 2m	2
				Shrubs < 0.5	
				Forbs	
Weed species (Top 5 Cover x Invasiveness)	Cover (max 6)	Weed Threat Rating (max 5)	C x I	Mat Plants	
Asparagus asparagoides forma	3	5	15	Grasses > 0.2m	
Avena spp.	3	2	6	Grasses < 0.2m	
Lagurus ovatus	3	2	6	Sedges > 1m	
Trifolium spp.	2	2	4	Sedges < 1m	2
			0	Hummock grasses	
				Vines, scramblers	
				Mistletoe	
				Ferns	
				Grass-tree	
Weed Score (max 15) from benchmark community			31	Total	9
			6		8.0
Native Plant Life Forms (max 20) from benchmark score weighted by a factor of 2					

Non-Benchmarked Attributes (Scores determined from direct field observations)		<i>Is the community naturally treeless?</i>	<input type="checkbox"/>
Native:exotic Understorey biomass Score (max 5)	3	Fallen Timber/Debris (max 5)	2
		Hollow-bearing trees Score (max 5)	0
		Mature Tree Score (max 8)	2
		Tree Canopy Cover Score (max 5)	2

Vegetation Condition Score calculation	
Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms Fallen timber/debris + Hollow-bearing trees - If the community Score is Not Benchmarked (SNB) for regeneration this score is multiplied 1.24 - If the community is naturally treeless this score is multiplied by 1.29	24.00
Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2)	21.50
VEGETATION CONDITION SCORE (Positive veg attributes x ((80 - Negative vegetation attributes) / 80))	17.55



Conservation Significance Score

Is the vegetation association considered a Threatened Ecological community or Ecosystem?		Yes/No
State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)		<input type="checkbox"/>
State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)		<input type="checkbox"/>
State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)		<input type="checkbox"/>
Nationally (EPBC Act) Vulnerable community (0.35 pts)		<input type="checkbox"/>
Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)		<input type="checkbox"/>
Note: all sites will score a minimum Conservation Significance Score of 1		
Threatened Community Score		1
Number of Threatened Flora Species recorded for the site (within the site)		Number
*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.		
State Rare species recorded (1 pt each)		0
State Vulnerable species recorded (2.5 pt each)		0
State Endangered recorded (5 pts each)		0
Nationally Vulnerable species recorded (10 pts each)		0
Nationally Endangered or Critically endangered species recorded (20 pts each)		0
0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts		0
Threatened Flora Score		0
Potential habitat for Threatened Fauna Species (number observed or previously recorded)		Number
*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.		
State Rare species observed or locally recorded (1 pt each)		1
State Vulnerable species observed or locally recorded (2.5 pt each)		0
State Endangered species observed or locally recorded (5 pt each)		0
Nationally Vulnerable species observed or locally recorded (10 pts each)		0
Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each)		1
0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08pts; 20 or > = 0.1 pts		21
Threatened Fauna Score		0.1
CONSERVATION SIGNIFICANCE SCORE		1.1

Total Scores for the Site		Vegetation Condition x Landscape Context x Conservation Significance =	
LANDSCAPE CONTEXT SCORE	Score	UNIT BIODIVERSITY SCORE	21.62
	1.12		
VEGETATION CONDITION SCORE	17.55	Total Biodiversity Score	
CONSERVATION SIGNIFICANCE SCORE	1.10	(Biodiversity Score x hectares)	11.24

Photo Point and Vegetation Survey Location		Direction of the Photo	
		75 degrees	
		GPS Reference	
		Datum	WGS84
		Zone (52, 53 or 54)	53
		Easting (6 digits)	727375
		Northing (7 digits)	6052553
Description		Highly degraded scattered patches and single paddock trees within improved agricultural land	

What is the purpose of Assessment?

Clearance

SEB Area

Other

Assessment for Clearance

Loss Factor	1.0	Approximate hectares required	1.48
Loadings for clearance of protected areas		Economies of Scale Factor	0.5
Reductions for rehabilitation of impact site		Mean Annual rainfall for the site (mm)	524
SEB Points required	11.81	Payment into the fund (GST Exclusive)	\$8,273.42
		Administration fee (GST Inclusive)	\$455.04

Appendix 2. Scattered Tree Assessment Scoresheets

Block A

SEB Required for Scattered Trees

(Version - 22 Oct 2021)

Landscapes Region	KI
Mean Annual Rainfall (mm)	524
Economies of Scale factor	0.5

IBRA Association	Amberley
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Total Biodiversity Score	9.64
Total SEB Points required	10.12
Payment \$ (GST exclusive)	\$7,091.92
Admin fee (GST inclusive)	\$390.06
Total SEB \$ required	\$7,481.97

