

# MINUTES

**Subject:** Berrima Colliery Closure Working Group

**Location:** Mittagong RSL

**Date & Time:** 8 October 2018, 10.00 am

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**Independent Chair:** Brad Mullard

**Attendees:**

**Greg Kininmonth** – Manager Environmental Operations Southern, Resources Regulator

**William Dove** – Unit Head Regulation Illawarra, NSW Environment Protection Authority

**Andrew Couldridge** – Environment Protection Officer EPA Wollongong

**Ravi Sundaram** – Mining Catchment Specialist – WaterNSW

**Dr Ian Wright** – University of Western Sydney

**Clive West** – Local Resident

**Julian Brophy** – Local Resident

**Alan Lindsay** – Local Resident

**Ray Nolan** – Local Resident

**Graham Kelly** – Local Resident

**Boral Personnel:**

- Greg Johnson** – Environmental Sustainability Manager - Boral Cement
- Fabio Colusso** – General Manager Commercial and Contracts – Boral Cement
- David Spears** – Project Manager - Boral Cement
- Pamela Klioufis** – Boral Communication and Consultation

**Minutes:** Robert Byrnes

**Apologies:**

- Barry Arthur** – Manager Environment and Sustainability Wingecarribee Shire Council
- Will Miltry** – Resources Regulator

*These minutes reflect the presentation and consequent conversations conducted as part of this meeting. The content, while an accurate summation of proceedings, should not be taken to represent exact dialogue unless specifically minuted as such.*

*For the full presentation, visit [www.boral.com.au/berrimacement](http://www.boral.com.au/berrimacement). Minutes do not become 'official' unless endorsed at the following community meeting by the appropriate representatives.*

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## Meeting opened – 10.05 am

### 1. Welcome

**Brad Mullard (BM)** welcomed attendees to the 2<sup>nd</sup> meeting of the Berrima Colliery Closure Working Group. Noted Barry Arthur from Wingecarribee Shire Council and Will Miltry from the Resources Regulator as apologies and welcomed Dr Ian Wright from the University of Western Sydney. Introduction to Pamela Kliufis of Boral who will be developing the communication strategy for the closure project.

### 2. Minutes from 13<sup>th</sup> August 2018 meeting

**Julian Brophy (JB)** stressed that this meeting is not a defacto decision making group and this should be reflected in the minutes. The group is not the primary method of communication with the community and is advisory only.

**Greg Kininmonth (GK)** sought clarification if the minutes were put on the web within the one month time limit

**Greg Johnson (GJ)** confirmed that the minutes were hosted on the web within the required timeframe. The terms of reference for the Closure Working Group (CWG) have also been lodged on the web page.

**GJ** provided information on matters arising from the Minutes and provided data on the volume of workings, the flooded area of the workings and the estimated volume of water contained in the workings.

**BM** the Minutes as provided are considered accepted.

### 2. Boral Presentation

The presentation by GJ on the closure of Berrima Colliery covered monitoring data obtained since the previous meeting. Main points discussed were

- For a period of seven weeks the mine pumped more water to gain access to bulkhead locations to enable bolting up of roadways. Increased pumping to 60 litres/second from original 40 litres per second. This required additional pumping has now been fore filled
- Water results showed no difference in pH and conductivity but iron and manganese have increased slightly.
- The reason for the change in water quality is because not all the water was going through the primary underground limestone treatment system.
- The recent water quality trends have seen an increase in iron at the pickup point. Potentially as the mine increased pumping it has drawn more metals from within the mine workings.

### 3. Discussion on Water Quality Results

**GK** Why was it needed to by-pass the treatment system, could it have gone through the treatment system

**David Spears (DS)** the trial underground trial passive water treatment system is designed and suitable for the normal pumping rate of 40L/sec. there was not the capacity in the underground trial treatment system to treat the temporary additional volume of mine water through the passive limestone bed.

**William Dove (WD)** what maintenance has been done on the limestone beds and treatment system

**GJ** there is a maintenance system including inspections and pumping alerts, some breakdowns have occurred with the pumps. The fish tank is inspected on a daily basis during mine shift inspections when operating and cleaned as required. The limestone is turned over as required.

**WD** there is likely to have been several tonnes of metals collected and we need to know how it is removed or maintained in a stable condition.

**BM** the pH appears not to be that acidic and the metals should remain stable.

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**Ian Wright (IW)** the data collected in this project is really significant and the data should be published. Would like to know the sulphate levels as well. Would argue the point in relation to whether it is not classified as acid mine drainage.

**JB** this data needs to be lodged as a submission to the inquiry into mining in the Sydney Drinking Water catchment.

**GJ** this is still a trial to determine what the final closure scenario will be. It will provide valuable data for other mines but we are at beginning of a 2 year treatment trial so there is still a lot more data to obtain.

