ENVIRONMENTAL
AUTHORITY AMENDMENT
SUPPORTING INFORMATION

Goondicum Resources Pty Ltd

Goondicum Industrial Minerals Project

April 2019

GRLGEN
## Document Control Sheet

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<td>EA Amendment Supporting Information</td>
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<tr>
<td><strong>Project Manager:</strong></td>
<td>Richard Davis</td>
<td></td>
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<tr>
<td><strong>Author:</strong></td>
<td>Ardent Group Pty Ltd</td>
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</tr>
<tr>
<td><strong>Client:</strong></td>
<td>Goondicum Resources Pty Ltd</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Client Contact:</strong></td>
<td>Jonathan Mattiske</td>
<td></td>
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Appendix 1 Map of Environmentally Sensitive Area

Appendix 2 Matters of State Environmental Significance
1. Introduction

Goondicum Resources Pty Ltd (Goondicum Resources) is seeking an Environmental Authority (EA) amendment to its current EA (EPML00799713) to add a Mining Lease Application (MLA). This report is prepared in support of the Department of Environment and Science (DES) form 'Application to amend an environmental authority – ESR/2015/1733 version 12'. Goondicum Resources currently has approval under Mining Lease (ML) 80044 for the following environmentally relevant activities (ERA):

- Resource Activity, Schedule 2A, 12: Mining mineral sand;
- Resource Activity, Ancillary 31 – Mineral processing, 2: Processing, in a year, the following quantities of mineral products, other than coke, (b) more than 100,000t; and
- Resource Activity, Ancillary 50 – Bulk Material Handling, 1: Loading or unloading 100t or more of minerals in a day or stockpiling 50,000t or more of minerals, (a) within 5km of the highest astronomical tide or 1km of a watercourse.

This report intends to fulfil the requirements of Section 226 of the Environmental Protection Act (1994) (EP Act), as follows:

Requirements for amendment application generally:

(1) An amendment application must –
   a. Be made to the administering authority; and
   b. Be made in the approved form; and
   c. Be accompanied by the fee prescribed under a regulation; and
   d. Describe the proposed amendment; and
   e. Describe the land that will be affected by the proposed amendment; and
   f. Describe any development permits in effect under the Planning Act for the carrying out of the relevant activity for the authority; and
   g. State whether each relevant activity will, if the amendment is made, comply with any eligibility criteria for the activity; and
   h. If the application states that each relevant activity will, if the amendment is made, comply with any eligibility criteria for the activity – include a declaration that the statement is correct; and
   i. State whether the application seeks to change a condition identified in the authority as a standard condition; and
   j. If the application relates to a new relevant resource tenure for the authority that is an exploration permit or GHG permit – state whether the applicant seeks an amended environmental authority that is subject to the standard conditions for the relevant activity or authority, to the extent it relates to the permit; and
   k. Include an assessment of the likely impact of the proposed amendment on the environmental values, including –
      i. A description of the environmental values likely to be affected by the proposed amendment; and
      ii. Details of any emissions or releases likely to be generated by the proposed amendment; and
iii. A description of the risk and likely magnitude of impacts on the environmental values; and
iv. Details of the management practices proposed to be implemented to prevent or minimise adverse impacts; and
v. Details of how the land the subject of the application will be rehabilitated after each relevant activity ceases; and
l. Include a description of the proposed measures for minimising and managing waste generated by any amendments to the relevant activity; and
m. Include details of any site management plan or environmental protection order that relates to the land the subject of the application; and
n. Include any other document relating to the application prescribed under a regulation.

1.1 Description of Location and Activity
The proposed amendment is to add an MLA to the existing EA (EPML00799713). The MLA abuts ML 80044 to the south and will be mined for the mineral sands resource and used for a tailings storage. The size of the MLA is 8.515ha. The real property description and current ownership of underlying land is described in Table 1.

