

## SUBMISSION

To the Department of Mineral Resources

Re: Proposed removal of Bulk Sample

(Bickham Coal Company Pty Limited)

*Review of Environmental*

*Factors (final draft) and*

*Supplementary Report on Water Management*

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### **Right of Reply**

**November 18, 2002**

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## 1. STATEMENT OF OBJECTION

In our submission we seek to demonstrate that the development as presented in Bickham Coal Company’s (BCC) Review of Environmental Factors (REF) is unsustainable due to the serious risks it poses to the human and eco-system health of the area.

Consequently Bickham Coal-mine Action Group calls for an immediate halt to the bulk sample extraction and any future associated coal-mine development.

However, if this does not occur the preferred course is that an Indicators Study be undertaken—a long term study on the impact of the mine on inter-generational equity, to ensure the existing site is not compromised and that the precautionary principle is applied.

Alternatively, at the very least, a full Environmental Impact Study is required before a determination on this proposal can be made due to Murrurundi’s distance and isolation from coal-mine areas.

· We contend that the report is seriously flawed in many items of fact and

methodology.

- The major areas of concern include compromising of the Pages River system, destruction of the remnant seam of the Burning Mountain and negative impacts on existing industry and employment particularly those dependent upon the pre-existing pristine environment (Socio-economic Impacts; see below).
- Unprecedented community concern has occurred in response to this proposal, which will determine if coal-mining, in open cut form, is introduced to the shire and adjoining areas (refer number/range of individual submissions and attached Appendices).
- The enormous community disquiet about the proposal and approval process has been recognised by the DMR, which has expanded the bulk sample assessment procedure in response.
- This is in conjunction with the exceptional step taken by the Minister of directing that a community consultative committee be formed at such an early stage of the process.
- As the report includes references to the full mine in support of the bulk sample proposal, we have also included some objections, which refer to the full mine, as a right of reply.

## **2. BACKGROUND**

Bickham Coal-mine Action Group (BCAG) was formed in March, 2002, in response to community concern about The Bickham Coal Company's opencut coal-mine proposal in the Murrurundi Shire area.

A large number of local residents who live in and adjacent to the shire are involved.

### **Murrurundi Shire: background**

Murrurundi Shire is centred on the small rural towns of Murrurundi and Blandford at the edge of the Liverpool range north west of Sydney, on the Pages River at the foot of the Liverpool Ranges.

- There has been an absence of heavy industry in the locality and consequently change has been gradual. Murrurundi and its rural heritage have been preserved, and the main street has been declared an urban conservation area.
- The Shire has clean water and air, is green in both appearance and lack of pollution, and is a healthy place for all ages to grow up, work and retire.
- Because there are no mines, power stations, heavy manufacturing, cotton farming, salinity problems or excessive clearing the Shire is environmentally sound. Its agricultural industries are based on natural production from the variety of rich soils.
- The variety of terrain and climate ensures it is a naturally beautiful place with many superb views and a peaceful, pastoral landscape that attracts many painters, artists and creative people.

### **3. KEY OBJECTIONS**

#### **3.1 Water Management**

Based on the analysis of the water management proposal in the REF it has become very evident that the bulk sample and future coal mine should never be allowed to proceed. It is a totally inappropriate development and use of water, on an already over stressed river and groundwater system.

- Our submission strongly disputes the foundation of the water study, which states that the aquifer is independent of the Pages River. Insufficient evidence has been provided to conclusively prove there is no direct hydrological connection.

- The Supplementary Report (discussed below) suggests disposal by re-injection of extracted water. In the REF, in Greg Summerhayes' letter, (refer DMR letter dated 17.7.02, Appendices) it says: "There is to be no discharge of contaminated or turbid water from the site". It is essential that this be adhered to.

#### **Appropriate Regulation**

The Hunter River Management Committee in conjunction with the DLWC has developed "The 14 Principles for Mining Near Rivers" which are well known now and are listed below. As a minimum requirement these principles should be satisfied.

- From the REF it would seem that meeting these conditions is not possible and the extraction should therefore not be able to proceed.

### **Principles to Guide Mining Near Rivers**

#### **(Hunter River Management Committee)**

1. No mining where there is a potential for deteriorating an aquifer's highest beneficial use.
2. Achievement of the agreed water quality objectives is not compromised.
3. No loss or diversion of surface water flows due to mine induced subsidence of geological cracking.
4. River stability is not compromised.
5. Adequate buffers are maintained.
6. All impacts are identified and assessed for their significance to river flows, water quality, river stability and ecosystem health.
7. Assess potential impact of worst case credible scenario and develop management options.
8. Responsibility for post mining operation is part of the approval process.
9. Community involvement in the assessment of proposals.