**JB** most mining companies drop everything and run, what is Boral's commitment in time and budget.

**Fabio Colluso (FC)** Boral will not be running away from this, Boral are in for the long haul

**JB** Boral needs to be out there and communicating this message, what is going to happen to the river and the bed of the river and what is Boral going to do about it. What program is Boral going to do to clean up the contamination

**GJ** by early 2019 the first full study is required under the licence which is then followed by a second year of study. There are a lot of variables, for example we have experienced very dry conditions and there has not been the rainfall for natural flushing of the river. The aquatic ecology studies have shown a loss of mayflies and ripple beetles up to 1 km downstream from the discharge. Stonefly impacted for 100 m, caddis missing 500 m downstream. In general, there is an impact up to 1 km downstream of the mine discharge.

**IW** this is good data and corresponds with other research but with other mines there is an impact for over 20 km downstream of a mine discharge. There are questions about what causes the impact at Berrima but could be physical rather than biological.

**Alan Lindsay (AL)** my bore has an oxygenation system but someone has advised him that the scum that occurs was biological in form.

**Andrew Couldridge (AC)** can there be a comparison with the 2013 data

**GK** how often will the aquatic ecology assessments be done in future

**GJ** quarterly

**WD** Ian Wright has done two sample rounds as well

**GJ** we have now adopted the method used by IW as specified by the EPA.

**JB** would like to see a consistent approach and simplify for the community

**IW** would prefer to use just the mayfly as it is very sensitive

## 4. EPA Ecotox Presentation

**WD** provided an overview of ecotox data collected to date. There are three groups doing investigations of the river, EPA, IW and Boral so the results are slightly different but very useful. We have the detailed ecotox reports which are available to everyone and assistance from EPA ecotox group can be provided.

- It has been good that IW has been involved since September 2016
- Boral has good routine long term monitoring upstream and downstream of the discharge as well as the results of the performance monitoring program.
- EPA has completed two ecotox reports to date, one before treatment and one after treatment was installed.
- In terms of metal chemistry, there has been an improvement in water quality but still elevated 2.2 and 2.5 km downstream.

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- ❑ WD explained ecotox methods; samples are progressively diluted and test species added to determine toxicity levels. Results showed upstream samples had some level of toxicity possibly caused by anthropogenic causes but there is a greater toxicity downstream.
- ❑ The results were variable and need further replication to determine impacts

## 5. Discussion on EPA Ecotox Results

**Ray Nolan (RN)** the metals are coming from the Hawkesbury sandstone which is naturally in the groundwater and enters the river.

**IW** would like copies of the ecotox reports.

**WD** they are all available.

## 6. Bulkhead Seals

FC Boral intends to install 7 bulkheads to determine permeability of the overlying strata. The bulkheads will be installed to work out what happens when the mine floods to a point of repressurizing the overlying strata. Advice received as part of the initial Closure Plan suggested that as the mine floods the water will find other paths above the seals or through the coal. As the mine floods with the new bulkheads Boral will be monitoring where the mine leaks and quality of the water leakage around or above the seals. This is needed to assist with the final closure of the mine.

**AL** this should at least slow the water down and disperse it better

**FC** hopefully but the advice to date is that the water will just flow through the strata and not provide any significant reduction in discharge volume.

**David Spears (DC)** described location of bulkheads and construction methodology. Bulkheads will be cement plugs within the roadways and will be designed for 10 m of head. This is money invested to determine the validity of data used in the groundwater model. The design will include a pipe through one of the bulkheads to allow the option to dewatering if necessary. It is estimated that it will be around 6 months needed to flood the workings up to the highest bulkhead depending on the level of seepage.

**BM** how will the permeability of the strata around the bulkheads be determined

**DS** the peizometric head will be determined behind the seals and the level of seepage will also be measured.

**AL** will the water eventually still get to the discharge point

**DS** This is likely, the modelling indicates that the mine water which bypasses and or overflows will end up at the current discharge point

**WD** what is the sequence of installation

**DS** It is proposed that we will start towards the lowest point but the last point will be the current pumping point to allow the installation of the bulkheads in dry roadway conditions. Order of the bulkheads will B2, 3, 4, 6, 7, 1 and then B5 which is the current pumping point.

**AC** if there is no bypassing which way will the water flow

**DS** If the mine water doesn't bypass the bulkheads and reaches a level above B7 bulkhead it will likely flow down the first roadway to the west of B7 into workings and eventually into the current mine water flow path.

**RN** what is the model which Boral is seeking

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**DS** the current model suggests that the strata above the mine is highly permeable which will allow water behind the bulkheads to simply flow over and around them. This is the current model which needs to be validated.