Table 1 Real Property Description Underlying MLA

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Land Parcel 1</th>
<th>Land Parcel 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background Tenure</td>
<td>Lot 2 on YL543</td>
<td>Goondicum Road</td>
</tr>
<tr>
<td>Tenure type</td>
<td>Freehold</td>
<td>Road Reserve</td>
</tr>
<tr>
<td>Parish</td>
<td>Yarrol</td>
<td>Yarrol</td>
</tr>
<tr>
<td>Owner</td>
<td>Mr R.B. Campbell</td>
<td>North Burnett Regional Council</td>
</tr>
<tr>
<td>Local government area</td>
<td>North Burnett Regional Council</td>
<td>North Burnett Regional Council</td>
</tr>
</tbody>
</table>

Construction of the initial Goondicum Project (Project) on ML 80044 was completed in November 2007 and the Project was operated until August 2008 when it was placed into voluntary administration. The Project remained in care and maintenance until November 2011 when Goondicum Resources commenced work to refurbish the mineral processing components of the Project, in preparation for a return to operations in 2012.

Mining activities commenced in 2012 and continued until June 2013 when operations were suspended when the Project became unviable in the economic environment. The Project remained in care and maintenance up until September 2014 when construction works associated with a processing plant upgrade commenced. In August 2015, the Project was again placed in care and maintenance pending an improvement in resource price.

In April 2018 Goondicum Resources announced the restart of the Project and the actions associated involved the construction, commissioning, and operational activities of mining and mineral processing. As part of the recommencement of mining, it was recognised that there was the opportunity to mine high grade resources adjacent to the existing ML80044. This MLA area will then able to be utilised for tailings storage. A map of ML 80044 and the proposed MLA area is located in Figure 1.
1.2 Description of Proposed Amendment

Goondicum is seeking to add an MLA to its current EA (EPML00799713). The proposed EA amendment is classed as a major amendment as it is not a minor amendment. The amendment is not considered a minor amendment as it is not a condition conversion or a minor amendment (threshold) as it relates to a new ML for the EA.

The 8.515ha area applied for under the MLA will initially be mined for the mineral sands resource. Subsequently, this area will be used for tailings storage. This tailings storage may be incorporated within a proposed extension of the west tailings dam. The extension of the west tailings dam will be subject to a later EA amendment application.
2. Assessment of Environmental Values

2.1 Description of Environmental Values likely to be affected by the proposed amendment

2.1.1 Air Environmental Values
The proposed amendment involves a minor extension of activities currently undertaken on ML 80044. The 8.515ha area will be mined for mineral sands before being backfilled with tailings.

Mining activities may involve minor, short-term air emissions including the following:

- Exhaust from 4WD vehicles, light trucks and earthmoving equipment (bulldozers, excavators and scrapers);
- Dust from the traversing of the MLA by a 4WD vehicle and/or light truck; and
- Dust from the use of earthmoving equipment.

The nature of the mining method, in conjunction with a number of control strategies (detailed in Section 2.4) will minimise any adverse air quality effects on the local residents and will have minimal additional impact on air environmental values. This is because the mining activities will not involve additional equipment, rather a re-deployment of equipment from one part of the mine to another.

2.1.2 Noise (Acoustic) Environmental Values
The proposed amendment involves a minor extension of activities currently undertaken on ML 80044. The 8.515ha area will be mined for mineral sands, before being backfilled with tailings.

Mining activities may involve minor, short-term noise emissions including the following;

- The use of 4WD vehicles, light trucks and earthmoving equipment (bulldozers, excavators and scrapers)

These noise emissions will have minimal additional impact on noise environmental values. This is because the mining activities will not involve additional equipment, rather a re-deployment of equipment from one part of the mine to another.

2.1.3 Water Environmental Values
The existing surface water environmental values are typical of a rural agricultural area. Environmental values of regional waterways are identified in the Environmental Protection (Water) Policy 2009 (EPP (Water)), and the Queensland Water Quality Guidelines 2009. The MLA area lies within the upper Burnett River drainage sub-area. There are no specific environmental values and water quality objectives for the waters located in this region prescribed in Schedule 1 of the EPP (Water).

