

# 30 ANSWERS TO 30 QUESTIONS

## and opinions from Peter Haydon, Bickham Coal Action Group



### 1. How can you guarantee starting the mine 150m from the Pages River is a safe enough distance away from the river or is this your best guessimate?

It is not a guessimate. The NSW Office of Water has recommended a 150m setback from rivers and streams in their guidelines for coal mining near stream systems in the Hunter Valley. Their guidelines are conservative to ensure protection of the waterways and their associated alluvial aquifers. They are further supported by our own studies.

### 2. Mine expansion – Can you categorically rule out mine expansion in the future – the 36 million tonne coal resource does not include the full resource under your exploration license?

We have no intentions of expanding the mine.

### 3. After 300m from the river the majority of the mine is below the river level – can you guarantee no water will flow from the river to the pit?

The 300m setback is double the NSW Office of Water's guideline for an open cut mine near a waterway in the Hunter Valley. Our very extensive investigations of rock permeabilities and connectivity between the hard rocks and the river have shown that under all climatic conditions, and at all stages of the project and the post-mining recovery period, no water will flow from Pages River to the Bickham pit. Rather, groundwater will continue to make a positive contribution to Pages River baseflow from the Bickham area, i.e. streamflow in the Pages River will continue to increase as the river flows past Bickham.

For many years an underground coal mining operation took place below river bed level on the Bickham site a mere 40 metres from the river, and to the best of our knowledge there were never any adverse water flow issues.

### 4. You have identified 27 Risks in your Risks Register – these are all potentially “accidents waiting to happen” so how can you be certain the measures you plan to mitigate these risks will be adequate? We also note you have contingency plans to back up your mitigation plans. Why are these necessary if you have confidence in your first applied mitigation measures? Is this an admission that these measures may not work?

The risk assessment was undertaken as a prelude to the technical studies to identify potential risks. This provided the basis for an appropriate level of analysis to be given to assessing the actual risk and measures to mitigate the risk. This risk assessment approach is standard industry practice. All risks, however unlikely, have to be considered and mitigation measures and contingency plans suggested. The fact that we have been exhaustive in considering risk does not mean the project itself is inherently risky.

### 5. The cumulative effect of all these 27 risks- when the combined influence of all these identified risks are aggregated together the amalgamated uncertainty surely poses too big a risk to proceed?

No. The purpose of the risk assessment was to identify the key risks in a methodical manner so that appropriate level of analysis could be undertaken to understand the risk and, where necessary, embed appropriate risk mitigation measures into the design of the mine. The study has already been peer reviewed, and an independent panel of interstate water experts will go over it and help the Department of Planning make an informed decision as to whether the project should move to full merit-based assessment and ultimately be approved.

### 6. Why have you stated that “leakage from the Pages River to the pit through the coal seams” as being classified as a High Risk, yet you believe you can control this risk?

The formal risk assessment process is designed to identify all potential risks, including those that have a low or very low likelihood of occurrence. The process also focuses on the consequences of an event, even those that have a low or very low likelihood of occurrence. Leakage from the Pages River to the pit has been identified as something that could have a large consequence, and is therefore classified as “High Risk”, even though it has been assessed as having a very low likelihood of occurrence.

In any case, the potential leakage of water from the Pages River to the mine is able to be controlled because it will be able to be detected in advance by the rigorous monitoring program (which is already in place, has been conducted without interruption since 2002, and will continue throughout the mine life), and because there are measures that can be taken to prevent it occurring, including modifying the mine design if necessary and grouting up any high flow pathways that may be discovered during mining.

The extensive investigations and monitoring program have shown that the risk of this occurring is extremely small.

### 7. The report shows the bottom G seam intersects the river over a length of approximately 500m. How can you stop the river water flowing into the pit over such a large area of intersection?

The successful mining of coal from the G seam below river bed level in the former underground mine just 40m from the Pages River in the area where the G seam intersects the river has demonstrated that there is limited connectivity between the river and the G seam. It would not have been possible to mine below river bed level so close to the river if connectivity were high. This mining took place in the early 20th century, when the pumps available for dewatering were much more primitive than those available today.

Pumping tests on bores drilled into the G seam close to the river have shown no evidence of interception of the surface flow in the river during pumping, indicating poor hydraulic connection between the seam and the river.

