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From: Ian Callow **Date:** 13 May 2002

Re: MEETING HELD ON 7 MAY 2002 **Pages:** 13

**ASHTON COAL MINE PROJECT
GOVERNMENT AGENCIES MEETING
TUESDAY 7 MAY 2002, 2.00PM
DEPARTMENT OF MINERAL RESOURCES, SINGLETON**

ATTENDANCE:

PLANNING NSW	Gordon Kirkby Chris Ritchie	(GK) (CR)
DMR	Julie Maloney	(JM)
DLWC	Cathy Cole Fergus Hancock	(CC) (FH)
DEPT. OF FISHERIES	Scott Carter	(SC)
EPA	Mitchell Bennett Peter Hughes	(MB) (PH)
WHITE MINING	Brian Flannery Ian Callow Peter Barton	(BF) (IC) (PB)
HLA	Alan Wells Chris Kidd	(AW) (CK)
PATTERSON BRITTON	Chris Thomas	(CT)
MARINE POLLUTION RESEARCH	Paul Anich	(PA)
GE HOLT & ASSOCIATES	Graham Holt	(GH)

1. INTRODUCTION AND AIM OF THE MEETING (PLANNING NSW)

GK opened the meeting at 2.10pm and welcomed everyone.

GK provided a brief background on the Ashton Coal Project. He advised the meeting had been called to discuss the concerns raised by the Government Agencies regarding the diversion of Bowmans Creek.

The Government Agencies met last week and 2 main concerns to come out of that meeting were:

1. there is a need to ensure that the Government Agencies are satisfied with all the information provided and that they have all the information they require to make their respective decisions / approvals.

EPA raised the question if a new ecosystem could be developed and what will water quality be like? An increase in salinity has a flow on effect into the Hunter River – is there a way to minimise this? Also mentioned noise and dust but it was agreed that the meeting was held to discuss the creek diversion. (These issues would be discussed after the meeting).

3. DISCUSSION ON ANY OUTSTANDING ISSUES

IC addressed the meeting and thanked CC and the DLWC officers for making their time available for the meeting which was held on 6 May 2002.

IC spoke further about the diversion of the creek and said the General Terms of Agreement should be flexible enough to allow design changes. Mine Plan is conceptual and also needs this level of flexibility.

With regard to the area of the longwall panels 4, 5 and 6 described in the EIS there is a reasonably high risk of fracturing. Solution could be to isolate alluvium east of the diversion, also planting tree species that would soak up salinity in the longwall areas.

IC discussed the option (tabled at the meeting) (Attachment 2) that proposes to maintain existing salinity levels at the Hunter River by maintaining flows through diversion and the existing alignment with the development of a "chain-of-ponds" concept.

CK addressed the meeting and advised assessments had been carried out in respect of increase in salinity levels and the position adopted in the EIS was a worse case scenario. In practice, it is unlikely this will occur. It was assumed all salinity would get to Bowmans Creek or all to the Hunter River. However, it must first diffuse through the strata. CK provided background information regarding the figures provided. CK stated there is a natural diffuse flow in all of the waterways in the Hunter Valley area. He further stated that diffuse groundwater may not flow into Bowmans Creek. Option will encourage recharge into creek and associated alluvium.

DLWC want to keep salinity levels in Bowmans Creek and the Hunter River to the existing levels.

During mining period Whites need to isolate the potential risk to the underground workforce. CK said diversion is also a safety issue.

GH spoke about cracking under the depth of cover – longwall 4 (75m), 5 (100m) and 6 (150m) to Pikes Gully seam. GH advised the meeting that Cumnock, which has the same geology as the proposed Ashton Project, now mine two seams with no problems at 70m cover directly below Davis Creek. There are four levels of mining proposed.

CK – there are areas of longwall 4, 5 and 6 seems to be silt that will anneal any fractures. There are significant areas to the south of the gauging station where the basal gravels are in the paleo channel very close to the creek. There is no basal sands or gravels in the aquifer, therefore, unlikely to get direct connection from the longwall panels to the Hunter River.

FH mentioned drop structures are not finally positioned until detail design stage. Re-vegetation is an answer to the problem. 57% of the time there is no flow in Bowmans Creek – groundwater seepage maintains flows – chain-of-ponds in the existing creek will maintain habitat.

Also mentioned impacts on Hunter River and other waterways in the area.

