BAAL BONE COLLIERY
Subsidence Management Status Report
LW 29 - 31

Four Monthly Update

REPORT No. 2

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

Approved by John Hayward
Manager, Mining Engineering
Baal Bone Colliery

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 second report and covers the period 8th April 2008 to 7th August 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 date no consultation with stakeholders has been required.

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.

A meeting has been organised with Dr Gang Li of DPI Minerals to discuss monitoring requirements and management thresholds for inclusion in the Wolgan Escarpment Management Plan. This meeting has been scheduled for 28th August 2008.

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 is currently being developed by Ian Forster of Connell Wagner.

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 and March 2008. The next round of seasonal photographic monitoring is scheduled to be undertaken during the week commencing 11th August 2008.

6.1.6 Fauna

Prior to SMP approval, four baseline seasonal fauna surveys were completed by *Mount King Ecological Surveys*. 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 have advised that the autumn 2008 report is currently being finalised and will be submitted in the week commencing 11th August 2008. The spring survey is scheduled to be completed in September 2008.

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 is yet to submit the autumn 2008 report and another survey is scheduled to be 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.

Although there was average rainfall of 60 mm in April, rainfall in May was well below average. The three piezometers that are located furthest from the swamps and monitor the groundwater levels in the aquifer (BBP1, BBP2, and BBP3) have shown a decline in groundwater level due to the poor rainfall in May. The groundwater level in all of these bores is still above the initial levels about 12 months ago. The two piezometers in the swamp (BBP5 and BBP6) as well as BBP4, do not show a significant decline over this two month period. BBP4 is located adjacent to the swamp, and probably measures the groundwater level in the alluvial terrace. Refer **Figure 3**.

Although the groundwater level (and gradient) in the aquifer is declining, and the inflow from this source to the swamp is also declining, the water levels in the swamp are not significantly affected while there is still a flow in the creek. The declining input from the aquifer is reflected in a declining flow in the creek, while the swamp still contains a large volume of water. If the groundwater gradients decline further, then it is possible that there may be a decline in water level in the swamp, as the swamp starts to contribute to the creek flows.

Rainfall for June - July was below average so there has seen a slight decline in the levels in most of the piezometers. There have been no major rainfall events that have impacted significantly on the groundwater levels. Of all the bores, BBP4 and 5 show the least decline in water level. These are at the southern end of the swamp, one in the swamp and the other on the western side. This may indicate that there is a natural barrier to groundwater flow to the south. The swamp near BBP5 also has a large volume of water in it and the water flow has broken out of the channel and is flooding the rest of the swamp. The bores further upstream show a greater decline in level than BBP4 and 5, which indicates they are draining to the south.