Therefore, natural rates of flow between river and the aquifers are slow. The proposed mine is set back more than 7 times further than the old underground mine, at more than 300m between the river and the nearest point in the pit below river bed level. Very conservative computer modelling has shown that no water will flow from the Pages River into the proposed mine at any stage of mining or recovery. The mine will not cause a reversal of flow – there will at all times be a positive contribution to stream flow in Pages River by continuing groundwater seepage into the river.

### 8. You state that “baseflows to the Pages River are predicted to be fully restored post mining by Year 100”. How can you say the effects are “minimal” if they take so long to recover? Given such an incredible time period how can you possible (sic) proceed responsibly with such a mine?

The term “minimal” refers to the magnitude of impact, not the time period. The predicted maximum reduction in baseflow is less than 0.2% of average streamflow. However, over the life of the project, the average predicted baseflow reduction is less than 0.1% of total streamflow.

The predicted reductions in baseflow are in fact reductions in the rate at which streamflow increases as Pages River passes the Bickham site. Small quantities of groundwater currently seep into the Pages River from coal measures on the proposed mine site, causing the stream flow near the site to increase slightly. As the mine develops, some of these seeps will ease, resulting in slightly smaller flow increases for a period during and after completion of mining. The changes will be so small they will not be visible and could only be detected by very careful streamflow monitoring. But there will at all times during and after mining be a continuing increase in stream flow as the Pages River flows past the site. No downstream user of either groundwater or surface water will notice any change to their water availability.

### 9. You keep saying it will be a much needed job boost to the area when in fact the reality could be the opposite. How can you say 100 jobs are better for the area when up to 1000 could be lost?

The reality is that 100 direct and 200 indirect jobs make a massive difference to towns such as Blandford, Wingen and Murrurundi that urgently need economic opportunities, and that appear to be missing out on benefits from other industries such as the horse industry. It was significant that nearly one hundred of these residents gathered on a weekday last week to rally for the mine to proceed.

Our project stands to pump 20 million dollars a year into the Upper Hunter over 25 years, and provide three billion dollars in export revenue. The State Government would take a slice of this in royalties to pay for teachers, nurses and services.

There is no evidence emerging from the water study that any jobs would be lost in any other existing industry.

### 10. Property owners and studs have already indicated they may be forced to relocate if the mine goes ahead. Is BCC prepared to single handily (sic) jeopardised (sic) this area's standing as Horse Capital of Australia?

Property owners and studs will not be forced to move. The facts show the project will have no effects on their water supply.

### 11. Methodology- why do you use “average daily flows” when on good advice from within the department states that using percentile flows is a better indicator?

Average daily flows have only been quoted to provide a simple comparison with the impact of the mine on groundwater flow into the river. There are in fact numerous references to percentile flows in the report such as Tables B2-3 and B2-4 as well as Figures B7.3 and B7.4

### 12. Records show the average flow at Blandford is 110.7M1/day while the median flow is 17M1/day. The report states water flow into the river will be reduced by “225 kL/day equating to 0.2% of average flows”, how is this calculated? Again is this not understating the impact using the higher average flow figures?

The quotation is correct. 225 kL/day (0.225 ML/day) constitutes 0.2% of the average daily flow of 110.7 ML/day. This statistic is quite appropriate for indicating the effect of the reduction of baseflow on the overall water resource available in the pages River.

### 13. Are you aware that using your figures shows the number of no flow days in the river will treble?

This is incorrect. Even when the river ceases to flow at the Bickham gauge, there will still be a contribution to flow from the groundwater along the length of the river within South Bickham.

### 14. How can BCC justify extracting 750 ML a year when it equates to 52 per cent of the existing allocations on the river now allowed above Cameron's Gorge?

The water to be “extracted” will be a consequential impact of mining. Groundwater will inflow to the workings as the pit advances below the water table. This water together with rainfall that falls on active mine and infrastructure areas will be collected and stored on site, and will be used for all water needs of the project.

