# Title

**Joint conference between Dr Richard Denniss and Dr Andrew Searles**

## Background

The following table was prepared after a joint conference conducted between Dr Richard Denniss and Dr Andrew Searles. This conference took place at various times, by phone, from the week beginning August 13, 2012 through to 27 August, 2012.

The following table was prepared subsequent to a report prepared by the Hunter Valley Research Foundation (HVRF) titled “An economic assessment of the Warkworth coal resource” (herein referred to as “the report”). The report was then the subject of an affidavit prepared by Dr Richard Denniss that raised concerns with aspects of the modelling used in the report. The report was based on an input-output (IO) model of the Hunter Region economy. Dr Andrew Searles subsequently responded, in his affidavit, to the concerns of Dr Denniss.

It is assumed that (a) the report (d) the affidavit of Dr Denniss and (c) the affidavit of Dr Andrew Searles have been read *prior* to considering the content of the following table.

The following table has focussed on what Dr Denniss and Dr Searles believe to be the ‘core’ issues. These are traced back to the HVRF report i.e. “the report”.

| Issue | Details of the issue | Dr Richard Denniss | | Dr Andrew Searles | | Expert agreement or disagreement |
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| | | Agree / Disagree | Reasons or clarifications | Agree / Disagree | Reasons or clarifications | |
| 1. *The analysis in the report was based on assumptions. The contentious assumptions are listed under "details"* | a. *There are unemployed resources available to meet increased demand (this assumption includes labour)* | Disagree | The modelling approach used by the HVRF explicitly assumes that the jobs associated with the mine expansion will go to people who would otherwise be unemployed. For example, the HVRF state " the modelling approach used by the HVRF explicitly assumes that the jobs associated with the mine expansion will go to people who would otherwise be unemployed" This is highly unlikely due to the skilled nature of the work and widespread acceptance of a shortage of skilled labour in the mining industry. The significance of this assumption cannot be overstated. Modelling done by the proponents of other mining projects explicitly assume that a high proportion of 'new jobs' will cannibalise employment in other mining and manufacturing projects. This view is confirmed by the Commonwealth Treasury. Similarly, if the number of 'new jobs' is exaggerated then the estimated 'flow on' benefits to the community will be far less than estimated by HVRF as the redeployment of a skilled worker from one industry to another is not an 'additional paypacket' as assumed by HVRF but simply a new paymaster. The only benefit to the regional economy would be in the form of a possible slight increase in the pay of workers employed at Warkworth, but this effect has not been estimated by HVRF. In the words of the ABS *"The implicit assumption is that those taken into employment were previously unemployed and were previously consuming nothing. In reality, however, not all 'new' employment would be drawn from the ranks of the unemployed; and to the extent that it was, those previously unemployed would presumably have consumed out of income support measures and personal savings. Employment, output and income responses are therefore overstated by the multipliers for these additional reasons.* | Agree | I have provided evidence on employment and unemployment trends in the Hunter; under-employment in the Hunter and the history of participation rates (being the proportion of people in the working age group who are available for employment; that is, either in work or looking for work). Further, I have identified the implication of this evidence for potential labour supply. The evidence to support my view is already documented in my affidavit (see paragraphs 1.52 to 1.61, 1.71 and 1.72) and is drawn from the Australian Bureau of Statistics and representative surveys of Hunter Region firms and households; that is, it is information specific to the Hunter. For completeness, the assumption in IO analysis is" "the analysis assumes that unemployed resources are available within the Hunter Region to meet any increase in demand". Further, it has been demonstrated that the Hunter Region has the capability to provide potential employees with the specific skills required by mining (see paragraph 1.57 and 1.58) | Experts disagree on this point |

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| | b. *Static nature of the model: The multipliers constructed using 2001 data are still valid for current analysis (i.e. the structure of the Hunter's economy is broadly similar)* | Disagree | The data on which the analysis is a decade old and the implementation of new labour saving technology in the mining and other industries means that the employment/output ratios are likely to overstate employment effects. In their critique of my response to their original estimates the HVRF presents data that suggests that labour productivity in mining has decreased significantly since 2001 while productivity in the transport industry has increased. This additional information confirms my view that the data from 2001 is significantly out of date. Furthermore, the HVRF report is projecting the employment effects of this project over the next 20 years. It is inconceivable that the employment/output ratios and the size of the linkages between industries will remain stable over a 30 year period. | Agree | Falling mining productivity (see paragraph 1.35 to 1.41) is evidence that the HVRF IO model is understating the employment impact from the development. That is, the modelling estimates are conservative. Evidence was also provided showing the relative stability in the Hunter Region's economy since 2001, which was differentiated from the substantial structural change of the 1980s and 1990s (see paragraphs 1.26 to 1.32 for evidence drawn from the Australian Bureau of Statistics to support my view) | Experts disagree on this point |

