

28 February 20013

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Dear Hugo,

## Lincoln Minerals Limited Submission - Lower Eyre Peninsula Reinforcement RIT-T Project Assessment Draft Report

Lincoln Minerals Limited (LML) has prepared this submission in response to ElectraNet's Lower Eyre Peninsula Reinforcement RIT-T Project Assessment Report (DPAR) made available to the general public for comment in January 2013.

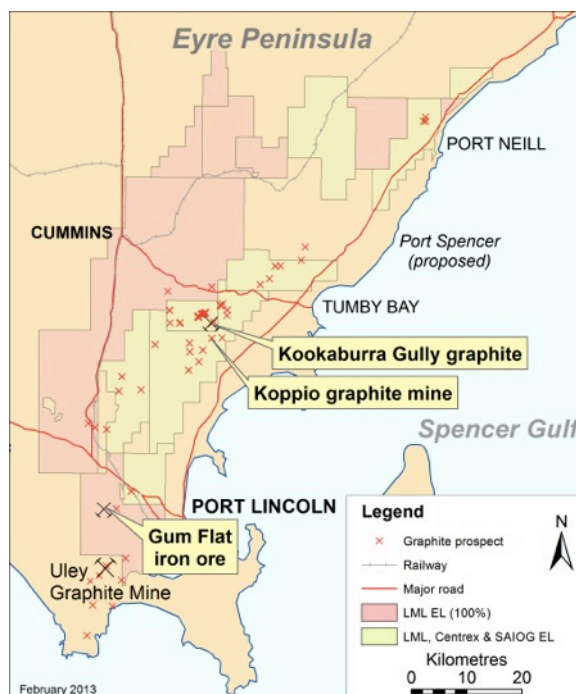
The DPAR outlines the need for an increase in the provision of electricity within the Eyre Peninsula region due to demand growth as well as 'spot loads' (e.g. new mining loads). The DPAR notes that the proposed Eyre Iron Limited (Centrex Metals Limited JV) Koppio region iron ore project has been considered as a potential spot load requiring an indicative energy load of 70 MW commencing in 2015/16.

The Koppio iron ore project is immediately adjacent to LML's proposed development of a graphite mine and processing plant at Kookaburra Gully (Figure 1). In addition, LML is investigating the establishment of an iron ore mine in the Gum Flat area approximately 20km west of Port Lincoln

These two proposed mining projects should be considered by ElectraNet when determining electricity requirements for additional spot loads. Specifically the DPAR does not include consideration of energy load requirements for the proposed Kookaburra Gully and Gum Flat mines.

*Figure 1: Location of LML tenements on Eyre Peninsula (including Gum Flat, Kookaburra Gully and Koppio)*

Note: LML has rights to graphite and all minerals other than iron on Centrex/SAIOG ELs



### Proposed mining activities

#### Gum Flat

LML proposes to develop a hematite and magnetite ore body at Gum Flat, approximately 20 kilometres west of Port Lincoln (refer to Figures 1 and 2). It is proposed that the Gum Flat Iron Ore project will be undertaken in two phases, consisting of the following:

- Phase 1: efficient and cost effective extraction of the small hematite ore body as Direct Shipping Ore (DSO).
- Phase 2: extraction of the larger magnetite ore body and processing through a concentrator to produce magnetite concentrate.

