

APPENDIX Q1

BASELINE FLORA ASSESSMENT 2005

ANGAS PROCESSING FACILITY

MISCELLANEOUS PURPOSES LICENSE APPLICATION

2019/0826



ABN | 67 062 576 238

Unit 7 / 202-208 Glen Osmond Road | Fullarton SA 5063

Plant Survey Report

**Compiled by Matt Rose of Natural State 11/07/05
For Terramin Australia Limited**

The Sewage Pond site has a few species which are significant. They are :

<i>Eucalyptus camaldulensis</i>	River Red Gum	
<i>Muehlenbeckia florulenta</i>	Lignum	Regionally RARE

These two dominant species form part of an important wetland plant community in this region – Red Gum woodland with Lignum shrubland.

This plant community has been present for many hundreds of years. **It is recommended that this area should not be interfered with.**

Part of the site has been revegetated over the past 10 – 20 years with local native species. This has occurred around the boundary of most of the site. These plantings are providing habitat value for birds, bats, insects, reptiles and small mammals. Although they provide good habitat, it is not as ecologically important as the natural habitat mentioned earlier which is remnant vegetation.

The cropping land and quarry site have a very different group of plants. There are also a few significant species:

Austrostipa spp.	Spear Grass	
Austrodanthonia spp.	Wallaby Grass	
Lomandra effusa	Irongrass	Regionally RARE
Melaleuca lanceolata	Dryland Teatree	Regionally UNCOMMON

The native grasses are important because they provide habitat for the smaller lizards and mammals. Native grasses are renowned for this habitat value. The species were not identified to the genus due to the lack of flowers / seedheads, this can be done from Spring when they will be present - if required. They were only present within the areas where previous revegetation had taken place near Jettners gate and fence, and along the boundaries and windbreaks.

The Irongrass occurs along the roadside plantings on the Strathalbyn – Woodchester Road. This species provides very similar habitat for the same group of animals.

The Melaleuca lanceolata or Dryland Teatree is the most important species in the cropping and quarry sites without a doubt. These old trees are long lived and the specimens that are present would be hundreds of years old. They occur within the quarry and on the rocky slopes and edge of the paddock out the back. They are providing hollows for birds and bats to live in. Some hollows were infested with feral honey bees. Care should be taken to work around all of these old trees if possible. **It is recommended that these trees should not be interfered with.**

The plant conservation ratings that have been advised here are sourced from the Florlist software program from the Department of Environment and Heritage – DEH. 11/07/05.



Native Grasses
Austrodanthonia & Austrostipa



Native Grasses amongst
previous tree planting



Irongrass - *Lomandra effusa*



Close up of Lignum
Muehlenbeckia florulenta



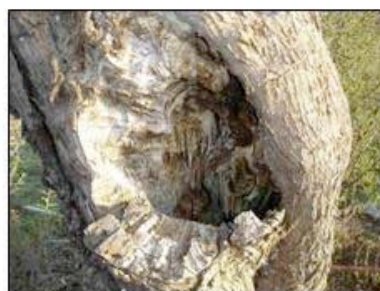
Lignum shrubland



Lignum and River Red Gums



Ancient Dryland Teatree's - *Melaleuca lanceolata*



Dead trees and hollows provide very important nesting and roosting sites.

Plants of significance

Plant Survey : Cropping paddocks and Quarry site

Compiled by Matt Rose of Natural State 28/06/05

For Terramin Australia Limited

Indigenous Species (Planted) & (Remnant)

<i>Acacia ligulata</i>	Umbrella Wattle
<i>Acacia paradoxa</i>	Kangaroo Thorn
<i>Acacia pycnantha</i>	Golden Wattle
<i>Allocasuarina verticillata</i>	Sheoak
<i>Atriplex semibacata</i>	Spreading Saltbush
<i>Austrodanthonia ssp.</i>	Wallaby Grass
<i>Austrostipa ssp.</i>	Spear Grass
<i>Callitris gracillis</i>	Southern Cypress Pine
<i>Callistemon rugulosus</i>	Scarlet Bottlebrush
<i>Chlorus truncata</i>	Windmill Grass
<i>Distichlis distichophylla</i>	Australian Salt Grass
<i>Enchylaena tomentosa ssp. tomentosa</i>	Ruby Saltbush
<i>Eucalyptus camaldulensis</i>	River Red Gum
<i>Eucalyptus fasciculosa</i>	Pink Gum
<i>Eucalyptus gracillis</i>	Yorrell
<i>Eucalyptus leucoxylon</i>	SA Blue Gum
<i>Eucalyptus odorata</i>	Peppermint Gum
<i>Lomandra effusa</i>	Iron Grass
<i>Melaleuca lanceolata</i>	Dryland Teatree
<i>Salsola kali</i>	Tumble Weed