The proposed amendment involves a minor extension of activities currently undertaken on ML 80044. The 8.515ha area will be mined for mineral sands before being backfilled with tailings.
Stormwater runoff from this disturbed area will drain into the existing tailings dam and therefore there is unlikely to be any additional impacts on receiving waters. Receiving waters affected by the release of stormwater contaminated by the mining activities will continue to be monitored at the locations and frequencies defined in Schedule C – Table 1 and comply with the contaminant limits defined in Schedule C – Table 2 of EA EPML00799713.

Activities undertaken on within the MLA area will continue to follow the “Goondicum Water Monitoring Management Plan” prepared for ML 80044, and will be updated accordingly following the addition of the MLA.

### 2.1.4 Groundwater Environmental Values

There are no specific environmental values and water quality objectives for the waters located in this region prescribed in Schedule 1 of the EPP (Water). The Guidelines for Groundwater Quality Protection in Australia states the environmental value classification for a groundwater body should be based on the potential long-term inherent values of groundwater. The Environmental Value category relevant the groundwater system should be determined cooperatively with the community and stakeholders and once determined it can be used to develop water quality objectives. The environmental values have not been explicitly defined at this location. There are six Environmental Value categories described in the Australian and New Zealand Fresh and Marine Water Quality Guidelines (ANZECC and ARMCANZ 2000), these include:

- Aquatic ecosystem protection;
- Primary industries;
- Recreation and aesthetics;
- Drinking water;
- Industrial water; and
- Cultural and spiritual values.

The proposed amendment will have minimal additional impacts on the six environmental value categories detailed above. This is because the mining is relatively shallow and at the top of the drainage and therefore unlikely to intersect any aquifers of significance. Groundwater monitoring will continue to be conducted at the locations and frequency described in Schedule C – Table 3 for the water quality characteristics stated in Schedule C – Table 5.

Activities undertaken on within the MLA area will continue to follow the “Goondicum Water Monitoring Management Plan” prepared for ML 80044, and will be updated accordingly following the addition of the MLA.
2.1.5 Land Use Environmental Values

Land use in the MLA area currently comprises of agricultural activities, largely grazing.

The proposed amendment will have an impact on the land use environmental values on the area associated with the MLA. This is due to the area being mined for mineral sands, before being backfilled with tailings. Land disturbed from mining activities will be rehabilitated to the pre-existing land use encompassing a productive land use including but not limited to opportunistic cropping, forestry and grazing. The rehabilitation of the area will be undertaken as required under the current conditions of the EA EPML00799713.

2.1.6 Land Environmental Values

The MLA area is located within north west region of the Goondicum Layered Gabbro Complex which outcrops in a roughly circular to oval shaped crate like expression, some 7km in diameter.

There are two mapped soil sampling sites within the vicinity of the MLA area at ABN sites 427 and 438. The soil was at these two locations was described on 27 and 28 July 1993 respectively, according to a site listing report in the soil and land information system. The soil was classified as the following:

- Haplic;
- Eutrophic;
- Brown dermosol; and
- Non-gravelly, clayey.

Mining activities will involve impact to the land as an identified eluvial deposit will be mined for a number of resources, predominately ilmenite, apatite and titanomagnetite. Following the mining of resource, the land will be used as for tailings storage. Following the completion of mining-related activities on the land, the area will be rehabilitated as per the requirements within the current EA and described in the Plan of Operations.

2.1.7 Ecology and Wetlands Environmental Values

The MLA area does not include any Environmentally Sensitive Areas (ESA) or Matters of State Environmental Significance (MSES) (refer Appendix 1 and Appendix 2 respectively). Consequently, there will be no direct impacts to any wetlands classified as ESAs or MSEs. The location of the MLA is marked on the map in Appendix 1. The MSES report in Appendix 2 is based on a two kilometre radius from the centre of the MLA.

It is acknowledged that some flora and fauna will be disturbed as a result of the site activities. The potential impacts to flora and fauna may include:

- Habitat loss through clearing, mining (excavation) and vegetation degradation;
- Direct impact on flora and fauna from machinery and clearing activities; and
- Indirect impacts such as barriers to movement, surface and groundwater changes, and pest plant and animal incursions.
To address these potential impacts, management actions described within the current Flora and Fauna Protection Plan for ML 80044 will be adhered to.