10. Environmental monitoring and reporting is open and transparent.
11. Monitoring occurs throughout the life cycle of the activity (pre; operational; post).
12. Opportunity to participate in development of mine rehab/remediation projects.
13. Mine rehab occurs before problems arise.
14. Unforeseen remediation is successfully completed before further approvals are granted.

## **Water Quantity**

Bickham Coal Company proposes to use up to 310 megalitres of water (230ML of groundwater) over the six-month period of the bulk sampling or the annual equivalent of a 620 megalitre license. The Murrurundi township, which is chronically short of water, only uses 150 megalitres in twelve months.

- No licenses have been obtained. The Pages River already has an embargo placed on it, as it is over- allocated. There is also an embargo on all alluvial groundwater licenses. BCC is attempting to establish the water used is not in any way related to the river or groundwater system. However, close scrutiny of the water reports shows that this cannot in any way be guaranteed.
- Water and pumping restrictions apply to all existing users, enforced by the Pages River Water Users' Association, The Pages & Tributaries Water Users' Association, The Segenhoe Aquifer Water Users' Association and in the town by Murrurundi Shire Council.
- All these water user associations have clearly stated that NO more water can be taken out of the river or the underground aquifers. Disregarding these bodies would make a mockery of the whole valley's intricate water management. Proposed water sharing plans would be unworkable if water sharing and discharge involved working with a mine.

## **Unsustainable Development**

Clearly the use of such water quantities cannot be sustained for the 25,000 tonnes bulk sample, going down to depths of 100m, when all existing users do not have enough water now. The proposed open cut mine extracting 25,000,000 tonnes of coal, going to depths of 200m, would use an incomprehensible amount of water and cannot be considered a viable, sustainable development.

- BCC has failed to respond to requests from the community for estimates of the required annual usage of the full-mine and this is clearly another reason why the proposal should be stopped.
- The total allocation on the Pages River above Cameron's Gorge is 1,435 mgl. It is already considered to be over allocated hence the embargo on licenses. Taking an additional 230 mgl from the system in six months or the annual equivalent of 460 mgl, may mean a new user would be using the yearly equivalent of 32 per cent of the total allocated water.

<sup>q</sup> Note: refer Pages River License Allocations, Department of Land and Water Conservation document (submission, Appendices 4.1).

## **Groundwater and River Connectivity**

River capture is a grave risk, particularly in an area with an extremely fragile water supply and

river system, and has not been adequately addressed in the REF.

- Bickham Coal Company will extract up to 230 mg/l from groundwater and maintains this will not in any way affect the river 40 to 70 metres away. The dewatering will lower the water table five metres beneath the actual river. The coal seams also act as aquifers, which have variable depths, and they extend beneath the river.

- The risk by blasting of fracturing of the rock, opening up pathways of connection, could disrupt existing delicate water inter-relationships--the river could disappear and stop flowing. This would be an environmental catastrophe.

- A prominent geologist who knows the area, states that if the full mine proceeds it would ultimately lead to the river being captured by the mine. A similar case in Poland was given as an example.

- When questioned publicly in detail, BCC's water consultant would not guarantee there was no connection between the river and the aquifer. This completely negates the basis of the entire water report--it is too late to find out after the extraction pit has been dug down 100m and the river has stopped.

- These same geologists are of the view that considering the westerly dip of the coal strata, the Pages River must intersect the entire succession of the Greta seams and are convinced that the water from the Pages River would infiltrate via joints and fractures into the pit.

- They also state that they cannot see how the BCC report can maintain there is no connection between the Pages River and the aquifer.

- In "River Ecosystems Health Down Under: Assessing Ecological Conditions in Riverine Groundwater Zones In Australia", by A J Boulton, it is explained how the hyporheic zone is the site of dynamic exchanges of water and material between the groundwater below, lateral alluvial aquifers, and the river flowing above. It states that hyporheic water travels vertically, horizontally and laterally in the riverbed and adjacent gravel bars, during hydrological exchange and that all these different levels of water are connected and inter-related.

