BAAL BONE COLLIERY
Subsidence Management Status Report
LW 29 - 31

Four Monthly Update

REPORT No. 3

For the period:
8th August 2008 to 7th December 2008

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TABLE OF CONTENTS

FIGURES

1 INTRODUCTION

This Subsidence Status Management Report fulfils the requirements of Condition 19 of the Baal Bone Subsidence Management Plan (SMP) Longwalls 29 to 31 Approval Conditions. This is the third report and covers the period 8th August 2008 to 7th December 2008.

2 PURPOSE AND SCOPE

The purpose of this document is to report the progress of mining, provide a summary of subsidence impacts, the implemented management processes and consultation with relevant stakeholders. It also provides the opportunity for relevant stakeholders to provide feedback as required under Condition 19.

3 FACE POSITION OF THE LONGWALL

Longwall production in the SMP area has not commended. Longwall 29 extraction is not scheduled to commence until April 2009.

4 SUBSIDENCE MANAGEMENT ACTIONS

Subsidence management actions undertaken throughout the four month period are outlined below.

To date, no subsidence management actions are required as the longwall production in the SMP area has not commenced.

5 CONSULTATION WITH STAKEHOLDERS

A Review Schedule was developed as part of the SMP application. The objective of the Review Schedule is to provide a process to ensure regular feedback regarding the management / monitoring undertaken for the SMP and to provide a mechanism for feedback from interested parties.

To comply with Condition 23 of the Subsidence Management Plan approval, an Aboriginal Heritage Management Plan has to be prepared. This plan has to be completed after consultation with relevant stakeholders including Aboriginal groups and Government agencies. A meeting was held on the 27th September 2008 in Lithgow and was attended by several Aboriginal interest groups and the Department of Environment and Climate Change. Ozark Environmental and Heritage Management Pty Ltd are currently preparing a draft plan which will be re-submitted to the relevant parties for comment prior to it being submitted to the Government agencies for approval.

6 SUBSIDENCE DEVELOPMENT / OBSERVED SUBSIDENCE IMPACTS

6.1 Subsidence Impacts

To date, there have been no subsidence impacts within the SMP area as longwall mining has not commenced.

6.1.1 Wolgan Escarpment

To date, there have been no subsidence impacts on the Wolgan Escarpment. In accordance with Condition 15 of the SMP approval, a management plan for the Wolgan escarpment is currently being developed by Ken Mills of Strata Control Technologies Pty Ltd.

A meeting was held on the 28th August 2008, with Dr Gang Li of DPI Minerals to discuss monitoring requirements and management thresholds for inclusion in the Wolgan Escarpment Management Plan. As a result of this meeting it was determined it would be beneficial to carry out some more detailed survey work of two potential "pinch points" associated with Long Wall 31 and the Wolgan Escarpment.

Accordingly, the two "pinch points" were surveyed along the cliff top using a GPS on the 30th September 2008 and the 9th October 2008. It was also determined that a visual inspection of both the "pinch points" from the cliff base would be of value. This was completed on the 29th October 2008 by Ken Mills (Strata Control Technologies), Tony King (BB Environment and Community Manager) and Gary Linford (BB Technical Services Manager).

All the information gained from these surveys is currently being utilised in the preparation of the Wolgan Escarpment Management Plan. It is anticipated a Draft plan will be completed and reviewed in January 2009.

6.1.2 Rock features

To date there has been no subsidence impacts on rock features in the SMP area as mining has not yet commenced on these longwalls. No further action is currently required on rock features.

6.1.3 Surface watercourses / Drainage structures

To date there has been no subsidence impacts on surface watercourses or drainage structures in the SMP area as mining has not yet commenced on these longwalls.

In response to Condition 16 of the SMP approval, a Surface and Groundwater Response Strategy has been developed by Ian Forster of Connell Wagner. The draft Strategy was submitted to the Department of Primary Industries (DPI), Department of Water and Energy (DWE), the Sydney Catchment Authority (SCA), Department of Environment and Climate Change (DECC), Department of Lands and Forests NSW for comment. Comments were received from several organisations and the document has been modified to include these comments.

