

# ASSESSMENT REPORT

## Ginkgo Mineral Sands Project (DA 251-09-01 Mod 7) and Snapper Mineral Sands Project (MP 06\_0168 Mod 2) Modifications

### 1 BACKGROUND

Bemax Resources Limited (Bemax) owns and operates a large integrated mineral sands mining operation in the far west of NSW (see Figure 1).

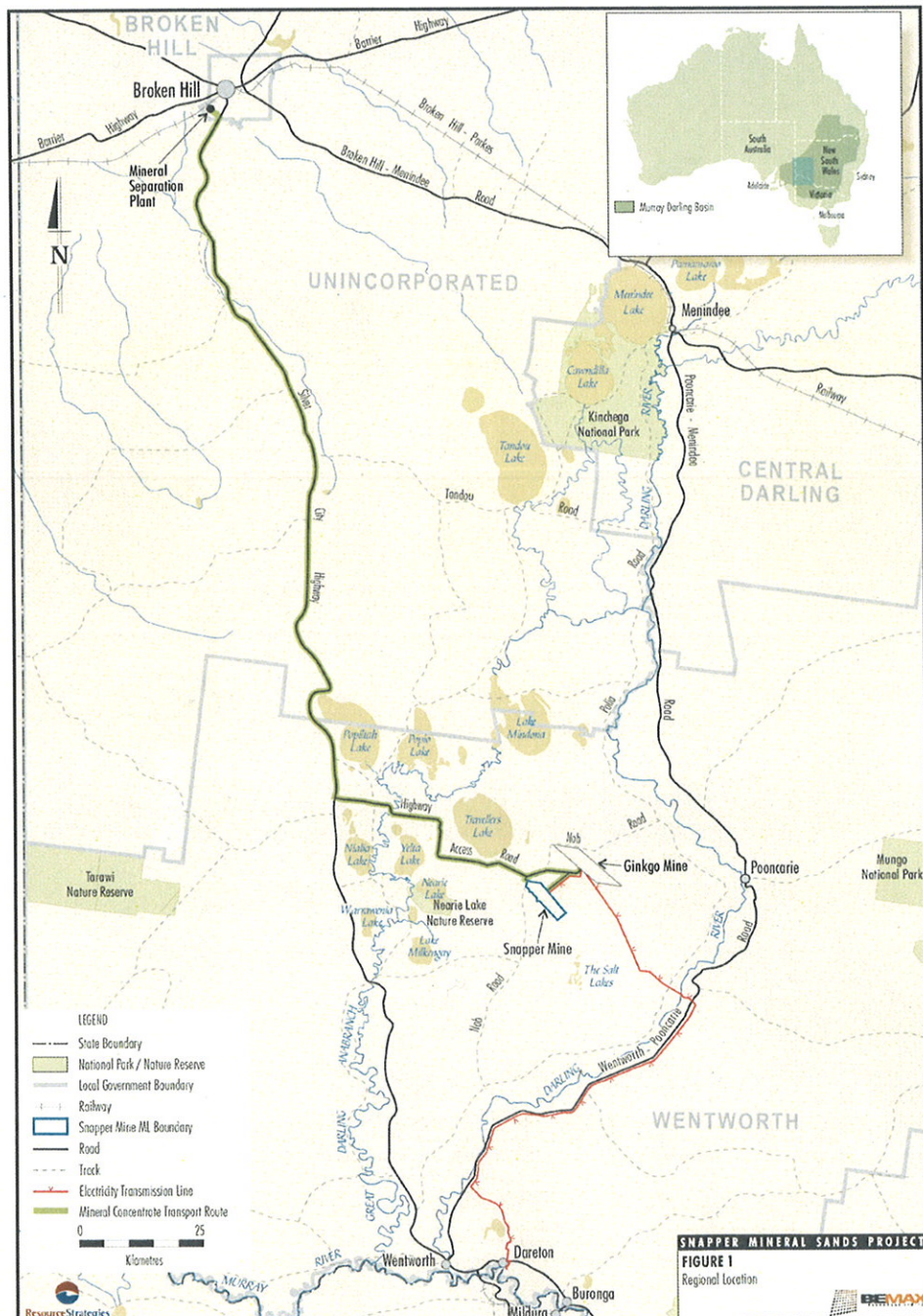


Figure 1: Bemax mineral sands mining operation.