Dr Jerzy Jankowski, a hydro-geologist, UNSW Groundwater Centre, and Senior Lecturer in Hydrology, has analysed the Dundon Water Report and raises the following issues:

1. A hydrological map with groundwater flow directions is not provided.
2. The structural geology is not assessed.
3. Is the groundwater flow via fracture zones or lineaments?
4. The location of the extraction in close proximity to a bend of the river is always of concern in terms of flow direction for the aquifer to river.
5. River water being above the G seam would create big problems. The E and G seams contain 80 per cent of the coal resource.
6. Intrusive structures have the highest hydraulic conductivity values and these structures are penetrating the coal.
7. As stated in the REF water report (Appendices, page 13), calcium/magnesium/bicarbonate waters suggest active recharge. This means the systems are very active and suggests an active recharge.

- We refer to the NSW State Groundwater Dependent Ecosystems Policy to manage the State's groundwater resources to sustain environmental, social and economic uses for the people of NSW, DLWC, first printed 2002. It is a comprehensive document.

- The Water Management Act 2000 provides the legislative framework for implementing the policy to protect valuable groundwater dependent ecosystems. Under the Act, the Minister for Land & Water Conservation controls and manages groundwater extraction and use in NSW.

- In 1998 the State's Groundwater Quality Protection Policy was released to protect groundwater quality and contamination.

The bulk sample proposal must be assessed under this legislative framework and given the expert opinion above, the bulk sample extraction and future open cut mine would place the Pages River at severe risk. Given the site's particular characteristics and the level of risk apparent, the precautionary principle must be applied and the project denied consent.

### **Dewatering**

The original pumping rates to dewater the pit of 1.3ML/day have been revised by BCC in its Supplementary report. The de-watering rate has been re-estimated, from 1.3ML/day to a range of 0.66 to 1.3 ML/day. In fact at the top end of the range the quantity remains unchanged.

- This type of variation in calculations even though aimed at addressing public anxiety is concerning in itself. There is also a big concern that these estimates, based on insufficient testing and modeling theory, could be miscalculated.

### **Recharge**

Bickham Coal maintains the aquifer will be filled up in 3 to 6 months by rainfall. Local water experts suggest that this may take much longer to refill--from 20 to 50 years if rainfall is the sole recharge source.

- To recharge this quickly the aquifer must be connected to the river and connected groundwater system. It is just not possible for recharge at the stated rate from rainfall alone which means BCC has actually contradicted its main argument that the aquifer is totally isolated.

### **Discharge**

It is now mandatory that no dirty water can be discharged.

- A nil discharge mine is required but BCC has an enormous problem of how to dispose of the extracted water. The latest solution (contained in the afore-mentioned Supplementary Report) is to either discharge this water into the river or into the aquifer.

- Dirty, contaminated water cannot be allowed to pollute the local river or aquifers. With connectivity unproven, this dirty water would move into the river and groundwater causing unknown environmental problems.

- Downstream users would be at particular risk, e.g., the village of Gundy that depends on the Pages River for its entire water supply and the thoroughbred studs which are some of the most eminent in Australia and internationally renowned and owned.

According to REF Section 5, "the Pages River will be monitored during any discharge event to determine whether its discharge is having any significant impact on the water quality of the Pages River".

- This would, if it occurred, however, breach all the statutory regulations and yet it is acknowledged as a possibility by its very inclusion in the REF.

- There is no dam upstream of the site, which can be used in a discharge event to flush the system.

## Water Quality

### Salinity:

BCC maintains the water in the coal seam, up to depths of 200m, is of higher quality than the river water. The “low saline level” findings must be more thoroughly investigated as water near coal in the Hunter region is normally saline and local records contradict these findings.

Local water testing shows the Pages River has a salinity level range from 406 to 618 uS/cm as shown in the table below. In the REF figures for the river of 954 & 934 uS/cm upstream and downstream from the mine are given (both REF readings dated 16.6.02) These are significantly higher readings if compared to the Blandford reading of 583 uS/cm taken on 19.6.02.

The following readings were obtained from the Muswellbrook Shire Council, Upper Hunter Community Water Quality Monitoring Program, recorded at Site 7, Blandford:

Results Date	Electrical Conductivity uS/cm
19-6-2002	583
14-5-2002	618
17-4-2002	559
12-3-2002	618
14-2-2002	587
20-12-2001	524
15-11-2001	569
18-10-2001	406
19-9-2001	483
19-8-2001	535
19-7-2001	512

Some REF bore readings reach 1320 uS/cm and five bores had results of over 1000 uS/cm. Readings over 800 are classified as “High Salinity” in the survey’s findings. The assumption that the underground water is of better quality than the river water forms the foundation of the REF Water Report. Additional investigation is mandatory.