Native Species Planted

<i>Acacia iteaphylla</i>	Flinders Ranges Wattle
<i>Acacia saligna</i>	Golden Wreath Wattle
<i>Eucalyptus platypus</i>	Platypus Gum
<i>Eucalyptus sideroxylon</i>	Ironbark Gum
<i>Eucalyptus woodwardii</i>	

Other Species

1 species of moss was recorded

Cropping paddocks and Quarry site plant survey continued.

Introduced species

Arctotheca calendula
Asparagus asparagoides
Asphodelus fistulosus
Avena fatua
Chondrilla juncea
Cynodon dactylon
Echium plantaginum
Euphorbia terracina
Foeniculum vulgare
Galenia ssp.
Hordeum leporinum
Lycium ferocissimum
Malva parviflora
Marrubium vulgare
Oxalis pes-caprae
Olea europaea ssp. europaea
Pennisetum clandestinum
Pinus halapensis
Piptatherum miliaceum
Poa annua
Polygonum aviculare
Salvia verbenaca
Schinus molle
Sisymbrium officinale
Solanum nigrum
Sonchus oleraceus

Capeweed
Bridal Creeper
Onion Weed
Wild Oats
Skeleton Weed
Couch Grass
Salvation Jane
False Caper
Fennel
Galenia
Barley Grass
African Boxthorn
Mallow
Horehound
Soursob
Wild Olive
Kikuyu
Halepo Pine
Millet
Winter Grass
Wireweed
Wild Sage
Peppercorn Tree
Hedge Mustard
Black Nightshade
Sow Thistle

Plant Survey - Terramin

GPS Coordinates for the significant species

Please note that the Lignum shrubland was not recorded on GPS

Waypoint1	35 15' 08.8" 138 54' 56.3"
Waypoint2	35 15' 11.9" 138 55' 01.4"
Waypoint3	35 15' 05.6" 138 55' 00.0"
Waypoint4	35 15' 05.4" 138 55' 01.1"
Waypoint5	35 15' 05.6" 138 55' 01.8"
Waypoint6	35 15' 05.1" 138 55' 02.1"
Waypoint7	35 15' 03.4" 138 55' 04.5"
Waypoint8	35 15' 10.8" 138 55' 09.7"
Waypoint9	35 15' 11.2" 138 55' 12.0"
Waypoint10	35 15' 14.8" 138 55' 15.8"
Waypoint11	35 15' 15.0" 138 55' 16.2"
Waypoint12	35 15' 08.9" 138 55' 15.7"
Waypoint13	35 15' 14.5" 138 55' 22.2"
Waypoint14	35 15' 15.2" 138 55' 22.0"
Waypoint15	35 15' 15.4" 138 55' 21.7"
Waypoint16	35 15' 17.4" 138 55' 21.5"
Waypoint17	35 15' 18.9" 138 55' 23.6"
Waypoint18	35 15' 04.9" 138 54' 55.6"
Waypoint19	35 15' 04.9" 138 54' 55.8"
Waypoint20	35 15' 04.8" 138 54' 55.9"
Waypoint21	35 15' 04.8" 138 54' 56.2"
Waypoint22	35 15' 04.6" 138 54' 56.4"
Waypoint23	35 15' 04.5" 138 54' 56.7"
Waypoint24	35 15' 04.5" 138 54' 56.9"
Waypoint25	35 15' 04.4" 138 54' 57.0"

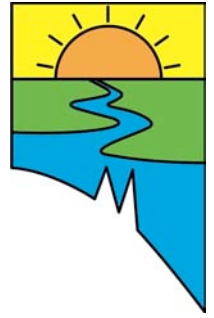
PROPOSED ENTRANCE VEGETATION

NATURAL STATE

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Terramin Australia Limited
Mining Project - Strathalbyn

REPORT FOR CHANGE OF ENTRANCE APPLICATION

&

**ADDITIONAL INFORMATION REQUIRED BY THE
MARP GUIDELINES**

NEW ENTRANCE PROPOSAL

The area around the pink dot marked on the map below was surveyed on Monday 26-06-06 by Matt Rose of Natural State.