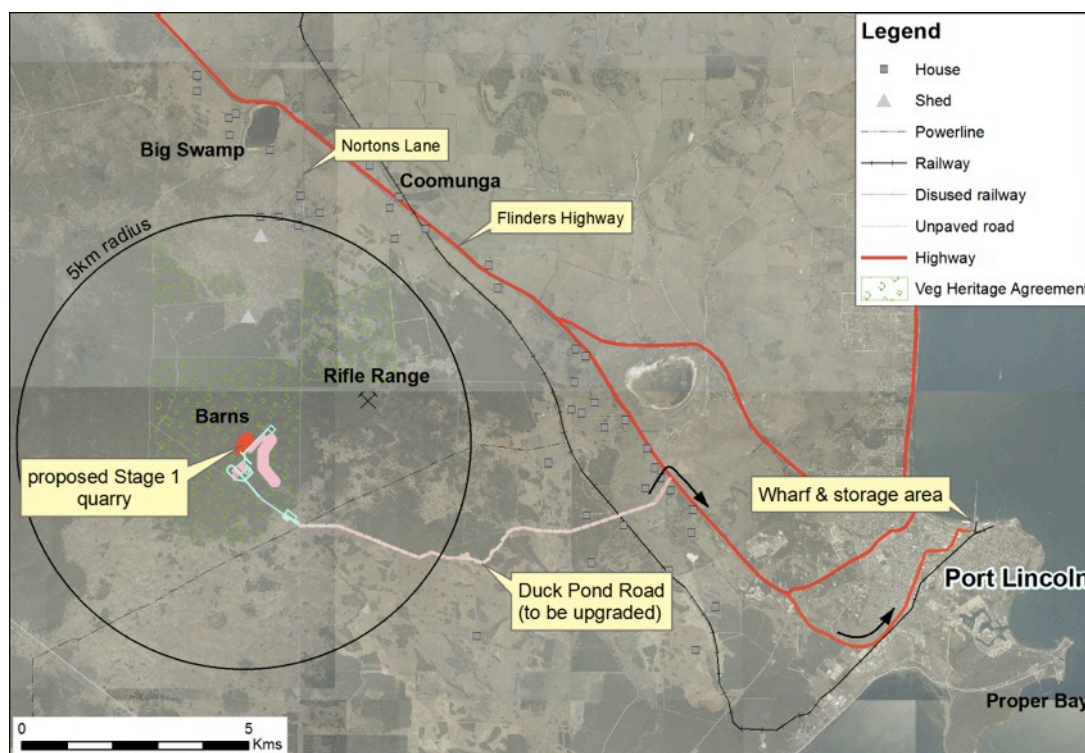


Figure 2: Location of the Gum Flat Phase 1 DSO iron ore project

Development of the Barns hematite ore body (Phase 1) will include overburden removal, dewatering, mining, crushing and screening operations. Crushing and screening operations would likely be undertaken by small mobile diesel-powered plant and equipment. Based on this, it is estimated that 1 MW of power will be required for mining operations. For the dewatering bores and reinjection wells associated with the mining process, each well will have its own pump and diesel generator set. One additional diesel generator has been allowed to provide power for administration offices, potable water supply, weighbridge, external lighting, security and other miscellaneous power requirements.

During Phase 2 the magnetite ore will require processing thus requiring additional energy input of up to approximately 30 MW (this does not include any redundancy or emergency power supply). Through discussions held with ElectraNet in June 2010 it was determined that the provision of electricity for the mine and processing plant would be a constraining element. ElectraNet advised that once a major project has been sanctioned, planning and approvals and construction would take 5 years before mains power could be made available which would have made this option not feasible due to LML's intention to develop the mine within 2 years of the initial discussions with ElectraNet.

Note that the currently proposed location for the site office and weighbridge for Phase 1 is immediately adjacent to the existing high voltage power line from Port Lincoln to Cathedral Rocks wind farm. The Phase 2 magnetite processing plant would also be located in this general area. There is currently no power connected to the Barns property on which the proposed mine would be located or within 5 km of the proposed Phase 1 mine site.

### **Kookaburra Gully and Koppio**

In addition to the Gum Flat site, LML is also investigating the potential to develop a graphite mine and processing plant at Kookaburra Gully, located approximately 35 kilometres north of Port Lincoln (refer to Figures 1 and 3), which was originally investigated in the 1980s for its graphite resources. Two graphite resources within close proximity have been identified including Kookaburra Gully and the historic 1940's Koppio Graphite Mine. However, LML intends to focus primarily on Kookaburra Gully and Kookaburra Gully Extended with Koppio Graphite Mine being a secondary consideration.

A Scoping Study was completed in October 2012 to define the power and water requirements for a small 200,000 tonnes per annum mine producing 20,000 tonnes per annum of graphite concentrate but with options to double that as further resources are brought on-stream. All the main mine infrastructure, including the process plant, would be located at Kookaburra Gully. Ore from Koppio

would be trucked back to the main process plant at Kookaburra Gully, if and when Koppio is brought on line. An exploration drilling program for the Kookaburra Gully and Koppio resource definition commenced in early 2013.

Due to limited capacity in the existing network, the proposed electricity supply for the initial Kookaburra Gully mine site is to be supplied by a single 2 MW diesel engine driven generator or through alternative generation (e.g. sourced from a local windfarm or combined wind-diesel power unit).

The initial operation of the Kookaburra Gully and Koppio mines will require about 2 MW of electricity; however, an additional 2 MW will be required upon an increase in mining effort, thus requiring a total energy load of 4 to 5 MW during peak operation. The existing high voltage powerline to Port Lincoln is located about 1-2 km east of Kookaburra Gully.

It is currently proposed that water would be pumped from Todd Reservoir to Kookaburra Gully.

