

# working TOGETHER

May 2010

## Warning Reminder

Since the installation of the diversion channel in 2003 there has been a substantial improvement in the quality of water released from the Brukunga mine site particularly for aquatic ecosystems and for irrigation purposes. However, PIRSA Animal Health continues to advise that there are a number of other inputs into Dawesley Creek that may affect the water quality including the mineral content of the water which can exceed the recommended standards for livestock drinking purposes.

## Stop Press

Earthquake monitoring at Brukunga. A new monitoring station has been installed at Brukunga as part of the State's earthquake recording. (See page 5).



Government  
of South Australia

Primary Industries  
and Resources SA

## This affects you

### MINE REMEDIATION

The community will be aware that the Brukunga remediation project began with the construction of the Dawesley Creek diversion in 2003 and an increase in treatment plant capacity in 2005. The final stage of this project was to progressively rehabilitate the mine site.

PIRSA is developing a whole of site remediation strategy to assess options to further minimise pollution and, therefore, ongoing treatment costs at the Brukunga Mine and acid neutralisation plant. The strategy includes:

- substantially limiting or avoiding the need to intercept and treat acid waters indefinitely;
- returning all or part of the site back to productive use(s) or for environmental / ecosystem values;
- and applying leading practice to site management and remediation option(s).

The program for remediation at Brukunga has involved:

#### ▪ Remediation Option Investigation / Pre Feasibility (Completed)

This first phase involved the formation of the Technical Advisory Group (TAG) in mid-2007 to assist PIRSA to determine the most effective long-term remediation solution for the site.

The Group developed a number of technical remediation options.

#### ▪ Remediation Option Definition / Feasibility (Completed October 2009)

This phase has involved a number of studies by the TAG to help determine the feasibility of each remediation option.

PIRSA in consultation with other government agencies is reviewing the timing and likely costs of the next phase of work which would involve:

From the Brukunga Mine Site Remediation Board

- **Planning and Design**

This phase will involve detailed planning and design and costing of the selected remediation option. It will include continued stakeholder consultation, gaining approvals, logistical planning etc.

The Government will consider the outcomes of the Planning and Design phase before proceeding with the following phases:

- **Remediation Implementation**

This phase will involve the actual physical works, including earthworks, water management, environmental management and revegetation.

- **Post Closure Monitoring**

Post Closure Monitoring will involve tracking the success of remediation under an approved monitoring program.

- **Validation and Completion**

The final phase of remediation at Brukunga will involve validating the success of remediation works, as agreed during Closure Planning. The ultimate goal would be 'mine completion', meaning that the site can be returned to a landuse suitable for release of the land from government ownership, where the site requires no further intervention by, ongoing responsibility for or cost to the government or community (outside the management costs associated with that type of landuse, such as maintaining fences etc).

It is expected that the Board with support from PIRSA will hold a further public meeting on next steps for the Brukunga Mine Site later in 2010.

## RECENT SITE ACTIVITIES

In the December 2008 edition of 'Working Together' a number of onsite investigations were proposed to occur over the following months. PIRSA and the Board would like to advise that all onsite activities have been completed and thank the community for their cooperation and support during the course of those works. The purpose of these projects is to improve the understanding of the site and support the Remediation Option Definition / Feasibility Phase. Some of these projects are detailed briefly below.

### Site Characterisation Investigations

The December edition of 'Working Together' covered the planned Geotechnical, Geochemical and Hydrogeological Investigation. All on-ground work has now been completed and PIRSA has received final reports.

### Water Balance Modelling

A project to determine the water balance for the site. The project involves two and three dimensional modelling of water (surface water and groundwater) and solute / contaminant movement through the Mine site.



## Site and Quantity Survey

State of the art computer technology was used to do a detailed survey of the volumes of mine waste and fill at Brukunga, using current and historical (pre-mining) aerial photographs.

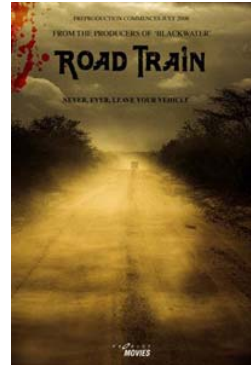
## Film Set

The site was used during the filming of a number of scenes for a movie to be released in 2010. The film 'Road Train' is an Australian made horror movie involving a group of friends on a road trip who are run off the road by the road train. What terrifying thing will the friends discover in the vehicle's trailers?

You can check out more information on the film at:

[www.prodigymovies.com/slate/Rtrain/index.htm](http://www.prodigymovies.com/slate/Rtrain/index.htm)

The Mine site was also used as the backdrop for the current Mitsubishi Triton advertisement.



## WATER QUALITY

### Water Quality Monitoring results



The 2008 Water Quality Monitoring Report was submitted to the Environment Protection Authority in mid 2009 and is available on the website:

[www.pir.sa.gov.au/minerals/sa\\_mines/former\\_mines/brukunga\\_mine\\_site](http://www.pir.sa.gov.au/minerals/sa_mines/former_mines/brukunga_mine_site)

The 2009 Report is currently being finalised prior to submitting to EPA in May 2010.

### 2009 Water Releases

On 1 and 14 July 2009, 24 and 30 August; and the 25 September the Mine site experienced overflows of acid water from the on-site catchment system to Dawesley Creek, as a result of heavy rains. The on-site catchment system incorporates all run-off onto and from within the Mine site, including the original bed of Dawesley Creek, Days Creek, two minor tributaries to the west of the site, and two minor tributaries associated with Peggy Buxton Road and the township.