Native species present:

Species name	Common name	
<i>Allocasuarina verticillata</i>	Weeping Sheoak	
<i>Austrostipa nitida</i>	Balcarra Spear Grass	
<i>Eucalyptus fasciculosa</i>	Pink Gum	
<i>Eucalyptus leucoxylon</i>	SA Blue Gum	
* <i>Eucalyptus occidentalis</i>	Flat Top Yate	* Not indigenous
<i>Eucalyptus odorata</i>	Peppermint Box	
<i>Lomandra effusa</i>	Iron Grass	

The area for the proposed new entrance has a single row of trees planted along the roadside boundary fence. All trees have been planted at around the same time 15 – 20 years ago. They are all between 5 and 7m high and are healthy looking.

There are approximately 10 trees that would need to be removed to make way for the new entrance.

There are 3 x *Lomandra effusa* tussocks and a small patch of *Austrostipa nitida* that should be translocated to another area of the site and looked after, before any earthmoving commences if / when approval is gained.

See the photo below.



Introduced species present:

Species name	Common name
<i>Asphodelus fistulosus</i>	Onion Weed
<i>Avena fatua</i>	Wild Oats
<i>Euphorbia terracina</i>	False Caper
<i>Marrubium vulgare</i>	Horehound
<i>Oxalis pes-caprae</i>	Soursob
<i>Pennisetum clandestinum</i>	Kikuyu
<i>Scabiosa atropurpurea</i>	Scabious

ADDITIONAL INFORMATION REQUIRED BY THE MARP GUIDELINES

The site has very little remnant vegetation still remaining. The only examples are a few species of Saltbush mainly under planted trees, approximately 10 of the Dryland Teatree's and several patches of native grass.

The Dryland Teatree - *Melaleuca lanceolata* present grow to a height of around 8m. The Dryland Teatrees are of old growth.

The planted trees present are now the dominant species with a mixed Eucalyptus woodland. The heights range from 5m – 10m. The age of most of the planted trees on site are approximately 15 – 20 years old.

Within a 5km radius of the site the main remnant vegetation still present occurs along roadsides and the creeklines. Most of the trees and shrubs in the surrounding paddocks were planted with tubestock. These have been used for windbreaks, screening and shelter. They are a man made woodland comprising of both native and exotic species.

One of the main uses for the land immediately around the site is cropping. The weeds that are present on site occur mainly in the bare open ground where cropping was used to control them previously.

There is also a plantation of olives nearby with a commercial dumping ground on the same site.

There are no visible signs of recent clearing, burning, or tree harvesting.

There were no signs of rabbits or foxes when the initial survey was conducted.

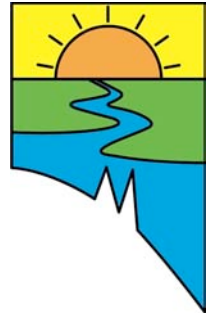
SPRING FLORA ASSESSMENT

NATURAL STATE

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Terramin Australia Limited

Mining Project - Strathalbyn

ADDITIONAL INFORMATION REQUIRED BY THE MARP GUIDELINES

SPRING SURVEY / NATIVE GRASS IDENTIFICATION

During the initial survey conducted on 28/06/05 there were two species of native grass which could not be positively identified without the seed heads present.

It was asked that these species be identified as soon as possible and added to the original survey to be included in the MARP.

A further survey was conducted on Tuesday 05-12-06 by Matt Rose of Natural State.

The species can now be positively identified as :

Austrodanthonia caespitosa

Common Wallaby Grass

and

Austrostipa nitida

Balcarra Spear Grass

The updated and complete plant survey is now included on the following pages.

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For Terramin Australia Limited

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