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| 2. *The IO technique double counts* | a. *The impacts identified in the report were overstated* | Agree | While Computable General Equilibrium Models allow for the stock of labour in a region to be reallocated between sectors Input Output (IO) models assume the existence of a 'ghost workforce' who enter the labour market in direct proportion to the number of jobs 'created' by a new project. Both the Australian Bureau of Statistics and the Commonwealth Treasury have made statements that support my assertion that the IO modelling used by HVRF overstate the employment and broader economic benefits of the project. Indeed, the proponents of the China First coal mine in Queensland conceded " *of note, the manufacturing sector is estimated to record a considerable decline in overall industry output during operation…it is anticipated the manufacturing sector will be one of the hardest hit sectors in terms of the reallocation and draw of labour to the China First Project given the relatively similar skills sets employed"* | Disagree with Dr Denniss on how IO analysis double counts but agree IO analysis can double count | I have provided evidence on the available supply of labour (and other resources) based on information from the Australian Bureau of Statistics and representative sampling of Hunter Region household to support my view (see paragraphs 1.52 to 1.61). IO modelling can double count by inappropriate use of the multipliers – in my affidavit I have documented how and explained that this was not a characteristic of the Warkworth IO modelling (see paragraphs 179 to 1.83). Further, the HVRF took steps to ensure the IO analysis was conservative. These included: removing expenditures that would have created benefit in other localities (i.e. non-Hunter). This was in addition to the treatment of leakages that is built into the IO model. | Experts disagree on this point |

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| 3. *The IO technique should not have been used for the Warkworth analysis* | a. *There are more appropriate models available such as CGE* | Agree | All economic models have limitations. While IO is useful for understanding the relative size of the impact of a project on upstream and downstream industries it is not useful for determining the net impact of a project on a regional economy as IO modelling explicitly assumes that none of the labour used for a new project is cannibalised from other sectors. CGE modelling explicitly allows for the expansion of one industry to draw labour and other inputs away from other industries. | Disagree | For completeness, I agree with the statement by Dr Denniss that all economic models have limitations. My understanding is that CGE models are based on substantial assumptions – perhaps more than required in an IO model. Further, as I am unaware of any CGE model for the Hunter Region that is based on primary evidence sourced from the local economy, any analysis using CGE modelling is unlikely to be as representative of the Hunter's economy as the HVRF IO model. Additionally the CGE modelling would be based on a technique untested in the Hunter.<br>It is my opinion that the most appropriate analysis of the Hunter Region's economy is with the HVRF IO model. This model has known theoretical limitations and transparency regarding the caveats to its estimation abilities. | Experts disagree on this point |

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| 4. *The stated outputs of the report* | a. *The reported estimated employment and output impacts for the Warkworth extension and these estimates are reasonable* | Disagree | The assumption that there is a pool of 951 'ghost workers' with the necessary skills who can fill the employment requirement of the Warkworth project is unreasonable. The Minerals Council of Australia has stated *"The mining industry has got a skill shortage issue - a chronic shortage of mining professionals and tradesmen*". As the ghost worker assumption generates a higher net employment creation figure than is plausible the subsequent estimation of the 'pay packet' effect on the regional economy is also exaggerated. That is, the HVRF have estimated the impact of additional 'pay packets' on the local economy but, if jobs are simply redistributed rather than created, then these downstream 'pay packet' effects will also be exaggerated | Agree | I have provided evidence on available resources in the Hunter based on Australian Bureau of Statistics information and representative surveys of firms and households in the Hunter Region. This evidence is specific to the Hunter and I believe it supports the assumptions of the IO modelling. Some of this evidence suggests that employees will be drawn out of the those "who are not currently in the labour force" (see participation rates in paragraph 1.54 to 1.56 as an example) other evidence shows that the Hunter Region has the capability to train workers for the specific skills required by the mining industry (see paragraph 1.57 to 1.59) | Experts disagree on this point |

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| 5. The use of the total sale price of coal in the calculation of the economic benefit to the community is inappropriate | | Agree | The total sale price of coal is used as an indicator of 'benefit' without discussing the degree of foreign ownership of the Warkworth mine and, in turn, without discussing who will receive the benefit of the sale of coal currently owned by Australian citizens. To the extent that profits from the mine accrue to foreign residents, or interstate residents, the total sale price cannot be used as a proxy for regional economic benefit. Similarly, to the extent that the project cannibalises employment from other local industries then the total sale price will exaggerate the 'net benefit' to the local economy. Any reduction in the output or profitability of other local producers should also be deducted from the current estimate of economic benefits, as should the reduction in payroll tax, company tax and income tax that would otherwise be payable by previously profitable enterprises displaced by the Warkworth expansion. | Disagree because this statistic did not form part of the HVRF IO analysis | The HVRF did not use the total sale price of coal when conducting the IO modelling.<br><br>The initial impact of the development (i.e. an input to the modelling) was based on *operational expenditures* and these were provided to the HVRF by Coal & Allied. To ensure the data reflected the regional focus of the economic assessment in this report, the HVRF removed operational expenditures that were unlikely to be spent directly in the Hunter Region. This procedure focused the analysis on regional benefits. | Experts disagree on this point |

Signed: [redacted] [redacted]

Dr Richard Denniss

Dr Andrew Searles, 27 August 2011