Submission to the Inquiry and Draft Report on Thirlmere Lakes July 2012

Limitations of Inquiry:
The report did not clearly acknowledge the limitations of the inquiry. Those limitations could seriously question the findings of the report. A statement should be included making the following points:
1) Insufficient time and funding has been provided for the inquiry to enable it to carry out a comprehensive investigation, including exploratory drilling, independent of the mining company, Xstrata.
2) Two studies whose findings were used by the inquiry were commissioned by Xstrata - see details in discussions below.
3) The Pells Report, the only independent self-funded investigation mentioned in the Inquiry Report, received no co-operation from Xstrata nor assistance/approval from NPWS Dept for additional exploration work deemed necessary.
4) There is no legislation requiring a coal mining company to provide proof it has not damaged the environment; or provide remediation/compensation for any damage that is sustained. The onus of proof requires the community or private individuals to prove significant damage to the environment.

Discussion of Points of Detail within the Report

1. Comparison of Scientific Studies
Three scientific studies referred to above are given significant status in the Inquiry Report and cover similar groundwater issues. The independently-funded report by Pells Consulting, has been freely available on the web and open to criticism and comment. Professor Pells is one of the very few independent specialists dealing with mining issues within the Southern Coalfields. He received the 2011 Premiers Award for Innovation relating to research into longwall mining in the Southern Coalfields.
The two other studies, reports by Gilbert & Associates and Heritage Computing, were unknown outside the inquiry panel until the report had been completed. The veracity of their reports has not been subject to examination or debate and the credentials of the authors not communicated beyond the panel. It was not made clear that both reports were commissioned by Xstrata – they are yet to be reviewed.
The significance of this fact is illustrated in the section on Hydrologic Modelling (p 155-6 of the report).
Important points regarding groundwater and lake levels, expressed in both the Pells and Gilbert reports, were discussed and opposing conclusions reached. The Inquiry considered there was no benefit in further modelling to make a judgement on the two views. In effect, it dismissed the well reviewed opinion given in the Pells Report.

2. Section 9.0: Conclusions and Recommendations
2.1 In 9.1.2 of the Inquiry Report on Human Activity (p. 237), consideration is given to
• The possibility that a) mine subsidence has opened joints and bedding planes in sandstone beds above the Bald Hill Claystone (BHC) over the longwalls
b) the aquitards, including the BHC, could have been subject to structural changes and presumably connectivity through those aquitards into mine workings.
• It is "highly likely transmissivity has been increased in the Hawkesbury sandstone aquifers" and "associated increase in the hydraulic gradient to the east resulting from groundwater lowering over the longwalls would result in more rapid discharge through the sandstones".

Once these possibilities were understood why did the committee not pursue investigation of the logical follow-up question regarding the source of increased flows into mine workings?
The Inquiry Panel would have been aware (from the number of times the issue was raised) of the importance the public attached to the major increase in pumping from the mine during the years coinciding with the emptying of the lakes.
The inquiry was also asked to follow up with the colliery the anecdotal evidence that most of the large flows were coming from the 500 panel and to consider whether that increased the likelihood that flows were from aquifers near the lakes.

2.2 A Viable Working Hypothesis (Sect9.1.3)
In the conclusion to 9.1.3 (p.240), the Inquiry Report refers to its conclusion as a viable working hypothesis still to be tested and to be used as the basis for their suggestion for remediating groundwater losses to the east of the lakes.
The hypothesis is not however clearly stated. A clear hypothesis is necessary if it is to be used as a basis for testing
If I were to paraphrase the conclusion the hypothesis would be
• The majority of fluctuation in lake levels is a function of rainfall but groundwater extraction to the east has influenced recent fluctuations and low levels in the lakes
• Mining and groundwater extraction from bores, together with reduced recharge from lower rainfalls, have contributed to change in the groundwater regime to the east.