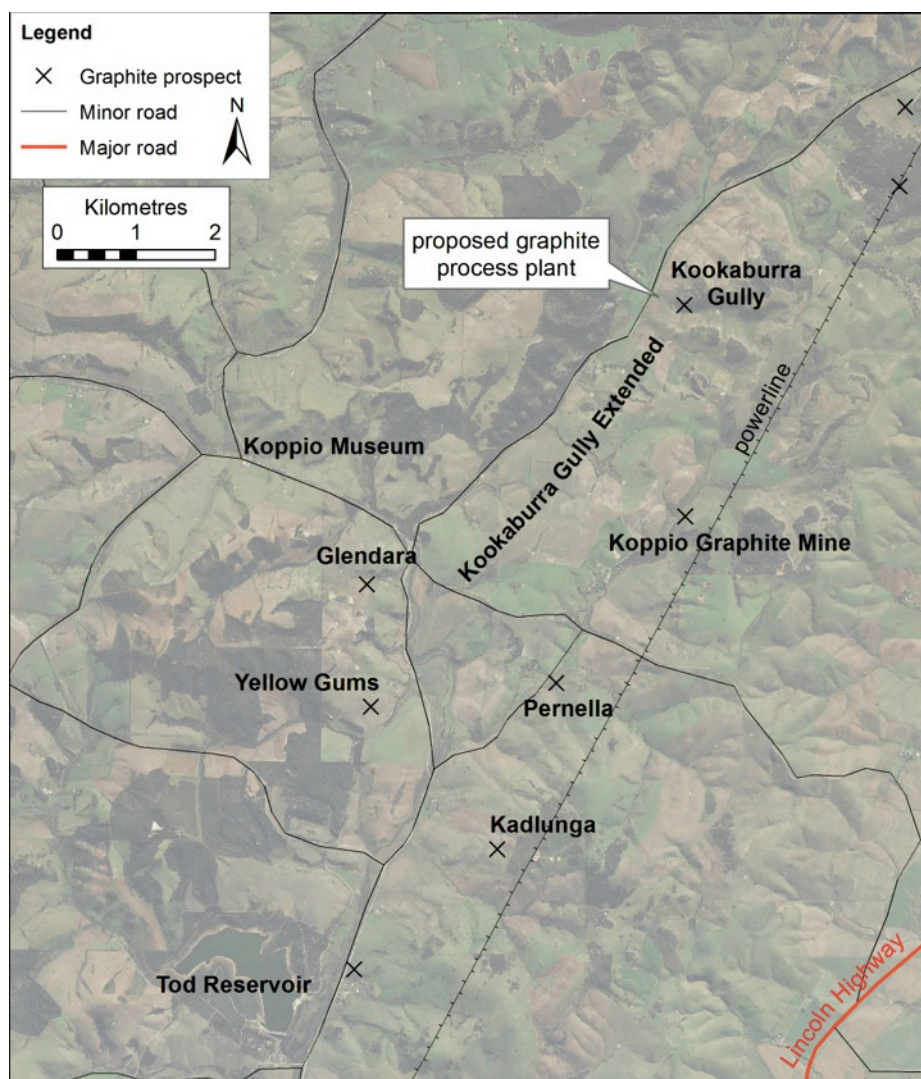


Figure 3: Location of the proposed Kookaburra Gully mine and process plant

## Timing

It is noted in the Draft Project Assessment Report for the Lower Eyre Peninsula Reinforcement RIT-T Project that, 'a transmission network augmentation would likely take 2-5 years to complete from the time of customer financial commitment to connect the spot load'.

### Gum Flat

The earliest likely commencement date for the Gum Flat Phase 1 mine would be 2014 (with a lifetime of 3-5 years). Planned growth of the mine will allow Phase 2 to commence from 2017-2020, thus potential does exist for ElectraNet to provide the required energy load to support Phase 2 of the Gum Flat magnetite mine.

### **Kookaburra Gully**

With regard to the Kookaburra Gully and subsequently the Koppio mines, a pilot plant is proposed to be in operation by the end of 2013 or early 2014, whilst the likely full-scale mining (i.e. approximately 200,000 to 400,000 tonnes per annum) will likely become operational in Quarter 4 of 2015 or early 2016, again allowing time for the necessary approvals and construction of the augmented transmission network in order to provide the required electricity for mining operations.

However, it is understood that the requirement for network augmentation to accommodate an increase in demand depends on spot loads making a firm commitment to ElectraNet and/or funding pre-construction work.

### **Conclusion**

In summary, when considering the potential future spot load demand within the Eyre Peninsula region, LML would advise ElectraNet to consider the proposed Gum Flat and Kookaburra Gully mining operations and the indicative energy requirements of, respectively, 30 MW and 5 MW. The timeframe for commencement of mining operations coincides with the timeframes for commencement of network augmentation in the 2015-2016 scenarios as outlined in the DPAR and it would be beneficial for LML to utilise mains electricity if available for mining operations.

LML strongly supports the immediate upgrading of power lines to Port Lincoln combined with a 275/132 kV substation in the proximity of Koppio to facilitate an indicative 75 MW electricity supply for the proposed Koppio iron ore project (Centrex/Eyre Iron Limited) and LML's proposed Kookaburra Gully graphite mine and process plant.

Yours sincerely,



Dr A John Parker  
Managing Director  
Lincoln Minerals Limited