Mining activities within the MLA area also has the potential to introduce or spread weeds. To manage this potential, any additional vehicles brought to the mine site will be cleaned of all mud and/or seed before undertaking these activities. In addition, consultation with the land-holder will be undertaken before entry to the land, so that any local weed management requirements are adhered to.

2.1.8 Waste Environmental Values
All additional waste generated by the extension of activities in the MLA area will continue to be disposed of at an appropriate facility that is authorised to accept such waste. All regulated waste will continue to be removed from site by an authorised person and sent to an approved facility licensed to accept such waste.

2.2 Emissions or releases likely to be generated
Activities as part of the MLA will likely generate emissions or releases to air, water and land. Emissions or releases likely to be generated by the activities associated with the proposed amendment include:

- Air
  - Dust, particulates and gaseous emissions.
- Water
  - Minimal stormwater releases as stormwater on site will drain into the tailings dam.
- Land
  - Land being mined prior to tailings dam covering much of the MLA area.

2.3 Risk and likely magnitude of impacts on Environmental Values
An Environmental Risk Assessment for the impacts on environmental values was conducted using the framework outlined below.

2.3.1 Risk Assessment Descriptors and Matrix

Table 2 Likelihood of Event

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<tr>
<th>Level</th>
<th>Likelihood</th>
<th>Description</th>
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<tr>
<td>A</td>
<td>Rare</td>
<td>May only occur in exceptional circumstances</td>
</tr>
<tr>
<td>B</td>
<td>Unlikely</td>
<td>Could occur at some time</td>
</tr>
<tr>
<td>C</td>
<td>Moderate</td>
<td>Might occur at some time</td>
</tr>
<tr>
<td>D</td>
<td>Likely</td>
<td>Will probably occur in most circumstances</td>
</tr>
<tr>
<td>E</td>
<td>Almost Certain</td>
<td>Expected to occur in most circumstances</td>
</tr>
</tbody>
</table>
### Table 3 Consequence of Event

<table>
<thead>
<tr>
<th>Level</th>
<th>Likelihood</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1     | Insignificant | Little or no environmental impact  
Little potential for fines or complaints |
| 2     | Minor | Minimal environmental impact  
Potential for complaints and loss of landholder goodwill  
Fine unlikely |
| 3     | Moderate | Moderate environmental impact  
Will cause some complaints and loss of landholder goodwill  
Possible fine |
| 4     | Major | Long term or serious environmental damage  
Numerous complaints received and loss of landholder goodwill  
Potential for prosecution  
Loss of reputation |
| 5     | Catastrophic | Major environmental harm. e.g. major pollution incident causing significant damage or potential to health or the environment  
Fines and prosecution likely |

Using the likelihood and consequence rating system, an overall risk rating for the individual hazard can be assigned using the table below.

### Table 4 Risk Rating

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>1 Insignificant</th>
<th>2 Minor</th>
<th>3 Moderate</th>
<th>4 Major</th>
<th>5 Catastrophic</th>
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<tbody>
<tr>
<td>A – Rare</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>B - Unlikely</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>C – Moderate</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Very High</td>
</tr>
<tr>
<td>D – Likely</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Very High</td>
<td>Very High</td>
</tr>
<tr>
<td>E – Almost Certain</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>Very High</td>
<td>Extreme</td>
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### 2.3.2 Risk Assessment Outcomes

