



OUT14/27436

Mr Thomas Watt  
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Dear Mr Watt

**Airly Mine Modification Application (DA162/91 - Mod 3)**

Further to the Division of Resources and Energy (DRE) letter of 18 July 2014, the site inspection and assessment regarding subsidence that may be associated with this proposed time modification has been completed.

The site is characterised by cliff lines and rock formations in the Muggii Murum-ban State Conservation Area. These cliff lines and rock formations are subject to specific conditions of the Development Consent (Ref 2). Specifically, certain areas of high (>20m) cliff lines or rock formations are to be protected from adverse structural and visual impacts. These areas are defined by what is referred to as "Environmental Protection Zones" (EPZs).

The proposed mining in the Environmental Assessment (EA) comprises bord and pillar panels including first workings, pillar splitting and pillar quartering. It should be noted that quartered and split pillars have been traditionally regarded as a form secondary extraction by DRE.

DRE has reviewed the EA for this proposal and identified the following matters that may need to be considered:

The EA indicates the proposed mining scheduled during the extension period is substantially within the abovementioned EPZs.

The EA describes a number of proposed mine layout design criteria with associated pillar stability and subsidence assessments. Other than a number of options for first workings, proposed final mine layout plans are not included in the EA. It proposed to manage impacts to cliff lines and rock formations in the EPZs by adopting an arbitrary pillar design factor of safety, nominally greater than two (FOS > 2).

Notwithstanding the lack of a detailed final mine plan in the EA there is uncertainty as to the long-term stability of parts of the proposed workings, for the following reasons:

- The EA and related geotechnical assessments have not adequately considered the effects of geotechnical conditions on pillar performance, particularly roof and floor conditions. Additional information sort from the proponent indicates potentially poor roof conditions which it appears has not been considered in the pillar stability assessments in the EA;
- The proposed pillar width to height ratio will be as low as 4.2:1 for some pillars. This ratio is too low for pillars that are intended to be stable long-term. Additionally, poor roof conditions may adversely affect the width to height ratio and hence stability, particularly over time; and
- It is noted that over a certain depth of cover remnant pillar sizes formed using the criteria in EA may be regarded as non-conforming under current safety legislation.

Subject to maintenance of conditions for the protection of the environment, DRE supports this time extension modification.

Yours sincerely



**ADRIAN DELANY**  
**ACTING DIRECTOR**  
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