New diversion channel – isolate old channel was suggested by DLWC.

Chain-of-ponds able to be maintained with no increase in salinity?

EPA raised the issue of isolating the alluvium.

PA advised modeling has been done – worst case scenario has been presented – we are not saying this is going to be the position.

IC mentioned that post mining with respect to the creek means project years 15 and 16. At this point the underground will be clear of the alluvium and will allow 4 – 5 years of monitoring and rehabilitation works prior to mine closure.

PA spoke about posting mining and monitoring.

IC said open cut would be the first area mined. Year 5 longwall full production in panel 1. Year 7 under alluvium in the longwall panel 4. 10 years extraction in the existing creek area. The project would be able to ensure that the ecology is monitored. High flood flows back in after 15 years.

EPA increase in salinity levels in EIS. Questioned what was different in our proposal?

CK spoke about salinity levels. It was understood from the 6 May 2002 meeting with DLWC that the issue is concentration and not specifically the load. Recharging by flood flows. Recharge will ensure better quality of water and no increases in the concentration in Bowmans creek and Hunter River.

CT – create fish habitat in both systems.

PA spoke about chain-of-ponds. No visible flow underneath Highway bridge now. Very low flows over weir. Bowmans Creek has more than 50% - subsurface flow.

FH spoke about artificial recharge – the northern end of longwall panel 4 – the 80m-90m depth of cover and the higher risk of saline seepage – asked question of Chris Kidd regarding how monitoring would be achieved.

FH asked what would happen if it didn't work? How could we be sure the recharge would mix with the saline waters.

CK – should saline groundwater seep through fractures it would mix with groundwater and move laterally down channel – alluvial system funnels down to southern and where the alluvium narrows near the gauging station where it rejoins the existing channel.

CK – keeping water out is a safety issue. Monitor water levels in alluvium. Monitoring would take place after each seam taken out under the alluvium.

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CC – interested in time lines.

SC – mine closure – rehabilitation happens along the way.

IC – use of a self-regulating system.

GK – formulate the option details into supplementary documentation.

CC – need to address concentration and load. Spoke about DMR's option regarding shorter diversion – would like to understand that option.

IC – White Mining didn't say requirement from G Ag?? – spoke about their diversion.

CC – mentioned ecosystem and habitat.

BF – spoke about mine life being 19.8 years. Incorporating a shorter diversion would shorten the mine life to around 18 years. If the issue of shortening the diversion resolves this issue – White Mining would be happy to look at this option.

IC mentioned there were options worth exploring.

EPA – their position is whether they can issue a licence on the information provided to them. General Terms of Approval are the issue.

AW said White Mining is happy to consider options to the diversion as stated in the EIS.

EPA – need to be sure of what they are considering – it makes it easier for all concerned. Looking for documentation that predicts how much more salt end up in river – some assessment how they could provide offsets by tree planting, etc. What is impact going to be and what White Mining are going to do.

CC spoke about White Mining coming up with an alternative option – to be looked at in General Terms of Agreement – remove straight line diversion.

JM spoke about maximum resource recovery. Said minimum amount of resource – department would consider it.

SC spoke about compensation points being incorporated into supplementary paper. Long term remediation issues. Would like to see more information provided than that contained in the EIS.

CC said that the Government Agencies wanted assurance before final approvals being issued.

IC said notes would be issued on the meeting and White Mining would response early next week including a timeframe.

GK concluded with White Mining asked to provide supplementary information.

GK thanked every for attending the meeting.

Meeting closed at 3.50pm

Attachment 1

ASHTON COAL PROJECT

Desired Outcome (DLWC Perspective)	Options to achieve outcome
<p>Maintain a functioning ecosystem in Bowmans Creek and the diversion channel, of no less value than the existing ecosystem (cf. NSW Fisheries use this as a control site due to its significant features).</p>	<ul style="list-style-type: none"> • Consider shorter diversion – DMR mentioned this was an option at the meeting in Sydney on 30 April 2002. • GTA to include key parameters to be addressed, and specify detail design to be approved by DLWC and NSW Fisheries.
<p>No net increase in the salinity of the Hunter River caused by this development – NB: long term consideration.</p>	<ul style="list-style-type: none"> • Actions to offset predicted increase of 10 - 14EC – eg. appropriate vegetation of priority recharge and discharge sites (outside of mine site).
<p>Minimise the impacts on both land and water resources, arising from increasing salinity in the Bowmans Creek alluvium – NB: long term consideration</p>	<ul style="list-style-type: none"> • Could include engineering solutions and offsets. Also consider short diversion? • GTA to include monitoring. • Potential bond for remediation.

