



Office of Water

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20 December 2010

Our ref: ER20476
Your ref: 9042505

Attention: Clay Preshaw

Dear Mr Reed

**Section 75W Project Modification Application
Apex Gas Exploration Project (09_0161 – MOD 1)**

I refer to your letter of the 16 December, 2010, inviting comment on the Environmental Assessment (EA) for the above project. NOW has reviewed the EA and provides detailed comments in Attachment A, with recommended conditions of approval (additional to those conditions already imposed by the original determination for this project) in Attachment B.

If you require any further information, please contact Mark Simons on telephone 4904 2572.

Yours sincerely

Mark Mignanelli
Manager Major Projects and Assessment

**NOW COMMENTS ON ENVIRONMENTAL ASSESSMENT
APEX GAS EXPLORATION PROJECT (09_0161 – MOD 1)**

Water Licences under the Water Management Act and Water Act.

The *Water Management Act 2000* (WMA) governs sustainable and integrated management of water sources across the State. Licensing of water is regulated under the Water Management Act 2000 for areas which are subject to a Water Sharing Plan, and the Water Act 1912 for water sources not covered by a Water Sharing Plan. The *Water Sharing Plan for the Greater Metropolitan Region Surface Water Sources* (WSPGMSWS) and the *Water Sharing Plan for the Greater Metropolitan Region Ground Water Sources* (WSPGMGWS) are currently in draft form, following a public consultation phase. The outcomes of the consultation phase are being considered by the minister, prior to the plans being finalised. Until this occurs, water sources in the area of the proposed development are regulated under the Water Act 1912.

Action 20 of the Project Commitments confirms that the proponent will obtain necessary groundwater licences and approvals only on encountering groundwater resources during drilling. This action should be undertaken prior to the commencement of any drilling activity. NOW Recommends a condition of consent which reflects this requirement.

Watercourse Crossings and protection of Riparian Zones

The proponent has stated (Page 29) that the proposed development footprint does not interfere with any riparian zones, as both the proposed drill pad and access road are on a ridgeline well away from streamlines. However, Figure 2, on page 15, shows a significant upland swamp on Forest Gully, which may be within 40m of the proposed site. The potential for damage to this swamp, particularly as a result of water quality / sedimentation issues, is of concern. These swamps are typically dependent on groundwater (Groundwater Dependent Ecosystems), and the lowering of groundwater levels as a result of drilling activities is also of concern. NOW recommends the Environmental Management Plan for the site referred to in Action 32 of the project commitments should address the protection of this swamp, utilising appropriate erosion and sedimentation controls, and that sumps and storage facilities for the containment of drilling fluid and other chemicals be constructed in such a manner as to preclude any contamination of groundwater in the area.

Groundwater Quality

Action 13 of the project commitments describes the construction of a sump to manage drill cuttings and water from the core hole. This sump should be constructed in a manner which prevents contamination of groundwater. Similarly for action 27, any produced groundwater should be managed in a way which prevents contamination of surface water and near surface groundwater.

Groundwater Monitoring

The proponent is undertaking these exploration activities with a stated longer term objective of producing commercial quantities of gas. This process may ultimately have a significant impact on groundwater levels in both the coal seam aquifers and those overlying them. In order to facilitate assessment of future stages of the project, the proponent should establish a network of monitoring bores around the site to collect baseline data, and using this to develop a model of the hydrogeological behaviour of the area.

Bore Construction

Construction of all wells must be undertaken by a driller holding a water driller's licence, valid in New South Wales. It is recommended that a condition requiring this, and stating the requirements for construction and reporting requirements are included in the consent conditions.

End Attachment A
20 January 2011

**NOW RECOMMENDED CONDITIONS OF APPROVAL
APEX GAS EXPLORATION PROJECT (09_0161 – MOD 1)**

Water Licensing Requirements

An authorisation under the *Water Act 1912* or the *Water Management Act 2000* is to be obtained from the NSW Office of Water with the appropriate purpose identified for any activity relating to the taking of or interception of groundwater prior to that activity commencing.

Management of Produced Groundwater and Drilling Water

Structures for the containment of drilling water and produced groundwater are to be either above ground or fully lined. Off Site Disposal of these materials should be addressed in the Water Management Plan.

Bore Construction

Construction of all wells must be undertaken by a driller holding a water driller's licence, valid in New South Wales.

Groundwater Monitoring

A **water quantity and quality monitoring plan** is to be established and maintained which incorporates a monitoring schedule and adopted parameters to be monitored as agreed to by the NSW Office of Water.

- The monitoring program should establish appropriate sites for monitoring bores.
- Monitoring bores should monitor discrete aquifers and not be open hole. All major aquifers should be monitored using data loggers, with emphasis on the aquifers where extraction occurs or the environment relies on groundwater (e.g. baseflow to rivers, Groundwater Dependent Ecosystems).
- The monitoring program should include reporting of water level and quality in both the target and overlying aquifers
- The results of monitoring are to be reported to the NSW Office of Water regularly, at a frequency consistent with the reporting arrangements required by other authorities or agencies to avoid duplication of effort where practical.

**End Attachment B
20 January 2011**