The process of extraction and re-injection of the water up to 1000m from the extraction site would affect the quality of all the inter-connected underground water via disturbance and mobilisation of the water. This water should be classified as “dirty” water and should not be discharged, as specified under the Act.

Refer DMR letter dated 17.7.02 from Greg Summerhayes (REF Appendices): “There is to be no discharge of contaminated or turbid water from the site”.

Considering the site’s sensitivity we maintain that further and more comprehensive independent testing is required to confirm the BCC results.

New and independent consultants should be commissioned to re-test and confirm the REF’s findings.

### Variability of Results:

A major concern is the variability of the water analysis results. Anomalies have been identified in a number of boreholes with high dissolved metal concentrations and low pH characteristics.

High iron readings are also of concern as well as sodium and sulphur readings. Significant high iron content in the E and G seams that contain 80 per cent of the coal

resources is also of concern. If the iron becomes mobilised it is very hard to get out of the system.

- The Total Potential Acidity also concerns water experts—testing is required for water and associated materials. Testing of pH only does not give an adequate indication.

- Due to anomalous test results, re-sampling of Piezometer BCWM71A was to be undertaken but the results have not been included in the REF.

- Testing for acid leached heavy metals is required as an indicator of acid levels.

- Acid solubility testing is required.

- If the extracted water is used for irrigation, the Sodium Absorption Rate (SAR) should be tested for and has not been addressed in the REF.

## Water Monitoring

Bickham Coal Company is reluctant to place full and permanent independent water monitoring stations on the river immediately above and below the mine site. These are absolutely essential given the record of saline and dirty water discharge lower down the Hunter.

- The DLWC already has a station immediately above the mine, which only measures flow. It would need upgrading so that full comparisons are possible (under local and ANZECC2000 guidelines) between the upstream and downstream stations.

- Full upstream & downstream independent monitoring is an essential requirement. High cost was the disincentive to proceed on this course, as requested by the community at the recent BCAG Water Workshop in Murrurundi.

## Bulk Sample Pit

It is proposed to leave the bulk sample pit as a reservoir at the completion of the extraction. The building of dams is now determined by DLWC depending on property owners' harvestable water rights. This also requires full scrutiny.

- The reservoir water quality is a concern—effects of evaporation, recharge from coal seams and possible leachates from excavated ground material stored on site are all associated risks.

- How would this water be safely disposed of if the full-mine were to proceed?

## Irrigation

The REF states that 200 mgl will be used for irrigation. There is no mention of an irrigation license, the submission of a plan, the infrastructure required or the availability of good irrigatable land—this was originally factored simply to use (or waste?) what the REF describes as potable water.<sup>1</sup>

## SUPPLEMENTARY REPORT ON WATER MANAGEMENT

**At a special meeting of Murrurundi Shire Council, BCC produced a supplementary report making fundamental changes to the final draft report. This was released seven days before the submission deadline.**

- No time was allowed for adequate scrutiny by consultants and consequently Murrurundi Council endorsed the aquifer disposal solution with zero technical background to inform it. The two new options proposed, to deal with the enormous amount of water to be extracted to facilitate the coal sampling are:

1. Re-injection into the aquifer.
2. Disposal into the Pages River.

Clearly both these options are totally unacceptable under the Water Act--strict guidelines are in place for the disposal of dirty water to stop discharge into groundwater or rivers. The slightest possibility of polluting the groundwater or river must be avoided at all costs. It is unsatisfactory for BCC to insist it has consulted in principle with DLWC on the issue and it is an accepted practice (re-injecting the aquifer). This is too important an issue to be dealt with in this hasty, inequitable way.

### **A comprehensive study is required to determine the likely impacts on the aquifer and river system.**

#### **Pumping rates**

The original pumping rates to dewater the pit of 1.3ML/day have been revised by BCC in its Supplementary report. The de-watering rate has been re-estimated, from 1.3ML/day to a range of 0.66 to 1.3 ML/day. In fact at the top end of the range the quantity remains unchanged.

This type of variation in calculations even though aimed at addressing public anxiety is concerning in itself. There is also a big concern that these estimates, based on insufficient testing and modeling theory, could be miscalculated.

#### **Dust Suppression:**

Bickham coal has also revised down the requirements for dust suppression and now only seem to now need 33.4 mg/l and not the original 150 mg/l as stated in the REF.

This manipulation of data is extraordinary to say the least and no thorough explanation has been supplied by BCC of how this is possible—at the council meeting or to the community.

## **3.2 The Burning Mountain**

### **The Burning Mountain and the Remnant Coal Seam:**

The proposed bulk sample excavation will destroy parts of the Burning Mountain remnant seam and the full mine would obliterate a much larger portion.