**CW** will this result in any increase in groundwater levels

**DS** there could be about a 2 m increase in groundwater level if there is no seepage

**(CW)** what is the timeframe for any increase

**DS** currently programed to complete the bulkheads by the end of the year.

**FC** it is estimated that roadways behind the bulkheads will take approximately 6 months to flood during which time the flow into the river will be minimal.

**AC** what happens if the bulkheads work

**DS** if this works then there is the possibility of putting in more seals

**WD** in terms of the uncertainty will Boral still be able to use the current treatment system

**FC** the treatment system will not be decommissioned and will be available to treat the water that comes through the system

**GK**

**GJ** an application has been lodged to the EPA to amend the submission dates of reports to enable more time to analyse data and time to get results back.

**WD** wants the key stakeholders to be aware of the changes before the EPA allow the changes to be made

**JB** how is the EPA advising the community on this, perhaps Boral could communicate this to the community. This group should not replace effective communication with the community. There is a strong history with Boral and EPA and high levels of pollution going into the river without community consultation in 2017.

**GK** This change may result in a very negative community reaction. What was the timeframe was agreed and is there a genuine reason for changes. Boral has agreed to the timeframe and therefore Boral should have known the timeframe for laboratory results and taken into account weather conditions.

**AL** the community did not know about a lot of this. Some data was published but there was community concerns some time ago. Ongoing community consultation is essential. It is not a simple matter and sometimes it drags on for too long

**JB** the rebuilding of trust with the community requires more than just talking in this room

**BM** this is probably a good point to bring in Pamela to talk about the communication strategy

## **7. Communication Strategy**

**Pamela Klioufis (PK)** gave a short presentation and discussion on what needs to be communicated and how this is to be communicated. The next step will be to develop a communications plan for presentation at the next meeting.

General discussion on the current work of the reference group, community materials, one on one discussion with directly impact parties. Need to maintain engagement.

**JB** why wasn't the community advised with what was happening with the mine, Boral was invited to two public meetings which Boral chose not to attend. A community briefing is essential. What is being done to contain the problem as quickly as possible

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**AL** share the data that has been generated and shared with the group, Richards lane people have concerns with loss of water and Boral is partially working towards this. You have a plan, tell people about the plan and its risks and then tell people with the results.

**JB** at least the EPA turned up at the last meeting and apologized for not having the answers. Boral chose not to attend. Boral needs to communicate open and transparently about what is happening, and that Boral is not going to run away like other mining companies.

**CL** need to have a simple communication strategy saying what is the benchmark and what is being worked towards and the timeframe

**JB** Boral should follow the lead of IW in his public presentation as it was clear

**AL** there is a need for a simplified summary so long as the detail is available for those who want it

**GK** Boral won't get an adverse reaction if it is open and honest, trying to change the licence without consultation will not get a good reaction

**WD** Boral has a web page but this needs to be improved and the data is limited.

**JB** Got to include the local media

**IW** there is a vacuum in the community about information

**Ravi Sundaram (RS)** need to have some media response to the actions being undertaken, simple messages

**CW** messaging is important

**BM** is some of the messaging about branding, any information should have key contacts and contact points for more information. Question to the regulator would it be OK to have a contact for the regulator for this project.

**GK** Resources Regulator is OK with that

**RS** WaterNSW is OK with that

**JB** has there been any media releases in relation on Boral Berrima Colliery closure update.

**GK** Nick Rheinberger from ABC Illawarra needs to be approached for an interview and this will be widely publicised.

**IW** I would be available

**GK** the reasons given do not seem compelling for a change of the licence reporting. The could be presented and expressed in a more compelling way.

**BM** Boral needs to determine if there is a better way to communicate how the licence will be changed and why

**IW** Boral should obtain footage underground to explain what is happening. Or at least more graphics because its hard to visualize. Say a picture of the drift or the outside part of the mine so people can better understand.

**BM** Can Boral give an update on Loch Catherine

**FC** as part of the site at Medway there was an old derelict mine at Loch Catherine, we are working out a method to close these entries but there are difficulties in how to seal them safely. We will report back for the next meeting on the issue.

**BM** Any General Business

**IW** What is the progress on installing the ladders

**FC** there will be no ladders for safety reasons but we are currently looking at drones

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**BM** Discussion on next meeting

**FC** either local venue at Berrima or the colliery.

**GJ** we will hold at the Colliery and include a pit top walk.

Date agreed as 11<sup>th</sup> February 2018 at Berrima Colliery

Meeting closed 12.46 pm

## Actions

- Boral to amend proposed change to working group terms of reference regarding communication to the community
- Boral to provide an update to the community on trial to date and proposed licence amendment
- Boral to provide an estimate of the amount of metals removed from the trial treatment system since installation
- Boral to include Sulphate levels in future presentations for discussion
- Boral to upload EPA Ecotox report