The operation comprises the:

- Ginkgo mine near Pooncarie, approved by the Minister in 2002 (DA 251-09-01). Under the consent the mine is allowed to extract up to 13 million tonnes per annum (Mtpa) of mineral sands ore to produce an average of 450,000 tonnes per annum of mineral sands concentrate, over a period of 11 years;
- Snapper mine (approximately 10 kilometres south-west of Ginkgo), approved by the Minister in 2007 (MP 06\_0168). The Snapper mine has a similar production rate as Ginkgo, with a mine life of 18 years. Construction commenced in August 2008 and processing of ore at the mine is predicted to start in June 2010; and
- Broken Hill Mineral Separation Plant (MSP), approved by the Minister in 2002 to receive and process mineral sands concentrate from the 2 mines, located 170 kilometres to the south of the MSP.

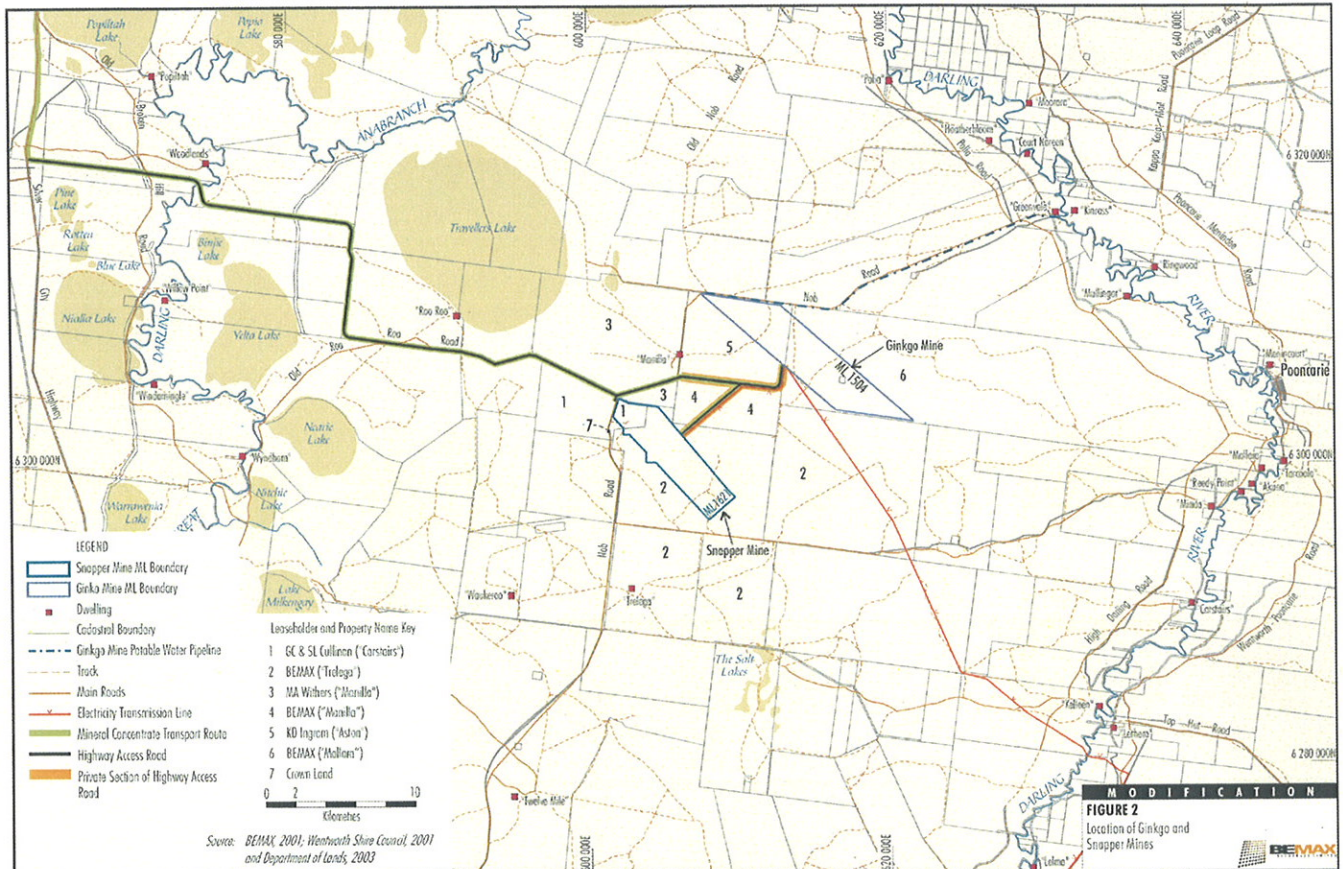


Figure 2: Ginkgo and Snapper Mines

Bemax has indicated that it is currently experiencing negative business conditions, as a result of:

- the high Australian to US dollar exchange rate;
- lower ore grades at the Ginkgo Mine;
- depressed global markets (including lower demand for a range of Bemax's ilmenite products); and
- softer zircon prices.