Bickham Coal has acknowledged that the remnant seam runs through the full mine site and it is clear that the bulk sample site includes this seam also and further evidence is set out below.

Considering this is the only naturally burning coal seam in Australia and one of only three in the world, any disturbance of this geological monument would be an act of environmental vandalism.

The Australian Heritage Commission includes a 130 hectare accompanying area associated with the Nature Reserve on the Register of the National Estate. This has not been addressed by the REF and it is possible that the mine area falls within this curtelage.

According to BCC (REF, Appendix F) there are nine Aboriginal sites of significance located within 5km of the proposed bulk sample site. Considering the significance of the site to the Wanaruah people it is essential further studies of effects on Aboriginal Heritage are undertaken.

The Nature Reserve and its surrounding unique combination of natural, cultural and scenic resources has been recognised by a number of bodies:

- The Australian Heritage Commission: the reserve and surrounds is on the Register of the National Estate.
- The National Trust: the area is listed as a Landscape Conservation Area.
- The Geological Society of Australia (NSW Division); the area is listed as a Geological site of Significance in NSW.
- The nature reserve and surrounding lands are also zoned 7a under Scone Shire Council's Local Environment Plan.

**Burning Mountain and the remnant coal seam is of international significance:**

- It is only one of three burning coal seams in the world.

**Burning Mountain and the remnant coal seam has strong links with the local Aboriginal Wanaruah Tribe:**

- It is recognised in Aboriginal Mythology
- There is documented evidence of Aboriginal occupation
- There is evidence of there being a stone tool workshop near to the remnant coal seam.

Burning Mountain and the remnant coal seam contain rocks and fossils of geological significance and are believed to be up to 500,000 years old.

The path of Burning Mountain will be partly destroyed by the bulk sample extraction.

The proposed bulk sample is to mine directly over the path taken by the Burning Mountain. This is shown in studies undertaken by A.W. Fleming (BSc) In his thesis titled "Investigations in Permian Geology and the Burning Mountain Coal fire, Wingen, 1972.

In this thesis there is conclusive proof that the origin of Burning Mountain is to the north of the bulk sample site. The path of the remnant coal seam passes directly through the proposed bulk sample site and the proposed mine to its present location. As shown (refer to submission Appendices, 4.2) there is visible evidence of fire-affected rocks.

**Burning Mountain and the remnant coal seam is of international significance:**

- The burning coal seam, one of only three in the world, was ignited 16 km north-east of the existing nature reserve between 15,000 and 500,000 years ago. This places the remnant coal seam directly in the path of the proposed bulk sample.
- Any geological features that are associated with the fire-affected rocks would also be destroyed.
- The area conserves unique geomorphic and pedological features resulting from underground combustion and resultant thermal influences.
- The area contains examples of fossilised Permian freshwater and marine plants and animal life.

- Shells of *Notospirifer*, *Strophalosia* and *Ingelarella* species have been found indicating the area was once covered by ocean.

Burning Mountain and the remnant coal seam has strong links with the local Aboriginal Wanaruah Tribe:

- Wingen was named by the Wanaruah. The name Wingen means "Fire".
- Evidence for Aboriginal use exists as Scattered Flake Deposits; with worked rock fragments used as tools found in the upper most soil layers consistently and frequently along the thermally altered path.
- The Wanaruah tribe used the burning vent as work sites.
- The area was a rich source of recrystallised, glassy slag material, which, if worked into tools, could retain sharp edges for long periods.
- The burning seam is incorporated in surviving Aboriginal mythology and has significance for both anthropological research and present day Aboriginal Communities.
- The area contains one of only a few known stone tool workshops in the region thus giving it a high archaeological value.
- Further evidence for Aboriginal use of the area rests on the existence of a bora ring or ceremonial ground, which is located adjacent to the nature reserve.
- The local Wanaruah tribe has expressed concern regarding the threat to several remnant grass species. They have specifically requested that these grass species be protected. The Wanaruah have asked that local seed be collected and used for re-seeding at the end of the project.

Some of the sites that have been recorded in the immediate area contain:

- q A bora ground with a carved tree
- q A burial
- q Scarred trees
- q Open sites
- q A stone arrangement
- q An engraving site

According to the National Parks and Wildlife Service the sparsity of artefacts in the region does not tally with the evidence from the ethnographic record, such as the presence of several ceremonial grounds, which suggests a constant Aboriginal occupation of the area.