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

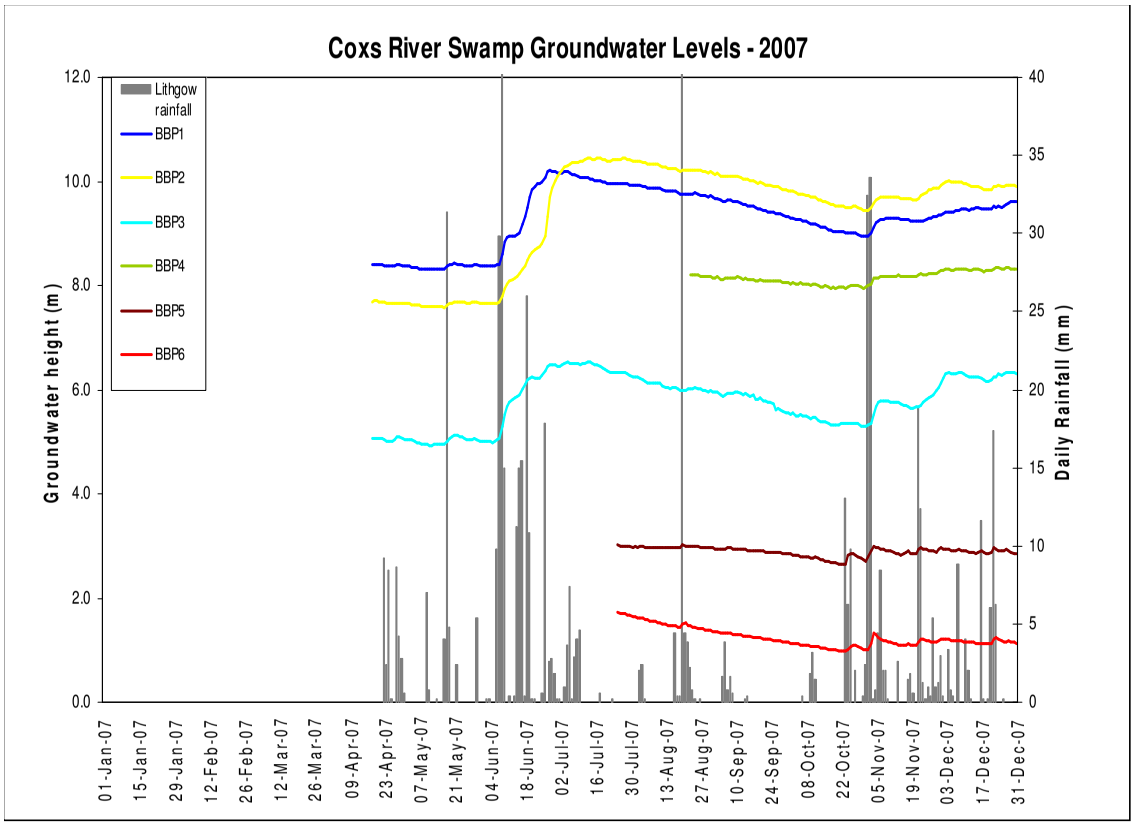

Figure 1: Coxs River Swamp Groundwater levels (2007)

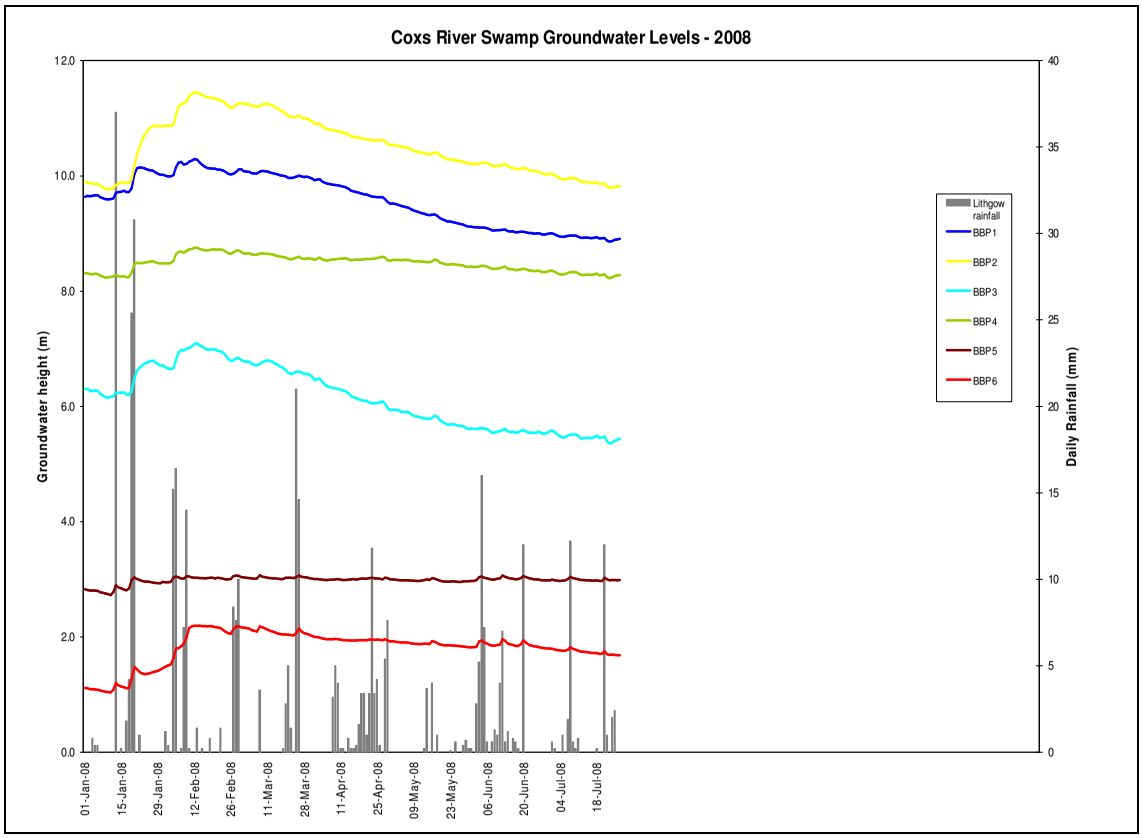

Figure 2: Coxs River Swamp Groundwater levels (2008)

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.

