



# ULAN COAL MINES LIMITED

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29 April 2011

Mr Gang Li  
The Principal Subsidence Engineer  
NSW Department of Industry & Investment  
Mine Safety Operations  
PO Box 344  
Hunter Region Mail Centre NSW 2310

Dear Gang,

## Re: End of Panel Report for Longwall West 2

In accordance with condition 17 of the Subsidence Management Plan Approval issued to Ulan Coal Mines Limited (UCML) on 21 January 2009 for Longwalls West 2 and West 3, UCML is required to prepare and submit an End of Panel (EoP) report to the NSW Department of Industry and Investment – Mineral Resources (DII) within 4 months of extraction being completed for each longwall panel.

Mining commenced in Longwall West 2 (LWW2) on 20 February 2010 and was completed on 13 December 2010. On 14 April 2011 UCML applied to DII for an extension (until 29 April 2011) for the submission of the EoP report to allow Ken Mills from SCT Operations additional time to complete analysis of the survey data and reporting (see email in **Attachment 1**). The EoP report for LWW2 is provided in **Attachment 2**.

## Subsidence Monitoring

The attached EoP report details the results of subsidence monitoring undertaken for LWW2, including a comparison of actual results with predicted subsidence impacts. **Table 1** below summarises the actual versus predicted subsidence for LWW2. A full discussion of these results is provided in the EoP Report.

**Table 1: Actual versus predicted subsidence for LWW2**

| Parameter                                     | Predicted     | Actual*         |
|---|---------------|-----------------|
| Maximum subsidence over central part of panel | Up to 1600 mm | 1350 mm         |
| Maximum horizontal strain                     | 5-10 mm/m     | 6.7 mm/m        |
| Maximum tilt                                  | 10-20 mm/m    | 27 mm/m         |
| Average angle of draw                         | 18-20°        | 72° and 55°     |
| Goaf edge subsidence                          | Approx 100 mm | 140mm and 105mm |

\*Refer to discussion in EoP Report

## Environmental Monitoring

Physical inspections of the surface above LWW2 were undertaken during mining. A post mining inspection of the surface above LWW2 was undertaken on 30 March 2011 with Ken Mills from SCT Operations. The inspection included Archaeological sites, dams and road surfaces as well as the general ground surface. Surface cracking observed was consistent with expectation and the predictions outlined in the SMP. A full description of the observations (including photos) is included in Section 6 of the attached EoP report.

UCML continued to monitor the Regional Groundwater Monitoring Network at quarterly intervals during the mining of LWW2. The following rounds of monitoring were undertaken during mining of LWW2:

- March 2010 – completed on 17 and 18 March 2010 (pre mining)
- June 2010 – completed on 21 June and 8 July 2010 (during mining)
- September 2010 – completed on 20-22 September 2010 (during mining) – included annual water quality monitoring
- December 2010 – completed on 8 December 2010 and 20 January 2011 (during/post mining)

A copy of the Groundwater Monitoring Reports for these rounds have previously been provided to the Department in the regular 4-monthly status reports. Piezometers R752 and 11A and B are the closest piezometers to LWW2. Of these three piezometers, R752 is monitored for groundwater level using an automatic water level recorder. Piezometers 11A and B are monitored using manual monitoring techniques. According to Coffey Geotechnics, R752 screened in Basalt, shows an unusually long seasonal low between August 2008 and August 2010. In the period September 2010 to December 2010 the groundwater level rose 12.72 m. This piezometer was undermined by Longwall W1 in late 2008.

Piezometer 11A is screened in the Ulan Seam. Monitoring of this piezometer has not been possible since September 2008, due to the piezometer being blocked. Piezometer 11B is screened in the Triassic sandstone. According to Coffey Geotechnics, the December 2010 monitoring results indicate that Piezometer 11B has shown a gradual decline in groundwater level since March 2010. These groundwater impacts are consistent with the ground water modelling undertaken by Mackie Environmental Research for the Ulan Coal Continued Operations project.

I trust this information meets your requirements. If you require further information or have any questions please do not hesitate to contact me on 02 63725386.

Yours Sincerely,



**JAMIE LEES**  
Environment & Community Manager  
Ulan Coal Mines Limited

*Attachments 1 Email to DII re delay in submission of End of Panel report for LWW2*

*2 Analysis of subsidence and stress monitoring from Longwall W2 and comparison with predictions (ULA3765), SCT Operations, 29 April 2011*

CC. Phil Stuart  
Subsidence Engineer  
Mineral Resources  
NSW Department of Primary Industries

Robert Paquet  
Subsidence Engineer  
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