The implications of this situation are the potential shutdown of the MSP and the Ginkgo Mine, affecting the employment of 290 personnel.

Higher grade ore is available at the Snapper mine, however Bemax is not yet able to process the ore at Snapper, as construction of the mine's processing facilities is not due for completion until mid 2010.

## 2 PROPOSED MODIFICATION

On 19 November 2009, Bemax asked the Minister to modify the terms of its:

- development consent for the Ginkgo mine, using section 96 of the *Environmental Planning and Assessment Act 1979* (EP&A Act); and
- project approval for the Snapper mine, using section 75W of the EP&A Act.

Bemax is seeking a temporary (12 months) arrangement which involves the transfer of 2 million tonnes (Mt) of ore from the Snapper mine to the Ginkgo mine, where it would be fed through the dredge, and processed as part of the 13 Mtpa allowance at Ginkgo. The processing of the high-grade Snapper ore at Ginkgo would maintain cashflow and therefore enable Bemax to continue operations at the mines and the MSP.

Ore would be dry-mined (i.e. above the groundwater table) at Snapper and transported to the Ginkgo mine by 200 tonne road-trains along the approved 10 kilometre private road, at a predicted maximum frequency of 2 laden truck movements per hour. Unladen road-trains would return to Snapper to be loaded, resulting in a total of 4 movements per hour. Mining and transport operations would be carried out 24 hours per day, 7 days a week, as per the existing approvals.

The ore from Snapper has similar properties to that mined at Ginkgo; therefore processing operations would not require alteration. The current processing operations at Ginkgo are not producing concentrate at the maximum approved rate, given the lower grade of ore. Although the introduction of higher grade ore would increase the amount of mineral sands concentrate produced at Ginkgo, the transport of concentrate to the MSP would not exceed the maximum approved rate.

Bemax estimates that processing the 2 Mt of high-grade Snapper ore would generate approximately 1.5 Mt of sand residue, which would be deposited behind the dredge at Ginkgo. This represents an increase in the total amount of sand residue at Ginkgo of approximately 2%, and an equivalent reduction at Snapper.

The proposed modifications would not change or increase the approved:

- mining area;
- mining rates or methods;
- processing rates or methods; or
- rate of concentrate transport to the MSP (i.e. off-site truck movements),  
at either mine.

### **3 STATUTORY CONTEXT**

#### ***Snapper Mine***

##### Approval Authority

The Minister was the approval authority for the Snapper project application, and is consequently the approval authority for this modification application. However, as the proposed modification involves development with a capital investment of less than \$50 million, the Executive Director, Major DA Assessments, may determine the application under the Minister's delegation of 4 March 2009.

##### Modification

The proposed modification does not involve changes to any of the mine's operating functions. Consequently the Department is satisfied that the proposed modification would not involve a "radical transformation" of the project and that it can be determined under section 75W of the EP&A Act.

#### ***Ginkgo Mine***

##### Consent Authority

The Minister was the consent authority for the Ginkgo development consent. Consequently, the Minister is the consent authority for the modification application. However, the Executive Director, Major DA Assessments, may determine the application under the Minister's delegation of 4 March 2009.

##### Modification

Under section 96(1A) of the EP&A Act, a consent authority may modify a development consent if it is satisfied that:

- a) *the proposed modification is of minimal environmental impact, and*
- b) *the development to which the consent as modified relates is substantially the same development for which consent was originally granted and before that consent as originally granted was modified (if at all) under this section.*

The Department has assessed the merits of the application (see below), and is satisfied that it would have minimal environmental impact. It is also satisfied that the development as proposed to be modified would be "substantially the same" as the development approved in the original consent.

The Department notes that the proposed modification represents a minor (2%) increase in the sand residue produced at the mine and would not affect the scale or nature of the approved mining and processing operations at the complex.

#### **Consultation**

Under sections 75W and 96(1A) of the EP&A Act, the Department is not required to exhibit the modification applications or undertake consultation. However, the modification applications were referred to the Department of Environment, Climate Change and Water (DECCW) and the NSW Office of Water (NOW), neither of which objected to the proposal.