Yesterday's meeting has proved significant in the understanding of each other's position and re-affirmed the approach contained within the EIS to divert Bowmans Creek and the development of an associated "chain-of-ponds" concept within the existing alignment.

This concept involves:

- capturing and partially diverting Bowmans Creek flood flows into the "old" alignment to recharge the alluvium post mining;

Advantages include:

- No salinity increase in the Hunter River and Bowmans Creek;
- Establishment of a "chain-of-ponds";
- Provision of better quality riparian, fish habitat and water bird habitat;
- Opportunities for tree planting and continuation of agriculture;
- Economic and social benefits of the project are retained; and
- Facilitate compilation of general terms.

Attachment 2

A meeting between the proponent and officers of DLWC was held on 6 May 2002 to discuss and clarify various issues associated with the Ashton Coal Mine Project.

Generally, the conclusions reached were:

- The partial relocation of Bowmans Creek is a design issue, and that sufficient information has been provided by the proponent for DLWC to draft general terms.
- DLWC officers were hesitant to support mining at the northern end of longwall panels 4, 5 and 6 of the underground mine due to the 80-90m depth of cover. The potential lack of cover may result in connectivity and potentially increase salinity levels in Bowmans Creek and the Hunter River. DLWC's position is not to increase salinity levels in the Hunter River.

Options discussed at the meeting included isolating the alluvium from the diversion, planting salt tolerant tree species to draw down the water table and modifying the mine plan. Modification of mining will have significant commercial ramifications to the project.

The meeting concluded whereby it was agreed that the proponent would review the Ashton Coal Mine Project to minimise off-site salinity. The EIS has analysed this situation and concluded that seepage from the alluvium via Bowmans Creek and into the Hunter River under worst case conditions could occur, as shown in the tables below.

SALINITY (us/cm)			
	EXISTING	DURING MINING	POST MINING
Coal Measures Groundwater	6000-9000	6000-9000	6000-9000
Bowmans Alluvial Groundwater	900-2000 (1200*)	900-2000 (1200*)	900-2000 (1200*)
Bowmans Creek Low Flow	1300-2000	1300-2000	1300-2000 (1700)
Hunter River Low Flow	600-900	600-900	600-900

* Estimated average salinity in Bowmans Alluvium

CONDUCTIVITY MEASUREMENTS – 7 MAY 2002 LOW FLOW BETWEEN POOLS			
	Us/cm		
	0mm	200-300mm	1000m
Upstream Pool	1425		1427
Mid Pool	1400		1491
Weir Pool (1)	1385	1380	
Weir Pool (2)	1388	1384	
Downstream Pool	1380	1380	

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FOLLOW ON AFTER THE MEETING:

CC / FH: Noted the following items for inclusion in supplementary data:

1. Modify creek diversion to delete the straight section and marry the proposal into the southern corner of the oxbow.
2. Recharge and discharge mapping details of priority areas to be provided by FH within the next week.
3. Bowmans Creek catchment off-sets.

MB / PH: Issues to do with noise and dust are understood and no further queries arise.

IC: The applicant is looking at property acquisition in the area in the northern end of the village.

CC said the impacts would not be known until the groundwater recovery.

CK said there would be no increase in salinity until mine recovers.

EPA – cracks self-closing – put mine water down the goaf to accelerate recovery.

MB asked about water in mine and potential for build up of salinity.

CK - add more water to keep salinity down.

CC – raised question of load per day.

EPA – water goes from high levels in the creek. Raised question what happens if cracking didn't self-seal. Spoke further on seepage issues and asked what happens if water not available.

CC – load important to understand potential for a rise in level. What would be the increase in load from the proposal? Concentration plus load both significant issues.

CK – need to assess and we will respond following the meeting.

PA – self regulating – may lower flow.

EPA – flow from aquifer to Hunter River in drought periods. What is transfer of salt at these low flows to the Hunter River.

CK spoke about water quality. Under drought conditions CK indicated that low flows downstream of the gauging station would reflect the water quality in the alluvium.

EPA – how would you engineer solutions?

CT – spoke about weir with regard to flooding.

CC – looking at off-setting and look at vegetation – concentration maintaining load. Conditions with another development regarding off-sets.