Our modelling has predicted that groundwater inflows to the pit will reach a maximum of 2 ML/day, but will average 1.06 ML/day over the 25 year mine life. Overwhelmingly, this groundwater will be derived from the hard rock Permian coal measures aquifer, which currently is not being used by any other user in the project vicinity, and does not form part of the existing water allocations. It is a poor aquifer that can only be utilised as a small scale supply by local users, as individual bore yields are small, much smaller than would be required for economic use as an irrigation supply. Were it not for the mine, this resource would remain largely un-utilised by anybody. More importantly, extraction of this hard rock groundwater will have no noticeable impact on any existing downstream water supply, either from groundwater or from surface water.

### 15. Because the river already has an over allocation of licences there is an embargo on the issue of any new licences. How will BCC be allowed to take water out of the system when other users would not be allowed to? Does this not make a mockery of the Water Users regulations and cease to pump rules? Will you cease to pump and therefore cease to mine when all others on the river are complying with these regulations?

The mine will not be relying on any water that currently is the subject of an embargo. The incidental impacts of the project will involve very small reductions in baseflows to Pages River, and to a much smaller extent to Kingdon Ponds. During the project life, it will be possible to replace these predicted baseflow reductions by clean groundwater from bores located outside the pit. Post mining, any ongoing residual baseflow reductions would be offset by the purchase and/or relinquishment of appropriate licences.

### 16. How can you say you will only have a small impact when you leave a permanent final void as large as 61 ha which is there forever?

The void will not have any ongoing adverse impacts on either surface water or groundwater. There will be a small net loss of surface catchment draining to the Pages River which will be offset after completion of mining by purchase and/or relinquishment of an appropriate water licence. However, a freshwater lake will form in the final void that will have low salinity. This will be a valuable resource that could even be a possible backup water supply for Blandford or Murrurundi.

### 17. If you visualise the area on completion of the mine with a 61 ha hole and an area effected of 495 ha with over burden mountains, isn't this being totally environmentally irresponsible? Don't you think this type of remnant landscape is unacceptable?

No. The final landform will be rehabilitated to conform with the natural topographic landforms in the area. We would be obliged to adhere to strict rules and conditions if planning consent was given.

### 18. Why was the Bulk Sample pit never rehabilitated and just left as a hole in the ground?

Bickham has committed to backfilling the pit during the first year of operation of the mine, something we have aired publicly on numerous occasions. The New South Wales Government is holding a substantial bond to ensure that this work is completed.

### 19. In your REF for the bulk sample one of the main reasons for doing it was to mine the G seam. Why then did you stop at the G seam? You say you would have ended up with too much coal. But was it because it would have meant going below the river level only 50m away from the river?

The two dewatering bores located on either side of the bulk sample pit were designed to lower groundwater levels to enable mining of the G seam. In the event, it was found to be not necessary to take the pit that deep because it would have generated excessive overburden in order to recover a small amount of G seam coal. It was decided instead to recover sufficient G seam coal for customer coal quality trials by drilling of a large diameter cored hole from the floor of the bulk sample pit after it had reached the F seam level.

### 20. Given the coal stockpiled from the bulk sample kept catching a light, how will you overcome this problem with this highly combustible coal in a full mine situation?

Some problems were experienced with the first coal removed from the bulk sample pit after it had been crushed and stockpiled. Normal control measures such as reducing the height of stockpiles and reshaping and bulldozer track rolling them were used to prevent re-occurrences.

### 21. What assurances can you give that you will not affect the Burning Mountain which is burning the same coal seam and it is the only one of its kind in Australia and only one of three naturally occurring in the world?

There is no evidence whatsoever to suggest that Burning Mountain will be affected. It is located some kilometres from the project area and the burning zone is moving in a southerly direction away from our proposed mine.

### 22. Fault lines – you have made the admission publicly that when blasting commences you are uncertain of the outcomes because you are uncertain where the actual fault lines are. Blasting can be felt a long way away so how can you be so sure you can control the effects of blasting in this unique geographical area?

Ground vibration and noise were monitored at the nearest residence on every occasion when blasting was carried out during the bulk sample excavation. All results were substantially below legal limits.

### 23. Can you guarantee that there will be no problems with the quality of the water when it will be so mixed up by the disturbances of open cut mining?

The inflowing groundwater quality will be determined by the natural quality of the groundwater around the mine area, which has been determined by our investigations and 7 year monitoring program. All mine water will be contained within the mine area, and there will be no discharge of mine water to the Pages River, Kingdon Ponds or other surface streams.