### **3.3 Socio-economic impacts**

Background: The report includes anticipated social impacts of the bulk sample phase as well as anticipated social and economic benefits for the community of the full mine therefore both developments are dealt with in this section of our submission.

The introduction of coal-mining to a coal-mine free area of Murrurundi shire poses serious risks to human as well as ecosystem health. Coal-mining is essentially an unsustainable industry that in this case would severely impact on existing local industry, e.g. thoroughbred horse breeding, tourism, and agriculture.

The flow-on negative effects of the introduction of coal-mining to the shire, in our view, would outweigh or severely undermine any anticipated benefits, which Bickham Coal Company (BCC) uses in the REF to support its proposal.

Assumed REF positive impacts on employment, population, housing and services are overstated as coal-mine employees in the Hunter region characteristically travel to their place of work.

## Employment and population

- Employment Statistics: Both BCC and the DMR, during the community and local council consultation process, insisted upon confining all discussion to the bulk sample proposal. Any anticipated merit of full mine employment (60 employees) should not therefore be taken into account in support of the bulk sample proposal (REF, Section 6.3).

- Only three out of 10 bulk sample positions will go to local people and there will be little if any contribution to the local economy from this source. The reliance of BCC on 10 jobs being offered and their contribution to the local economy (REF, Section 6.3) was contradicted by BCC at its information session in Murrurundi earlier this month.

- Following persistent questioning from a community member representing local Murrurundi businesses, a BCC representative acknowledged that only three (truck driving) jobs would be available.

- Full mine employment of 60 employees is dependent upon the assertion that “all employees will be encouraged to live within the Shire boundaries.” (REF, Section 6.3).

- Conclusions drawn of any positive contribution to shire employment and income prospects is therefore not factual:

-- “Increased demand for housing and public services is mainly related to growth in the mining industry although the impacts are reduced by the characteristics of mine location and the place of residence of employees, which sees significant numbers of employees travelling to work from outside the area.” (Source: Upper Hunter Cumulative Impact Study and Action Strategy, Department of Urban Affairs and Planning, now Planning NSW, 1977)—UHCIS.

--The REF also states that coal-mine workers (new employees) in the Hunter region “choose not to relocate from their established place of residence” (REF, Section 7.10).

- Anecdotal evidence suggests employees do not want to live close to the polluted environment and due to relatively large incomes can choose where they live.

- Living locally cannot be a pre-condition of employment. As with the bulk sample proposal most of the full-mine positions are likely be filled by experienced management and mine workers from elsewhere in the region.

- Bickham Coal Company does not indicate how it intends “encouraging” its local employees to live in the shire.

- With 13 mine closures in the Hunter-Newcastle area in the next decade (REF, Section

6.4), and a loss of 25% of mining jobs between 1977 and 2000 (REF, Section 6.3) there will be a large pool of unemployed trained ex-mine industry employees to draw from elsewhere in the Hunter region.

- The Australian Bureau of Statistics industry multipliers (REF, Section 6.3) for construction and mining (3.09 extra jobs) are presumably National or State figures and cannot be applied with any accuracy at a regional or local level.

- Consequently the claimed level of all anticipated indirect employment and linkage industry spin-offs is overstated and cannot be used to support the proposal.

- Bickham Coal Company originates in the Lower Hunter; it is likely that in the first instance it will look to its traditional suppliers for highly specialised maintenance and service providers and continue to do so.

Negative impacts on existing industry, employment and population:

- Along with coal, a major resource of the Upper Hunter region is its “prime agricultural soils” and “the potential sterilisation of resources is a significant issue” (UHCIS, Planning NSW) and may impact on the long-term viability of the existing agricultural sector.

- The multi million-dollar bloodstock horse breeding industry is one of the most important sectors, which may be affected.

- The area is the “Horse Capital” of Australia and has some of the most prominent studs in the world and their investors are from America, Germany, England and Ireland, China, United Arab Emirates, Malaysia.

- The Upper Hunter is the pre-eminent thoroughbred breeding area in the Southern Hemisphere and contributes millions of dollars to the Murrurundi and adjoining Scone shire economies (refer individual submissions from Murrurundi and Scone shire based operators).

- An increasing number of such operations are moving to Murrurundi; Ballymore and Dennis Roberts’ operations have been established in the last 12 months along with expansions by Goodwood Park and Murulla Stud to name a few.

- Concern about atmospheric dust is a contributing factor to the choice of Murrurundi and to the relocation of a number of operations from the Singleton-Muswellbrook area.