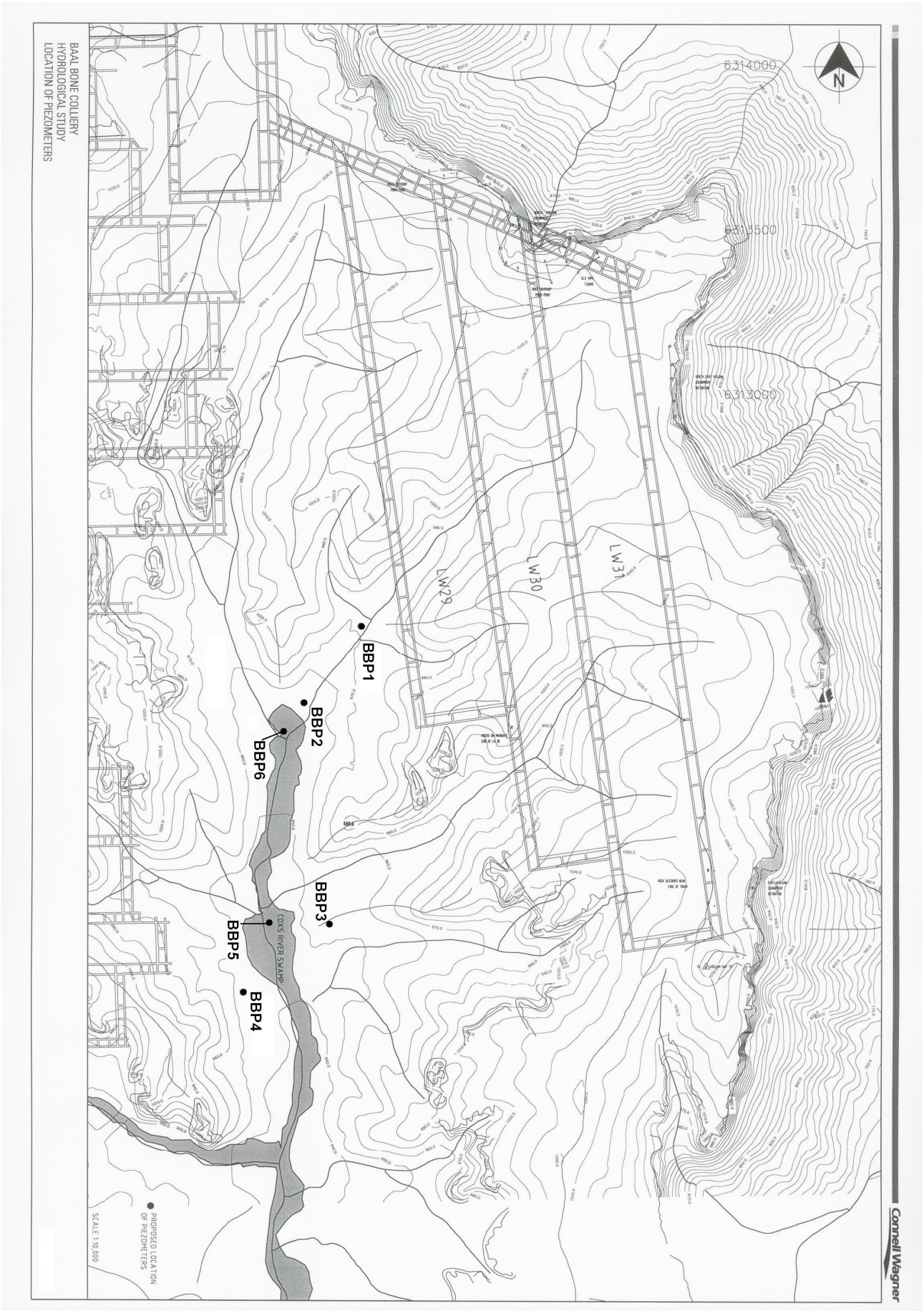

Figure 3: Location of groundwater monitoring piezometers