

NSW Government

DEPARTMENT OF WATER AND ENERGY

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**Director – Major Projects Assessments
Department of Planning
GPO Box 39
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File: ER20476(R)

Attn. Alison Thomas

8 May 2009

Dear Alison

Subject: your ref. Apex Energy Exploratory Drilling Project. Your ref. MP 07_0103

The Department of Water and Energy (DWE) has reviewed the Environmental Assessment (EA) for the proposed Apex Energy Exploratory Drilling Project. DWE provides the following comments in light of its statutory role under the *Water Act 1912* (WA) and *Water Management Act 2000* (WMA).

The EA indicates groundwater is not present in the area of propose borehole drilling, or present in such small quantities as to require no protection. The investigation programme assumes that groundwater yield will invariably be very small to nil. Variations in groundwater yield across the eastern Southern escarpment area are not considered likely. As this is not validated either for undisturbed coal areas or goaf areas where previous extraction has occurred, no assessment can be conducted on yield reliability or groundwater migration. However, DWE estimates hydraulic conductivities may increase by many orders of magnitude where goafing fractures have been created. This may create larger groundwater yield than indicated in the EA.

As the EA only makes reference to an investigation at Area 2 of the BHP Dendrobium mine, which has created significant goafing fractures, potentially to surface, DWE considers the groundwater assessment incomplete. Further, DWE advises that groundwater interception estimates in the EA may be much smaller than actual volumes encountered.

DWE requires the following to be included in conditions of project approval for the Apex exploratory drilling project:

A dedicated programme of groundwater investigation should be required for the proposal, investigating groundwater environments for undisturbed and goafed areas, with estimates of yield, reliability and groundwater migration to and from the site(s). The investigation must be undertaken in accordance with DWE guidelines "Groundwater Monitoring Guidelines for Mine Sites, 2003", and relevant Australian standards.

Results from the investigation programme must be reported to DWE for assessment, and verification of any estimates of yield from differing strata provided within the reports.

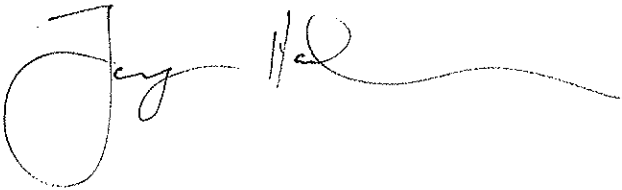
Groundwater quality protection criteria must also be established, and trigger thresholds determined for groundwater protection and remediation. The yield estimation must include an assessment of contamination of any aquifer as a result of introduction of drilling material or solutions, or migration of groundwater from one aquifer to another.

All bores must be fully cased to protect any higher yielding or higher quality aquifer than the gas producing strata.

All groundwaters intercepted by the project must be licensed, in accordance with any statutory water sharing arrangements in force.

If you require any clarification of the above, please contact Fergus Hancock on (02) 4904 2532.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Fergus Hancock', with a long, sweeping horizontal line extending to the right.

per Mark Mignanelli
Manager, Major Projects Assessments