#### Table 5 Risk Assessment Outcome

<table>
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<tr>
<th>Impacted Environmental Value</th>
<th>Risk</th>
<th>Risk Rating</th>
<th>Findings</th>
</tr>
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<tr>
<td>Air Quality</td>
<td>Dust generated from vehicles and earthmoving equipment traversing the MLA area.</td>
<td>1 C L</td>
<td>The dust generated from vehicles and earthmoving equipment might occur at some time.</td>
</tr>
<tr>
<td></td>
<td>Exhaust from vehicles involved in mining activities.</td>
<td>2 E L</td>
<td>There will be exhaust from vehicles used in mining activities which is likely to have a minimal environmental impact.</td>
</tr>
<tr>
<td></td>
<td>Dust generated from the use of earthmoving equipment</td>
<td>2 C M</td>
<td>During mining of resource within the MLA area the generation of dust might occur at some time with moderate environmental impact.</td>
</tr>
<tr>
<td>Noise</td>
<td>Noise from vehicles or equipment.</td>
<td>2 D M</td>
<td>The is likely to be noise from vehicles or equipment in most circumstances within the MLA area, however these are likely to have minimal environmental impact.</td>
</tr>
<tr>
<td>Water</td>
<td>Additional risk of stormwater contamination</td>
<td>1 D L</td>
<td>All stormwater on site will drain into the existing tailings storage facility in the mining lease downstream of the MLA.</td>
</tr>
<tr>
<td>Groundwater</td>
<td>Impact to groundwater quantity and quality</td>
<td>3 B M</td>
<td>Groundwater will continue to be monitored as per the conditions detailed in EA EPML00799713.</td>
</tr>
<tr>
<td>Land Use</td>
<td>Change in land use</td>
<td>3 E H</td>
<td>The land use within the MLA area will undergo a change in land use and is likely to have a moderate impact on the environment prior to rehabilitation.</td>
</tr>
<tr>
<td>Land</td>
<td>Disturbance to the land</td>
<td>3 E H</td>
<td>The land will be disturbed during mining operations that may have a moderate environmental impact prior to rehabilitation.</td>
</tr>
<tr>
<td>Ecology / Wetlands</td>
<td>Impacts on flora and fauna</td>
<td>1 E L</td>
<td>The area is presently sparsely vegetated grazing land with minimal clearing of vegetation required.</td>
</tr>
<tr>
<td></td>
<td>Spread of weeds</td>
<td>2 C M</td>
<td>Spread of weeds to be managed by making sure any new vehicles brought to site are soil and seed free before undertaking mining activities. In addition, liaison with landowners will ensure property specific protocols are observed.</td>
</tr>
<tr>
<td>Waste</td>
<td>Incorrect disposal of waste.</td>
<td>1 D L-</td>
<td>All additional waste generated by activities within the MLA area will be appropriately disposed.</td>
</tr>
</tbody>
</table>

*C = consequence  
L = likelihood  
R = risk*
### 2.4 Management practices to be implemented

Management practices to be implemented to manage potential adverse impacts are outlined in the table below.