## **4 ASSESSMENT**

The Department's assessment of the key issues is summarised in Table 1 below:

**Table 1: Assessment of key issues**

<b>Issue</b>	<b>Potential Impacts &amp; Consideration</b>	<b>Conclusion</b>
Air Quality	<p>The proposed modifications have the potential to cause air quality impacts due to the two-way movement of trucks along a 10 kilometre unsealed section of the private haul road, and the unloading of the ore at the Ginkgo mine path.</p> <p>Bemax proposes the use of water carts to suppress dust on the private road and the existing Transport Management Plan includes the provision for covering of loads prior to transport. Notwithstanding, the Department has recommended a condition requiring all truck loads to be covered.</p> <p>The unloading of ore at Ginkgo may marginally increase the generation of dust based on additional handling of material. However, the mine is approximately 5 km from the nearest sensitive receiver. Bemax's existing environmental management practices would further reduce risk of dust generation, resulting in negligible impact to air quality. Furthermore, Bemax has not sought an increase in the air quality criteria for either mine.</p> <p>Given the remote location of the mines and the temporary nature of the activity, the impact to air quality and nearby receivers would be negligible.</p> <p>The Department is satisfied that any air quality impacts associated with the proposed modifications would be minimal and would have negligible impact on sensitive receivers.</p>	Negligible
Noise	<p>The proposed road transport of the ore from Snapper has potential to change the noise environment. However, this change in noise source is unlikely to increase noise impacts, given that the closest receivers are approximately 4 km from the mine and haul road and the maximum predicted frequency of 1 vehicle every 15 minutes.</p> <p>The loading of ore at Ginkgo would involve additional plant, however given the remote location of the mine and the minor change in operations, the proposal is unlikely to cause any additional noise impact to nearby receivers. Additionally this is a temporary measure that would cease at the end of December 2010.</p> <p>The Department is satisfied that any noise impacts associated with the proposed modifications would be negligible and would not impact on sensitive receivers. The minor changes in operations at Ginkgo would be adequately managed by Bemax's existing consent and noise management practices.</p>	Negligible
Waste Management and Rehabilitation	<p>An additional 1.5 Mt of sand residue would be deposited at Ginkgo mine as a result of the proposed modification. This would increase the height of the final landform at Ginkgo by between 2 metres and 4.5 metres.</p> <p>The characteristics of the sand residue created by processing ore from the Snapper mine would be similar to the Ginkgo mine residue. Existing waste management principles would apply, particularly with regard to the rehabilitation of the mine.</p> <p>The Department is satisfied that the proportional increase in sand residue at</p>	Negligible



	Ginkgo (and the equivalent reduction at Snapper) would result in negligible change to the final landform, and through implementation of the mine's rehabilitation strategies the final landform would be stabilised.	
Flora and Fauna	<p>The additional truck movements between Snapper and Ginkgo would increase the potential for injury or death to fauna along the private haul route.</p> <p>The Department considers the risk of vehicle strike on birds, the main fauna identified during surveys for the Snapper mine, to be minimal and expects the birds, if present, would be generally aware of oncoming trucks and thereby avoid being struck.</p> <p>The existing Snapper Flora and Fauna Management Plan includes provision to reduce the speed limit to 60 km/h when water ponds within low-lying areas at culverts after rainfall. The Department is satisfied this would reduce the risk of impact on the Endangered Painted Burrowing Frog (<i>N. pictus</i>).</p> <p>The Department is satisfied that the impacts of the modification on flora and fauna would be minimal, and has recommended that Bemax record all vehicle strikes on fauna and treat injured animals where possible.</p>	Minimal
Transport	The proposed modifications would not result in any additional truck movements or impacts to public roads, or require the construction of any additional infrastructure.	Nil
Other issues	The proposed modifications do not require additional construction, clearing, increases to approved processing / extraction rates, or changes to existing licence conditions. Accordingly, there would not be any impacts to water, soil, or heritage.	Nil

## 5 CONCLUSION

The Department has assessed the modification application in accordance with the relevant requirements of the EP&A Act. Based on this assessment the Department is satisfied that:

- the proposal is consistent with the provisions of the relevant planning instruments;
- the potential environmental impacts are not significant and can be adequately minimised, mitigated and/or managed;
- the site is suitable for the development; and
- the proposed modification can be carried out in a manner that is consistent with the objects of the EP&A Act, including the principles of ecologically sustainable development.

The Department therefore believes that the modifications are in the public interest and should be approved.


## 6 RECOMMENDATION

It is RECOMMENDED that the Executive Director:

- **consider** the findings and recommendations of this report;
- **determine** that the proposed modification to the Snapper project approval would not "radically transform" the approved project;
- **determine** that the development to which the Ginkgo consent, as modified, relates is substantially the same development for which consent was originally granted;
- **determine** that the proposed modification to the Ginkgo development consent is of minimal environmental impact;
- **approve** the proposed modifications under sections 75W and 96(1A) of the EP&A Act, respectively; and
- **sign** the attached Notices of Modification (Tag A and B).

*DKitt* 9/12/09

Director, MDA



Executive Director, Major DA Assessment

*Howard Reed*  
Howard Reed  
Manager, Mining  
9.12.09

11.12.09