The final document has now been submitted for approval to The Director, Environmental Sustainability, Department of Primary Industries.

6.1.4 Fire Trails and Tracks

To date there has been no subsidence impacts on any fire trails or tracks in the SMP area as mining has not yet commenced on these longwalls. The location of the trails in the SMP application area is shown in **Figure 4**.

6.1.5 Swamp

Baseline seasonal photographic monitoring of the Coxs River Swamp has been undertaken in November 2007, March 2008 and on the 12th August 2008. The next round of seasonal photographic monitoring is scheduled for January 2009.

6.1.6 Fauna

Prior to SMP approval, four baseline seasonal fauna surveys were completed by *Mount King Ecological Surveys (now Biodiversity Monitoring Services)*. Results from these surveys indicate that the dominant habitat type within the SMP application area is woodland. *Mount King*

Ecological Surveys suggested a number of indices that can be used which will provide sensitive measures of any changes in the SMP Area including percentage of bird species, species richness and habitat complexity score.

Mount King Ecological Surveys submitted the autumn 2008 report on the 11th August 2008. The spring survey was completed in September 2008 and a draft report is yet to be submitted.

In accordance with Condition 13 of the SMP approval a monitoring site has been established in the Cox's River Swamp. Results and data from this site will in future be included in the overall fauna monitoring reports.

6.1.7 Flora

Prior to SMP approval, four baseline flora surveys were completed by *Gingra Ecological Surveys*. Results from these surveys indicate that the vegetation in the SMP area is characterised by typical examples of Tablelands Sheltered Valley Forest, Tablelands Dry Ridgetop Woodland or Tablelands Dry Woodland. No threatened plant species were found within the SMP area.

Gingra Ecological Surveys have submitted the autumn 2008 report and another survey was undertaken in early September 2008.

6.1.8 Underground water make

Data continues to be collected from the mines dewatering bores, flow meters and data loggers regarding mines water discharges and underground water storage levels. This data is currently being used to calibrate a mine water make model prior to commencement of extraction of LW 29.

6.1.9 Ground water

Connell Wagner monitors six piezometers on a bimonthly basis to gather baseline data regarding groundwater level fluctuations. To date, the data obtained (shown in **Figure 1 & 2**) confirms a strong correlation between groundwater levels and prevailing climatic conditions; most particularly the relationship to rainfall.

The past two months have seen below average rainfall in August followed by slightly above average rainfall in September. Because of this, there has been negligible movement in the groundwater levels, except for BBP3 which showed a good rise in level in response to healthy rainfall at the beginning of September. There is still a positive gradient between this bore and the swamp at BBP5. At the top end of the swamp, it should be noted that the groundwater levels in BBP2 and BBP6 have almost converged so that there is no positive gradient in this area. However, there is still a good gradient between BBP1 and BBP2, so that groundwater is still feeding towards the swamp from the north.

As can be see from the graph, the groundwater level in most of the bores was pretty stable over the past two months, even though the rainfall was below average for both months. This could be due to residual groundwater from previous months feeding through. Only BBP6 showed a drop in water level, but only by 3 cm. This bore is located at the upper end of the swamp and is most influenced by rainfall. Below average rainfall will result in a fall in water levels at this point as the groundwater in the swamp drains downstream. BBP3 on the eastern side of the site showed the largest rise, by more than a metre. The reason for this is uncertain, but it appears that this bore has responded to recent rainfall events, as the rise in water level seems to occur after rainfall events. All bores responded to the rainfall of the past week with a slight rise in groundwater level.

There is no abnormal behaviour indicated in any of these data.

