Submission to the Thirlmere Lakes Inquiry
2012 July 16

I submit that:

1. At the Inquiry meeting on 2012/7/3, I asked “How great would the damage to Thirlmere Lakes by mining have had to have been for your report to recommend Tahmoor Colliery close?” Answers to my question from the Committee at the meeting were vague. The Draft Report has sufficient scientific rigour to find “substantive evidence of the steepening of the hydraulic groundwater gradient and lowering of the groundwater table towards the east of the lakes ...” [0.2 6.] and “There is some evidence to suggest that mining has contributed to changes in groundwater tables and groundwater gradients ...” [0.2 7.]. I ask the question again in order to put this Inquiry’s findings into a context where the community can understand how protected is our heritage listed environment and miners can extract coal with a low risk of damaging our environment:

How great would the damage to Thirlmere Lakes by mining have had to have been for your report to recommend Tahmoor Colliery close?

2. Damage to the Thirlmere Lakes water storage has happened. Despite the Committee studying a well defined environment after the damage occurred, having geological data from a nearby coalmine and other studies, mine records, detailed water pumping histories, hydrologic studies as well as traditional owner and European histories of water levels in the Lakes, it has not been possible for this Committee to conclude that mining below the lake level has contributed to the damage. There will always be gaps in the available knowledge and data.

If despite the good data and a rigorous inquiry we are not able to conclude anything more substantial than a change in the local weather did it, we must use the precautionary principle to ensure mining in future will not continue to damage the lakes and other environmental heritage areas.

The Inquiry can recommend future use of the precautionary principle. To avoid future mining damaging stored water, aquifers, National Parks and other natural areas conserved for their natural values, this Inquiry can recommend that mining should not occur within a distance greater than 700 metres from the boundary of all environmental heritage areas.

3. Professor Philip Pells concluded that Lake George has a similar small catchment area to lake surface area ratio to the Thirlmere Lakes. Rainfall seasonality was similar for both lake systems. The Pells studies also demonstrated level fluctuations in both lake systems were synchronous until Tahmoor Colliery started pumping water from below the level of Thirlmere Lakes and mining coal.

I submit the hypothesis that the recent lowering of Thirlmere lake levels was caused by coalmining can be tested for statistical significance by comparing the histories of Thirlmere Lakes and Lake George. The likelihood of finding significance will be improved if this Committee incorporated the data and studies contributed by Professor Pells.
4. There is not yet legislation in NSW requiring mining companies to prove they have not damaged the environment. Nor do they provide remediation/compensation for damage they do sustain, as they usually go into receivership before that work commences. The onus of proof still requires the community or private individuals to prove significant damage to the environment has occurred, as in this case. I submit the Committee should express its views on whether this lack of responsibility of mining companies can be allowed to continue.

As a committee, it has been possible to reach a draft conclusion that somebody else should do more studies. To avoid any of the committee members ever having to work on a government funded inquiry again, could you be brave enough to write in your findings how the law should be changed, or what should be done in future, or what resources you really needed to have reached a worthwhile contribution?

5. One of the authors of the independent (privately funded) inquiry by Professor Philip Pells, Steven Pells, concluded that any damage from water extraction for coal seam gas (CSG) mining would be a lot worse than the water drained from below Thirlmere Lakes for long-wall coal mining by Tahmoor Colliery. How bad was the mine water extraction by Tahmoor Colliery?

6. Are you able to rank the seriousness of the effect of pumping water out from below the water table to extract CSG?

Does the Inquiry think CSG mining is worse than coal mining when it comes to water extraction?

7. How much water can be pumped from coalmines and CSG extraction before private bores go dry?

8. If Tahmoor Colliery could pump 2 to 12 megalitres of water every day from 300 m below the level of Thirlmere Lakes (660 m away) for 25 years and although that water pumping is considered an influence but not enough to be blamed for lowering the water level of Thirlmere Lakes, how much water would have to be extracted from Sydney’s drinking water catchment by CSG miners before anybody could say with confidence that CSG mining is so bad it should not start?

9. With regard to the Committee’s recommendation on remediation, reference 0.2. 1, 2. and 3., I ask the following two questions: Why would it be acceptable to reinject treated or partially treated mine wastewater underground to form a “groundwater mound” if it is not acceptable to pump the water back into the surface of Thirlmere Lakes? Would not the precautionary principle require only water of similar chemistry and biological content to be pumped underground, especially if it will be difficult to re-extract that water if it is too salty, for example?

10. If the Tahmoor Colliery coalmine wastewater can't be pumped back into Thirlmere Lakes because it has a chemistry and biota different to the lakewater, I suspect CSG produced water cannot be used to refill Thirlmere Lakes because it is too polluted. Is this likely to be true?
11. If the water extracted by Tahmoor Colliery contains, even after treatment, more salt than potable water for drinking, should that water not be discharged into the Bargo River? During the course of its investigation, has the Committee had to overlook any legal requirements that Tahmoor Colliery might have not to pollute Bargo River with water saltier or more polluted than the maximum permitted by the Colliery Pollution Control Licence?

12. Could the carbon dioxide to be captured by Tahmoor Colliery in future (when the Colliery decides to do something about the anthropogenic climate change it is directly responsible for) be sequestered 800 m below the proposed water mound (or roughly 1 000 m below the surface) to reverse the underground water flow towards the Colliery back towards the Lakes? Can carbon capture and sequestration be used as part of the remediation of Thirlmere Lakes?

13. If the Committee’s draft recommendation [0.2 1.] is adopted, then it must take into account my submission that no further anthropogenic damage to the Thirlmere Lakes can be allowed. As past operations of Tahmoor Colliery have contributed to fluctuations in the lake levels and damage to the lakes environment, the Colliery should close and the Colliery should remediate and pay for the damage to the World Heritage Area and Bargo River where the Tahmoor Colliery still pumps its salty water extracted from levels below the lakes. Other water bores and all proposed coal seam gas extraction holes able to take water from below the lakes should be stopped from taking water, without financial compensation, now.

14. Has the age of the Tahmoor Colliery wastewater been isotopically aged using tritium and carbon? What were the results?

I thank you for the opportunity to comment on your report.

Regards