- “Thoroughbred foals are very susceptible to respiratory disease...exacerbated by atmospheric dust” and “two interstate businesses...established a broodmare farm here...(having) particularly chosen the location around Murrurundi because of its distance from coal mining activities.” (refer individual submission, Ruralcom Marketing).

- Stallions are shuttled from Northern Hemisphere studs to studs in this area for the Southern Hemisphere breeding season. This business practice could be jeopardised.

- Currently one breeding syndicate is delaying its intention to set up near Murrurundi on the Pages River until the decision on the coal-mine bulk proposal is made (refer, as above).

- Image is also all-important--the visual amenity of the surroundings critical to the successful promotion of these sophisticated operations.

- Adjacent Scone Shire residents and horse breeding operators are also seriously concerned about negative impacts (refer individual submissions) particularly impacts on the

local water system. Mining air emissions from Dartbrook and Muswellbrook mines are often visible in the Scone Shire.

· A number of the pre-eminent breeding operations in Australasia have voiced their concerns (refer individual submissions).

### **“Murra County”:**

Murrurundi Shire’s best asset is its uncompromised environment and renowned scenery. In 2000 an extensive study was commissioned by the Murrurundi Development Association in partnership with Murrurundi Shire Council and subsequently implemented (refer Seccombe & Associates report, 2000, submission, Appendices 4.7).

· “Planning for Growth” was undertaken by marketing consultants, Seccombe & Associates. Murrurundi, “a natural place to live” became the focus of the plan along with a commitment to produce branded locally made products, facilitate natural farming and encourage the growth of like-minded business such as the local artisans and craftsmen. The plan’s all-important image relies on an environmentally sound area with no power stations, coal-mines or cotton farms.

· The bulk sample proposal would seriously impact this economic growth initiative.

· The Upper Hunter Beyond 2000 committee set up to provide a forum for discussion to promote increased employment and a better environmental outcome for the region supports the Murra County initiative.

· The NSW Department of State and Regional Development also supports Murra County. At a strategic plan review workshop held in Murrurundi on November 7 the “clean and green” and “quality of lifestyle” aspects were identified as critical to its ongoing success and future development of business and employment in the shire. New branded products are due for release next month.

· The meeting confirmed the shire’s vision:

“A forward thinking and prosperous “heritage-style” region with a strong agricultural base and arts culture--a tourism, heritage and environmentally focussed region offering a quality country lifestyle thus leading to population expansion.”

· Strengths identified included its physical location, picturesque views and its pollution free environment.

· It is therefore likely that any increase in jobs, employment, population and any multiplier effects which may result from the bulk sample and full-mine would be offset by severe impacts upon:

1. The local thoroughbred industry
2. Local council’s Murra County growth plan.
3. The local arts community.
4. The residents and potential residents who move to the shire because of its unspoilt environment.
5. New businesses coming to the area because of the unspoilt environment.

## Tourism:

- “Scenic quality is an important attribute to regional tourism...overall reduction in visual amenity has contributed to sometimes negative perceptions of the region... dust from coal-mining leads to a perception that the area is polluted.” (Source: UHCIS, Planning NSW, 1977).

## Fracturing of the community:

The coal-mine issue is already having serious negative impacts on the social fabric of Murrurundi town and shire.

- Then there are of course the “...obvious impacts such as dust, noise and visual blight ...the loss of the very character of the town and the immediate region...” which can result from coal-mines (Glenn Albrecht, Senior Lecturer, Environmental studies, Newcastle University, “Death by a thousand cuts”, Newcastle Herald, June 2 2002).

Economic overview of Hunter Region Coal Industry (REF, Section 6.4):

- The mention of an “original mine”, an “underground mine”, referred to here could perhaps be misconstrued. The single-shaft “mine” which closed in the 1930’s consisted of an entrance and shaft of approximately two metres height and two metres width. It was a one-man operation and sets no relevant precedent.

## 3.4 Flora and Fauna

We question the REF findings that “there were no threatened or endangered species within the area”.

“The maintenance of biological diversity and ecological systems...is one of the core objectives of ecologically sustainable development. The preservation of valued ecosystems both outside and inside protected areas ...is an important function in conserving biodiversity ” (UHCIS, Planning NSW).