Baseline groundwater quality monitoring commenced on 16th September 2008 and is currently being undertaken on a monthly basis. It was brought to the attention of Baal Bone staff that the results from the first two samplings appeared to contain some anomalies. This appeared to be due

to sampling technique and laboratory procedure. Accordingly, another firm has been engaged to undertake the sampling and laboratory analysis.

The last series of results indicate water quality is within all acceptable limits with the only notable exception being slightly elevated iron levels.

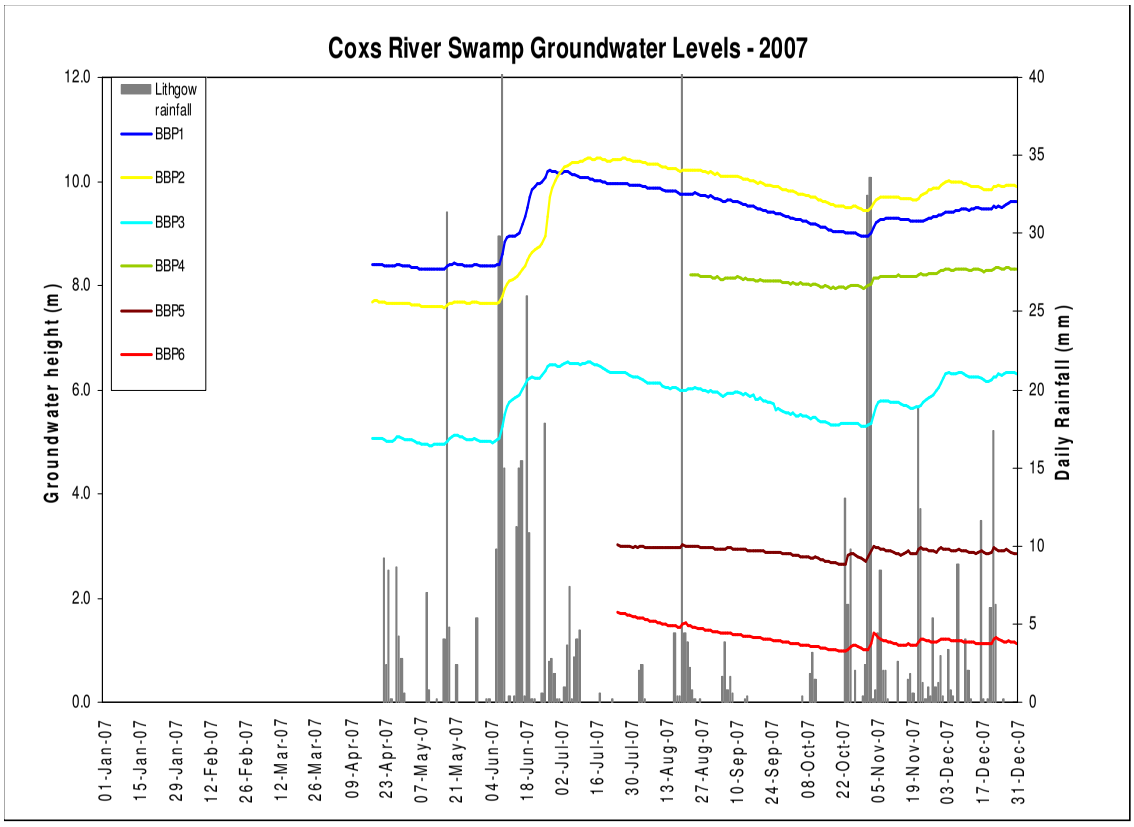

Figure 1: Coxs River Swamp Groundwater levels (2007)