<table>
<thead>
<tr>
<th>Environmental Value</th>
<th>Potential adverse impact</th>
<th>Management Practice/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>Exhaust from 4WD vehicles, light trucks and earthmoving equipment.</td>
<td>Ensure vehicles and equipment are well maintained and operating properly.</td>
</tr>
<tr>
<td></td>
<td>Dust generated from traversing the mining lease by a 4WD vehicle, light truck and earthmoving equipment.</td>
<td>Restrict vehicle speed to maximum of 40kph when on unformed tracks, or tracks within private property. Ensure the sufficient use of water for dust suppression, when required. Minimisation of land disturbance through all phases of operation by carrying out minimal pre-clearing and rehabilitating available areas as soon as possible.</td>
</tr>
<tr>
<td></td>
<td>Dust generated from the use of earthmoving equipment</td>
<td>Ensure the sufficient use of water for dust suppression, when required.</td>
</tr>
<tr>
<td>Noise</td>
<td>The use of 4WD vehicles, light trucks and earthmoving equipment.</td>
<td>Ensure vehicles and equipment are well maintained and operated in the correct manner. Operate vehicles and equipment during daylight hours only.</td>
</tr>
<tr>
<td>Water</td>
<td>Sediment mobilisation by site disturbance.</td>
<td>Adhere to Erosion and Sediment Control Strategy Limit vehicle speed to a maximum of 40kph on unformed tracks. Limit the use of vehicles off road during wet weather.</td>
</tr>
<tr>
<td></td>
<td>Stormwater contamination</td>
<td>All stormwater on site will be directed into the existing tailings dam downstream of the MLA.</td>
</tr>
<tr>
<td>Groundwater</td>
<td>Impact to groundwater quantity and quality</td>
<td>Groundwater will continue to be monitored to ensure there are no adverse impacts to the quantity or quality of groundwater in the region.</td>
</tr>
<tr>
<td>Land Use</td>
<td>Future long-term impact to the land</td>
<td>Rehabilitation works will comply with the conditions in the current EA and the Final Land Use and Rehabilitation Plan.</td>
</tr>
<tr>
<td>Land</td>
<td>Future long-term impact to the land</td>
<td>Rehabilitation works will comply with the conditions in the current EA and the Final Land Use and Rehabilitation Plan.</td>
</tr>
<tr>
<td>Ecology / Wetlands</td>
<td>Impact to flora and fauna</td>
<td>Rehabilitation works will comply with the conditions in the current EA and the Final Land Use and Rehabilitation Plan. The Flora and Fauna Protection plan will continue to be adhered to.</td>
</tr>
<tr>
<td></td>
<td>Introduction of weeds.</td>
<td>Inspect and ensure new vehicles brought to site are mud and seed free before working in the mining area. Contact landholder before entry to determine if there are local landholder requirements.</td>
</tr>
<tr>
<td>Waste</td>
<td>Incorrect disposal of addition generated waste.</td>
<td>Regulated waste will be removed from site by an approved person and taken to a facility approved to accept such waste. Other additional waste generated will be taken to a proper and appropriately licenced facility.</td>
</tr>
</tbody>
</table>
2.5 Rehabilitation of the Land

Rehabilitation of the land will continue to adhere to the rehabilitation requirements prescribed in the current EA and adhere to the rehabilitation method described in the current Plan of Operations. The following sub-sections below provide a summary of the rehabilitation of the land.

2.5.1 Tailings Management

When the area has been backfilled with tailings, the storage facility will be dewatered primarily through evaporation. An alternative dewatering technique will be investigated if required. When the final tailings level is achieved in the tailings storage and soil moisture content is appropriate, the tailings will be capped and a final contour bank established.

2.5.2 Landform Management

Rehabilitated areas will be re-contoured to replicate the pre-mining landform as far as is reasonably practical. Permanent surface water diversions will be incorporated into the final landform to ensure that surface waters are directed around any tailings into the surrounding drainage lines.

2.5.3 Soil Material Handling

The top 200 mm of soil material is pre-stripped prior to the mining process. Strategic soil handling aims to minimise soil stockpiling by lifting, transporting, and spreading soil on re-contoured areas in one operation. If weather conditions or sequencing of mining and rehabilitation activities do not allow for direct transfer, soil material may be temporarily stockpiled.

2.5.4 Surface Preparation

Surface preparation includes soil material spreading and seeding. Ripping may be used after the spreading of soil material if required due to compaction.

Mulch, jute netting or other temporary soil covers may be used during the revegetation program to reduce the risk of heavy rain eroding the seed bed soil.

Where rehabilitation trials or chemical and physical tests suggest surface media has undesirable properties for plant growth, soil ameliorants may be used (e.g. gypsum, for sodicity and lime for acidic media).

Fertiliser may also be used, such as organic fertilisers, stabilised biosolids, animal manure or blood and bone.

Logs and rocks retained for fauna habitat may be moved into rehabilitated areas at the final stage of surface preparation.

2.5.5 Revegetation

Revegetation objectives are to develop a self-sustaining pasture system or to replicate a self-sustaining regional ecosystem.

Areas to be rehabilitated to a replicate regional ecosystem aim to reinstate the pre-mining remnant ecosystem species and may include a combination of the following species:
- *Eucalyptus tessellaris*
- *Eucalyptus tereticornis*
- *Eucalyptus melanophloia*
- *Eucalyptus intermedia*
- *Eucalyptus creba*
- *Angophora floribunda*
- *Casuarina spp.*
- *Corymbia erythrophloia*
- *Acacia disparrima*
- *Allocasuarina torrulosa.*

A tree-only seed mix or nursery raised seedlings of these species may be planted to establish tree clumps in some areas to be rehabilitated to a self-sustaining pasture system. All other areas are revegetated with either a native or improved pasture species mix. Native and improved pastures are separated in the rehabilitated landscape to ensure the successful establishment of native pastures which grow slowly and compete poorly with improved pasture species.