Tree Species	Number of Trees (total)	Number of trees (proposed removed)	Number of trees (proposed pruning)	Total SEB Points required	Payment in NV Fund (GST Exclusive)	Administration fee (GST Inclusive)	Total
Eucalyptus leucoxylon ssp leucoxylon	2	2	0	5.03	\$3,525.62	\$193.91	\$3,719.53
Eucalyptus diversifolia	1	1	0	2.03	\$1,423.34	\$78.28	\$1,501.62
Eucalyptus odorata	3	3	0	3.06	\$2,142.96	\$117.86	\$2,260.82
0	0	0	0	0.00	\$0.00	\$0.00	\$0.00

Block B

SEB Required for Scattered Trees

(Version - 22 Oct 2021)

Landscapes Region	KI
Mean Annual Rainfall (mm)	524
Economies of Scale factor	0.5

IBRA Association	Amberley
------------------	----------

Total Biodiversity Score	2.55
Total SEB Points required	2.68
Payment \$ (GST exclusive)	\$1,878.00
Admin fee (GST inclusive)	\$103.29
Total SEB \$ required	\$1,981.29

Tree Species	Number of Trees (total)	Number of trees (proposed removed)	Number of trees (proposed pruning)	Total SEB Points required	Payment in NV Fund (GST Exclusive)	Administration fee (GST Inclusive)	Total
Eucalyptus odorata	2	2	0	2.68	\$1,878.00	\$103.29	\$1,981.29
0	0	0	0	0.00	\$0.00	\$0.00	\$0.00

Appendix 3. Flora Species List

Block A

Plant Species Recorded (Native and Introduced)		Listed Species			Natives only		Introduced Species
Species	Common Name	EPBC	SA	Not in quadrat	Regen	Annual Herbs Spring survey	
<i>Eucalyptus cneorifolia</i>	Kangaroo Island Narrow-leaf						
<i>Eucalyptus diversifolia</i> ssp. <i>diversifolia</i>	Coastal White Mallee						
<i>Eucalyptus odorata</i>	Peppermint Box						
<i>Acacia paradoxa</i>	Kangaroo Thorn						
<i>Melaleuca uncinata</i>	Broombush						
<i>Melaleuca acuminata</i> ssp. <i>acuminata</i>	Mallee Honey-myrtle						
<i>Rytidosperma</i> sp.	Wallaby-grass						
<i>Eucalyptus leucoxylon</i> ssp. <i>leucoxylon</i>	South Australian Blue Gum						
<i>Orthrosanthus multiflorus</i>	Morning Flag						
<i>Pimelea stricta</i>	Erect Riceflower						
<i>Callistemon rugulosus</i>	Scarlet Bottlebrush						
<i>Eucalyptus cladocalyx</i> ssp. <i>crassa</i>	Sugar Gum						
<i>Avena barbata</i>	Bearded Oat						*
<i>Trifolium</i> sp.	Clover						*
<i>Lagurus ovatus</i>	Hare's Tail Grass						*
<i>Asparagus asparagoides</i> f. <i>asparagoides</i>	Bridal Creeper						*
<i>Bromus</i> sp.	Brome						

Block B

Plant Species Recorded (Native and Introduced)		Listed Species			Natives only		Introduced Species
Species	Common Name	EPBC	SA	Not in quadrat	Regen	Annual Herbs Spring survey	
<i>Eucalyptus cneorifolia</i>	Kangaroo Island Narrow-leaf						
<i>Eucalyptus diversifolia</i> ssp. <i>diversifolia</i>	Coastal White Mallee						
<i>Eucalyptus odorata</i>	Peppermint Box						
<i>Acacia paradoxa</i>	Kangaroo Thorn						
<i>Melaleuca uncinata</i>	Broombush						
<i>Melaleuca acuminata</i> ssp. <i>acuminata</i>	Mallee Honey-myrtle						
<i>Rytidosperma</i> sp.	Wallaby-grass						
<i>Eucalyptus leucoxylon</i> ssp. <i>leucoxylon</i>	South Australian Blue Gum						
<i>Orthrosanthus multiflorus</i>	Morning Flag						
<i>Pimelea stricta</i>	Erect Riceflower						
<i>Callistemon rugulosus</i>	Scarlet Bottlebrush						
<i>Eucalyptus cladocalyx</i> ssp. <i>crassa</i>	Sugar Gum						
<i>Allocasuarina verticillata</i>	Drooping Sheoak						
<i>Clematis microphylla</i>	Old Man's Beard						
<i>Lagurus ovatus</i>	Hare's Tail Grass						*
<i>Asparagus asparagoides</i> f. <i>asparagoides</i>	Bridal Creeper						*
<i>Bromus</i> sp.	Brome						
<i>Avena barbata</i>	Bearded Oat						*
<i>Trifolium</i> sp.	Clover						*
<i>Lagurus ovatus</i>	Hare's Tail Grass						*

Appendix 5. Copies of associated approvals