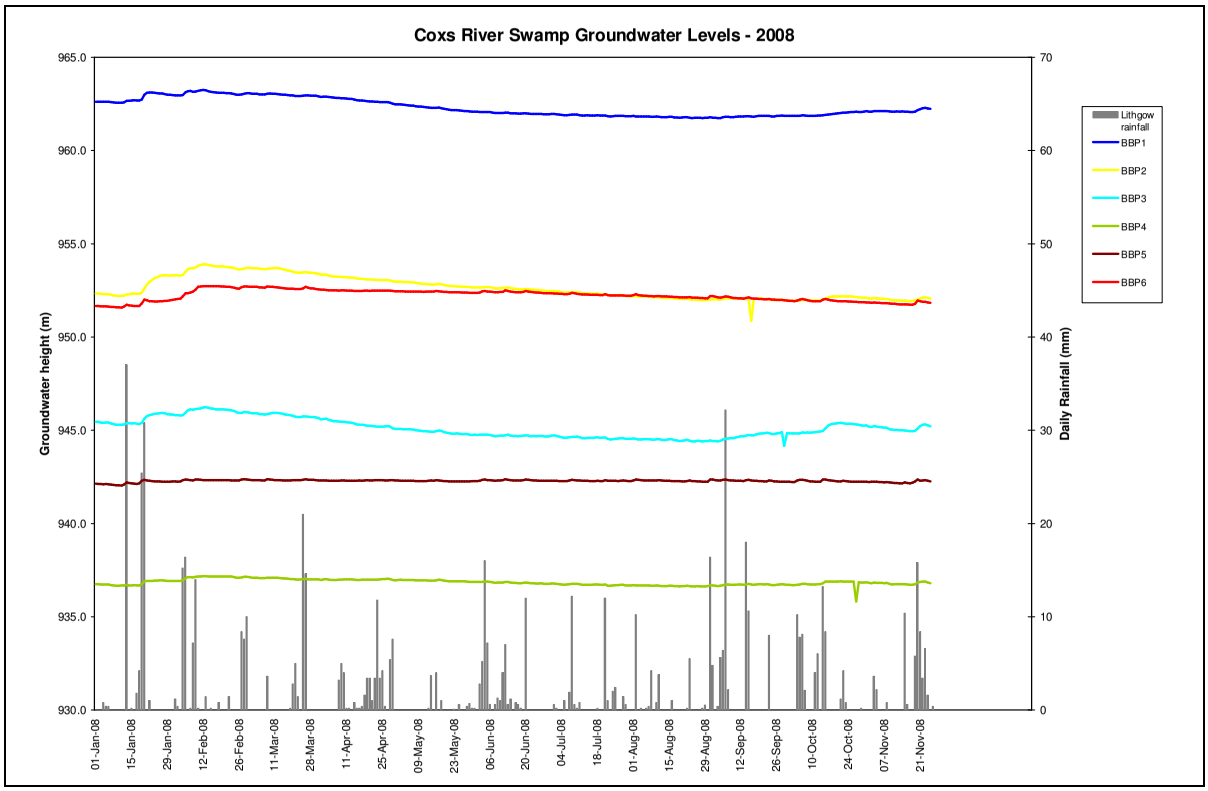

Figure 2: Coxs River Swamp Groundwater levels (2008)

6.2 Subsidence Development (Survey results summary)

To date, there has been no subsidence development as longwall production in the SMP area has not commenced.

7 ADEQUACY, QUALITY AND EFFECTIVENESS

The adequacy, quality, effectiveness of the implemented management processes based on compliance with approval conditions is considered to be satisfactory to date.

8 PROPOSED ADDITIONAL / OUTSTANDING MANAGEMENT ACTIONS

To date, no additional management actions are required nor is there any need for early responses or emergency procedures to be undertaken as there have been no negative subsidence impacts due to the extraction of the subject longwalls.

Preparation / augmentation of several management plans and monitoring programs (as required by the Conditions of Approval) are ongoing. These management plans / programs are being developed in consultation with the relevant agency stakeholders. Approval of these documents will be received prior to the commencement of longwall mining.

9 CONCLUSIONS

There is no requirement to instigate any additional actions as longwall mining of the SMP area has not commenced.

The review of existing and development of required Management Plans and programs is continuing to ensure compliance with the SMP Approval Conditions.