- Platypus colonies are confirmed to exist in the immediate vicinity of the bulk sample site. Any reference to these colonies has been omitted from the report. Blasting disturbances and changed water conditions may impact upon their habitat with a consequent reduction of numbers or extinction of the colony.
- Two “endangered bird species” have been identified by Environment Australia (EA) in close proximity to the area—the Swift Parrot (*Lathamus discolor*) and the Regent Honeyeater (*Xanthomyza phrygia*).
- Only one of these is listed in the REF—their habitat would be seriously affected by the extraction and further study is needed to ensure their protection.
- Finger Panic Grass (*Digitaria porrecta*) is also listed as endangered by EA. This rare species also occurs in the area but is not mentioned in the report.
- There are another six “threatened species” listed by EA in the area as vulnerable and only one is included in the report.
- Refer elsewhere in our submission, Section 3.2 Burning Mountain, to local Aboriginal concern about rare grass seed collection, not addressed in the REF.

- The reference to the eucalyptus tree *E. eugenioides* on the site is deficient in that it does not allow for the possibility that the trees may in fact be the rare *E. conjuncta*, which would constitute a significant find.
- The narrow valley topography could compound any dust and noise impacts and is an unacceptable risk to flora and fauna.

### 3.5 Environmental Management

We dispute the report's contention that the neighbouring property owners' concerns about noise and blasting and general concerns about effects on the Pages River "have been comprehensively answered in the REF" (Section 2.7). In addition refer other sections of our submission.

- Neighbouring property owners request a guarantee of no vibrational effects or damage.
- According to the REF, dust generation is "not considered a major factor" (REF, Section 5.3). There is a concern that REF modelling does not adequately account for the narrowing of the valley in the surrounding area and this factor combined with Southerly airstreams would trap emissions in the area for lengthy periods, increasing the impacts.
- A "marginal" noise exceedance of 1dB for a mine neighbour (at Manaree) is unacceptable given that the criteria allows for a margin on top of measured or expected background noise levels. This is not deemed "an insignificant impact" as stated in the REF (Section 7.4).

### 3.6 Other

Likely Impact and Proposed Mitigation Measures (REF, Section 7):

#### **Water Management:**

- In Section 7.6.2 it states: "there is no direct hydraulic connection between the river and the ground water table". This is contradicted by the conclusion elsewhere that "the proposed bulk sample extraction will...also allow the interpreted independence of the groundwater system from stream-flow in the Pages River to be confirmed".

#### **Economic Impact:**

- In Section 7.9 the comparison between median income rates and the average weekly wage of opencut miners is erroneous--are the ABS statistics confined to wages or have pension receipts been included? If so the comparison is worthless.
- The contention that 80 per cent of wages and flow-on multiplier income would remain in the locality is dubious for the reasons set out in our submission, Section 3.3 Socio-economic Impacts.

Impact on Community Services (REF, Section 7.11):

- The REF anticipates that the development of the mine proper and the associated increase in the population will create demand for an upgrading of existing community services and facilities. If for any reason these are not met the result would be a decline in access for existing residents.

Impact on neighbouring landholders:

- An extensive Exploration License coupled with the threat of a coal-mine has put downward pressure on land values (source: Minewatch analysis, Muswellbrook) for which landholders are uncompensated.
- No zone of affectation or buffer zone, a serious concern for neighbouring property owners, for the mine proper has been identified and communicated.

**Other unmitigated impacts:**

- The bulk sample would be transported by road—the equivalent of 18 extra truckloads per day through the narrow main streets of Aberdeen and Scone and past a number of small towns in the area, located on the New England Highway, such as Wingen and Parkeville. This will have unacceptable impacts for residents.

**Approval process:**

- The DLWC letter (REF, Appendices, dated 22.7.02) sets out requirements for a Statement of Environmental Effects, not an REF.
- The DMR letter (REF, Appendices, dated 22.7.02) refers to a development application with Murrurundi Shire Council as consent authority rather than a Part 5 with DMR as consent authority.

### **3.7 Conclusion**

Bickham Coal-mine Action Group objects in principle to the project proceeding on the grounds of its non-sustainability.

After review of Bickham Coal Company's REF, BCAG has concluded that there are many serious concerns as to the types of and lack of tests applied, the accuracy of the data collected and the REF's conclusions.

A wide range of additional essential tests and studies are required to provide further clarification of many of the REF's key assumptions.

Importantly, the association between the ground water aquifer and river has not been conclusively established. This represents an unacceptable risk to the Pages River and associated aquifers.

The massive extraction of water during the bulk sample phase (and throughout the life of the mine) would be at a level the water system would be unable to support.

Other major areas of concern are the impact on the Burning Mountain remnant coal seam and associated Aboriginal heritage, local industry and population, flora and fauna and other environmental issues as set out in this submission.

## **Bickham Coal-mine Action Group opposes the approval of the bulk sample extraction and full**

**mine.**