GK recommended White Mining provide supplementary documentation outlining what was discussed at the meeting.

IC said White Mining will provide notes to all people present at the meeting under the tabled proposal.

FH mentioned timeframe with regard to aquifer.

IC spoke about impact of mining on 4 seams is 10 years – Pikes Gully. White Mining provide timeline – surface flows.

FH – asked how long it would take to recover – recharge alluvium. Asked CK would the figures would be.

CK – spoke about filling up the mine with water – alluvium. The model said 30-50 years. If mine filled up with mine water then the time frame could be accelerated.

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CT spoke about low flow channel proposed in the EIS. Advised the 55 year flood had very much disturbed the Bowmans Creek channel. The diversion should replicate the current channel. Post mining scenario would have opportunity to open up flows down current path from say 1:1, 1:2 flood events.

IC mentioned that monitoring in the underground in seams in longwall panels 4, 5 and 6 for stream flows would be undertaken. This would allow any fractures to be detected.

GK said issues could be addressed in the Government Agencies General Terms of Approval.

AW spoke about the issues concerning the length of the diversion.

SC spoke about the effects of a 1 in 20 year flood – stability issues are a problem. With the high velocity flow of the creek, fish habitat move up the sides of the creek and end up washed onto the floodplains.

IC said looking at permanent creek diversion that addresses design issues associated with fish passage.

PA mentioned the frequency of floods and how other fish are able to get up Bowmans Creek now.

SC said the straight stretch of the creek being diverted is not good.

CT raised issue in regard to 1 in 20 year flood in Bowmans Creek will also be affected by the Hunter River back up floods.

SC mentioned 1 in 7 year floods as well.

CT spoke about "nick point" and the fact that bedrock is present in Bowmans Creek – create pool from bedrock, velocity = energy in system. It is an advantage having bedrock present in the creek with regard to the design of channel. Bedrock is able to control energy – drop structures.

PA stated the width of the channel is quite narrow.

CT described the cross section included in the EIS.

CT said the lower part of the channel has silts and sands which are coming from the Hunter River. There is an opportunity for fish to migrate upstream.

SC said that the question being asked by Fisheries is what happens if it doesn't work? This issue needs to be addressed as part of the approval – coming up with a standard that Fisheries are happy with.

CT advised that in the event of a flood there will be no risk to houses as there are no houses located in the area. Looking at using flexible structures and not inflexible such as concrete.

2. there is a need to look at all the information provided to date and to look at any issues which may be problematic.

2. OUTLINE OF THE AGENCIES POSITION ON THE PROPOSAL

Department of Fisheries

SC addressed the meeting to raise the concerns expressed by the Department of Fisheries.

Fisheries position is that they are not happy with the re-diverting of Bowmans Creek. SC advised historically that creek diversions were not normally successful. He further advised the location of the diversion was also a problem. He advised there are 2 or 3 locations in the Hunter area of fish habitat left – the catchment areas of Bowmans Creek and the Hunter River are included in these areas.

The question was raised if the diversion goes ahead and is not successful there is no comeback position and there is also a philosophical problem with creek diversions. SC said the long last shute is a problem.

DLWC

CC addressed the meeting. CC talked about moving the project forward and tabled a document (Attachment 1) outlining the following 3 key areas of desired outcome:

1. Maintain a functioning ecosystem in Bowmans Creek and the diversion channel, of no less value than the existing ecosystem.
2. No net increase in the salinity of the Hunter River caused by this development (NB: long term consideration).
3. Minimise impacts on both land and water resources, arising from increasing salinity in the Bowmans Creek alluvium (NB: long term consideration).

With regard to Point 1 above, CC asked if Whites could come up with a solution eg. consideration of a shorter diversion?

In respect of Point 2 above, CC advised there needs to be consideration of the longer term implications. Increase 10-14ec – an option may be planting suitable salt tolerant vegetation in areas to achieve this.


In respect of Point 3 above, CC advised there may be long term issues to deal with. Options might be engineering solutions or off-sets.

EPA

Mitchell Bennett and Peter Hughes addressed the meeting. The EPA's concerns which were identified in reviewing the EIS are similar to concerns raised by Fisheries and DLWC, namely, the location of the diversion of Bowmans Creek.

Please find following notes from meeting held on 7 May 2002.

Regards


IAN CALLOW
Project Manager