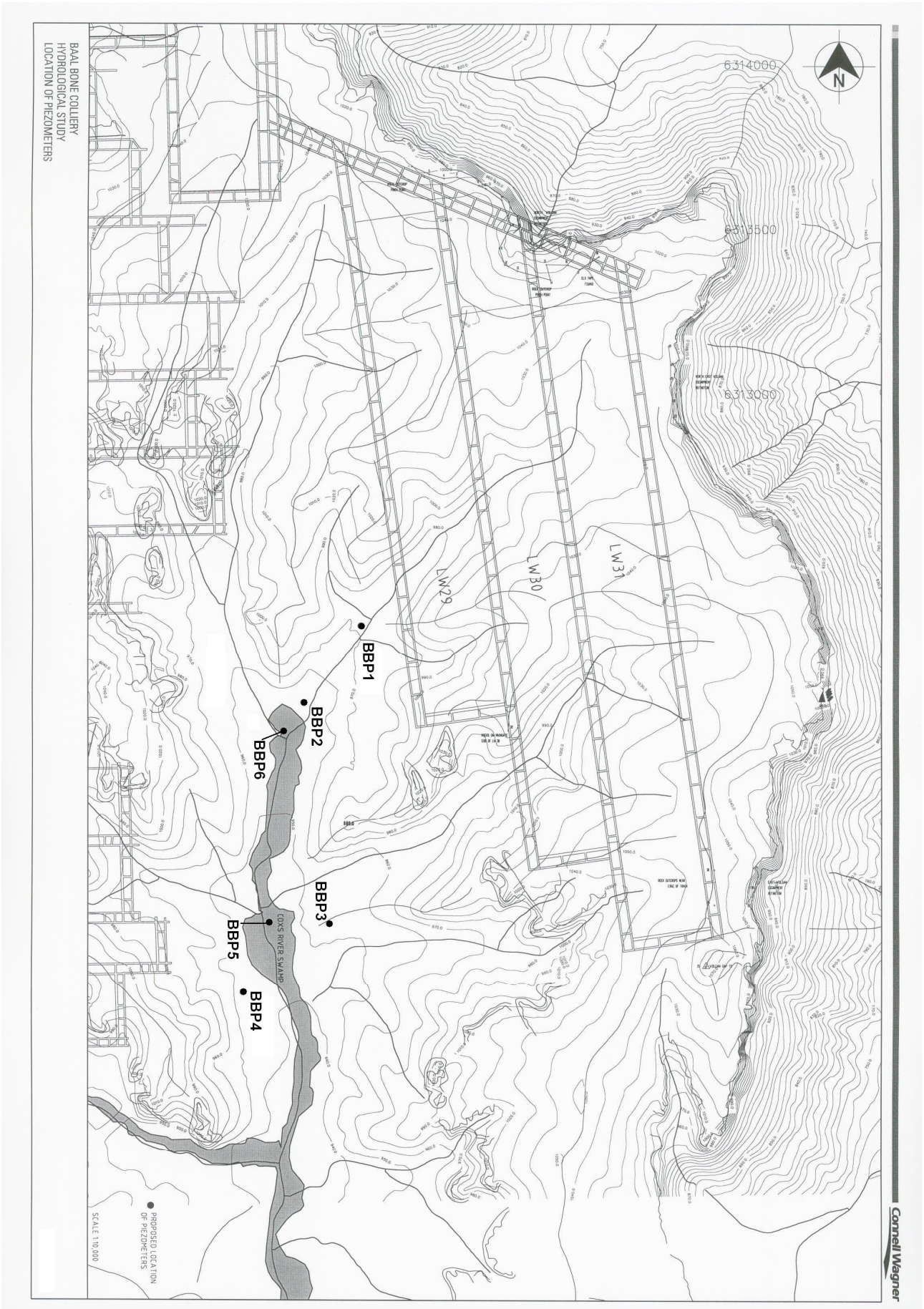

Figure 3: Location of groundwater monitoring piezometers