The supplementary flow to compensate for reduced baseflow will be taken from a separate bore located outside the mine pit in an area that has good quality water. Any runoff from overburden dumps will be treated in sediment dams in accordance with DECCW requirements.

### 24. The reports states that “two existing surface water supplies on neighbouring properties may be affected”. If this is the case, it renders the use of these affected properties unusable for stock. This would not normally be allowed. BBC has made a commitment to providing replacement stock water supplies. Who will be responsible to ensure this commitment is carried out forever as in this area you state the water may never return to its pre-mine flows?

There will always be potential groundwater available for stock watering purposes, as the aquifer system is more extensive than the immediate region relevant to the mine. The hard rock aquifer will be partly dewatered only to a depth sufficient to allow mining to proceed. Bores drilled down dip of the mine, or to below the base of the lowest part of the pit, will be able to continue supplying ongoing water supplies.

It is incorrect to say the “the water may never return to its pre-mine flows”. The prediction is that groundwater levels (not flows) may never return to pre-mining levels in very limited areas within 1-2km of the proposed mine.

The provision of replacement stock water on the two neighbouring properties – if affected by mining – would be a Consent Condition in any mining approval and as such would be subjected to regular independent as well as company audits to ensure that compliance occurred.

### 25. The report states you will “discharge to the Pages River to offset the predicted baseflow reductions”. Isn't this creating unworkable issues regarding the quality of the water discharged and who will be overseeing this operation? Wasn't it always going to be a NIL discharge mine?

This will be a NIL discharge mine. However, clean groundwater unaffected by mining activity may be used to replace the minimal baseflow losses in the Pages River.

This would be audited by the relevant government agencies in accordance with approval consent conditions.

### 26. Why move into a mine free area away from the cluster of mines and infrastructure in the lower Hunter?

The site has been identified as a potential site for open cut mining and for major economic opportunity by the New South Wales Government, subject to comprehensive water studies being undertaken. The site is reasonably remote and well positioned to take advantage of rail and road infrastructure, with the Great Northern rail line and New England Highway running right past it.

Additionally, the Hunter coal industry and the New South Wales Government have recently signed a long term export deal enabling Newcastle coal throughput to increase significantly in coming years. This was specifically structured to create opportunities for new mine entrants.

### 27. Isn't it more important to guarantee the water supply for human occupation in the town: of Murrurundi, Blandford Gundy, Wingen, Parkville and Scone than put their drinking water at risk for the short term gain of a privately owned coal company.

The facts show that drinking water supplies will not be affected.

### 28. With so many of the risks you have identified depending on your mitigation measures for them, how can the community have faith in BCC given your track record with the bulk sample? You took out more than the allowed 25,000 tonnes. You started delivery before the approved date. You have not rehabilitated the pit. The stockpile kept burning and you did not mine the G seam as proposed?

This is incorrect. After 25,000 tonnes of coal had been removed from site during the bulk sample operation, a small remnant stockpile of coal remained. Approval from the Community Consultation Committee at the time – and thereafter from the appropriate Government Department – was obtained before this remnant coal was removed. The coal was not limited to a particular start date after Ministerial consent to commence was received.

We are under no obligation to rehabilitate the bulk sample pit at present, however, as mentioned earlier, we have committed to complete backfilling in the first year of mining operation.

A large diameter cored hole to the G seam from the floor of the Bulk Sample pit provided a sufficient sample for export marketing requirements.

Many people in the community do have faith in us, and have already rallied to express that they want this significant economic opportunity to go ahead.

### 29. You say that BCC have spent \$10m doing this report so why has it raised more questions than it solves. Does it not all point to the fact that this is a too difficult site to open cut mine?

No. The reports clarify and reinforce what we have always said: the mine will have absolutely minimal environmental impacts. We have recently concluded another round of voluntary community consultation sessions, allowing interested stakeholders to meet our water experts and ask them questions. The reports have already been peer reviewed by industry experts, and we look forward to them being further assessed by an independent panel of interstate planning experts. The Bickham Coal Action Group would be just as keen for this factual and transparent examination to take place.

### 30. If you cannot give satisfactory answer to all these questions why should this mine be allowed to proceed?

We believe the facts show that the mine can proceed, delivering economic benefits to the Upper Hunter while preserving the integrity of the Pages River and Kingdon Ponds and the industries that depend upon them.