The seed mix for areas of native pasture may include the following species:

- Small bluegrass (*Dicanthium tenuie*)
- Queensland bluegrass (*Dichanthium sericeum*)
- Forest bluegrass (*Bothriochloa blahii*)
- Kangaroo grass (*Themeda triandra*)
- Wire grasses (*Aristida spp.*)
- Hairy panic grass (*Panicum effusum*)
- Green couch (*Cynodon dactylon*)
- Barbwire grass (*Cymbopogon refracts*)
- Mat rush (*Lomandra longifolia*).

The seed mix for areas of improved pasture may include the following species:

- Green panic grass (*Panicum maximum*)
- Glycine (*Glycine calycina*)
- Paspalum (*Paspalum digitalum*)
- Siratro (*Macroptilium atropurpureum*)
- Butterfly pea (*Clitoria ternatea*)
- Stylo (*Stylosanthes sp.*).

The use of buffel grass in seed mix for areas of improved pasture is an option. It should consider the species’ invasive nature and recommendations outlined in the BAAM 2012 report “Goondicum Crater Project - Rehabilitation Monitoring Scoping & Ecological Values Survey”.

Short-lived grass species such as millet may be used for temporary soil cover.

Legume seeds will be coated and inoculated with symbiotic microbes prior to seeding.

Where there is grass or weed competition from seed present in the soil material, sites will be thoroughly cultivated, or herbicide will be applied to eliminate competing grass/weeds prior to planting or sowing.
3. Additional Supporting Information

3.1 Development Permit
There are no development permits in effect under the Planning Act 2016 for carrying out the proposed activities.

3.2 Eligibility Criteria
There is a set of eligibility criteria and standard conditions for mining lease activities, however, the ERA approved under the EA EPML00799713 (Mining – ML mineral sand – 12, site specific) is for a site-specific EA. Consequently, the eligibility criteria and standard conditions are not relevant.

3.3 Standard conditions
This EA amendment application does not seek to amend any standard conditions.

3.4 Resource Tenure
This application does not relate to a new relevant resource tenure for the authority that is an exploration permit or a GHG permit.

3.5 Waste Measures
Waste measures will continue to be adhered to under the current Plan of Operations and Environmental Management Plan. In summary, general waste will be collected and stored in segregated waste bins and removed for disposal at a licensed waste management facility. Regulated waste generated at the Project is handled and stored as required by regulation. Regulated waste is transported by a suitably licenced company and disposed at a facility licenced to handle regulate waste.

In addition, waste generated onsite will be assessed and managed in accordance with the waste management hierarchy. In order from most preferred to least preferred management method, the waste management hierarchy is;

- Avoid/Reduce;
- Reuse;
- Recycle;
- Recover Energy;
- Treat; and
- Dispose.
3.6 Site Management Plan

The land within the MLA area is not currently subjected to an environmental protection order or a site management plan.

3.7 Other prescribed documentation

The *Environmental Protection Regulation 2008* does not prescribe any additional documentation relating to an EA amendment application.
4. Conclusion

Goondicum Resources is seeking to add an MLA to its current EA. The activities undertaken within the MLA area will be a continuation of those already undertaken on adjacent ML 80044 involving the mining of mineral sands and backfill with tailings. The additional mining activities undertaken within the MLA area will not create any different impacts to environmental values than those associated with ML 80044. The area backfilled with tailings may be incorporated within a proposed extension of the west tailings dam. The extension of the west tailings dam will be the subject of a separate EA amendment application that will be lodged at the appropriate time.
Appendix 1: Map of Environmentally Sensitive Areas
Appendix 2: Matters of State Environmental Significance