These overflows were predominantly due to local high flows and were not an overflow of the Dawesley Creek diversion system. The acid treatment plant was operating at or slightly above normal peak operating capacity during this time.

In all instances the Environment Protection Authority (EPA) were notified immediately. The EPA were satisfied that the (EPA) approved contingency plan was put into action to minimise the impacts on the Dawesley Creek.

## COMMUNITY MEETING FEBRUARY 2009 - SUMMARY

A Community Meeting was held at the Country Fire Service Training Centre on Wednesday 4 February 2009. Several presentations were given during the meeting.

### Technical Advisory Group (TAG)

Dr Ted Tyne, Director - Mineral Resources (PIRSA, Brukunga Mine Site Remediation Board member) discussed the role of the Technical Advisory Group (TAG). The goal of the TAG is to develop options for final remediation of the Brukunga Mine site. Their role is to provide independent assessment, options and recommendations for a cost – effective technical remediation solution for the site.

You can view the presentation on the PIRSA website:

[www.pir.sa.gov.au/\\_data/assets/pdf\\_file/0006/97539/PIRSA\\_Presentation\\_BMSRB\\_040209.pdf](http://www.pir.sa.gov.au/_data/assets/pdf_file/0006/97539/PIRSA_Presentation_BMSRB_040209.pdf)

Dr Peter Scott (TAG member) gave a presentation to the meeting about the TAG, its functions, the experience and expertise of Group members and current works being undertaken as part of the Remediation Option Definition / Feasibility phase of works (specifically the drilling work being undertaken at and around the Mine at that time).

### Immersive Technologies

During the meeting, David Anderson (Manager SA, Immersive Operator Training) provided a presentation on the mine operator training school proposed to be operated from the Brukunga Mine site. The school aims to train operators of haul trucks, excavators and loaders in a realistic setting. Immersive Technologies operates a similar school in Western Australia.

You can view the presentation on the PIRSA website:

[www.pir.sa.gov.au/\\_data/assets/pdf\\_file/0007/97378/Immersive\\_Presentation\\_4th\\_Feb\\_2009.pdf](http://www.pir.sa.gov.au/_data/assets/pdf_file/0007/97378/Immersive_Presentation_4th_Feb_2009.pdf)

*Update: Due to the recent global financial crisis the requirement for training in surface mining equipment has been reduced, it is therefore considered unlikely the project will proceed.*

## BOARD MEMBERS

The Board consists of:

Hume Macdonald, Chair  
Dr Ted Tyne, PIRSA  
Rolly MacDonald, Dawesley Creek Catchment Landcare Group  
Andrew Stuart, District Council of Mount Barker  
Carol Vincent, Community Representative  
Emily Jenke, SA Murray-Darling Basin Natural Resources Management Board

## NEW FACES

The Brukunga Mine Site Remediation Board (BMSRB) considered that it would be beneficial to seek potential cross membership with the SA Murray-Darling Basin Natural Resources Management Board (NRM), the NRM in turn nominated Emily Jenke to join the BMSRB. The Board would like to welcome Emily to this role.

Emily Jenke is a Community Engagement & Facilitation specialist who assists government and private businesses to better engage people. She currently represents the NRM on the BMSRB.



Emily now runs her own business from Strathalbyn and provides engagement training and support across a wide range of industries in Australia. In the last 12 months Emily has supported Country Health SA, SA Ambulance, CSIRO and a whole of Government team in implementing complex engagement strategies. She has worked across a broad range of industries, namely water, advertising, fire management, education, health and youth affairs. She is a committed and active community representative on the NRM where she blends her knowledge of how to work with communities with her passion for environmental management.

Her interests include regional food & wine, a love for horses and olive oil production and marketing. She balances her work with her most important role as a wife to Paul and mother to three spirited children aged six, four and two.

## EARTHQUAKE MONITORING

On Friday 16 April at 11:27 PM, the district was shaken by a small earthquake. Its magnitude was 3.8, and its epicentre was between Mt Barker and Wistow, about 25 km deep. PIRSA's Geological Survey acted rapidly to deploy temporary seismic recorders to record low level movements and aftershocks which can follow quakes. The location of the quake meant that Brukunga was in an ideal position for one of the recorders. On Saturday 17 April, PIRSA Geological Survey seismologist David Love, watched by television and newspaper reporters, installed a recorder in the Brukunga quarry. The instrument will remain in place for several weeks and will provide valuable scientific information on seismic activity. Similar seismic recorders were placed at Wistow and Meadows.

## FURTHER INFORMATION

Further information on Brukunga, including photos, monitoring reports and past issues of the Working Together Newsletter, can be found on the website:

[http://www.pir.sa.gov.au/minerals/sa\\_mines/former\\_mines/brukunga\\_mine\\_site](http://www.pir.sa.gov.au/minerals/sa_mines/former_mines/brukunga_mine_site)

The latest PIRSA MESA Journal contains a key note technical paper entitled 'Managing acid and metalliferous drainage: implications for long-term remediation from Brukunga Mine trials' by Molly Carrigan (Mining Regulation and Rehabilitation Branch, PIRSA) and this can be downloaded on the website:

[http://www.pir.sa.gov.au/minerals/publications\\_and\\_information/mesa\\_journals](http://www.pir.sa.gov.au/minerals/publications_and_information/mesa_journals)

You can contact the Brukunga Mine Site Remediation Board at:

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