



# **ABEL MINE**

## **AREA 3**

### **SUBSIDENCE MANAGEMENT PLAN VARIATION APPLICATION**

**June 2014**

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#### **Appendix A: ABEL UNDERGROUND MINE: SMP Area 3 – Modified Panel 26**

The Effects of the Proposed Modification to Panel 26 on the Subsidence Predictions and Impact Assessments **MSEC695 REVISION A.**

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## **1 EXECUTIVE SUMMARY**

This Subsidence Management Plan (SMP) variation application has been prepared to vary the current approval for the extraction of coal by pillar extraction mining methods from the Upper Donaldson coal seam in Abel Mine SMP Area 3.

The purpose of this application is to vary the current approval for mining of coal from the Upper Donaldson seam in Area 3, dated 16 July 2013, using total pillar extraction methods. The variation consists of a decrease in panel width to part of Panel 26 and the removal of two Subsidence Control Zone (SCZ) associated with Principal Residences.

The layout of Panel 26 has been revised by the reduction of a heading and development of associated pillars from 1 – 37c/t while 37 – 44c/t remains unchanged from the original application.

Two properties each containing a Principal Residence within Area 3 has been purchased by Donaldson Coal. The SCZ's associated with the protection of these Principal Residence has been removed.

With the reduction of panel width and the removal of the SCZ's, the overall application will results in a minor decrease in resource recovery within the currently approved area. The variation will create no increased subsidence impacts and basically varies no other items within the previously approved SMP Area 3.

This variation application has been prepared in accordance with the NSW Department of Mineral Resources *New Approval Process for the Management of Coal Mining Subsidence* and SMP Guideline 2003.

## **2 INTRODUCTION**

### **2.1 BACKGROUND**

No change to previous application.

## **3 THE APPLICATION AREA**

### **3.1 APPLICATION AREA**

There is no change to the currently approved SMP application area except for Lot 201 and Lot 202 in DP 1188784, which was created from a subdivision of Lot A DP 181350 and Lot 2 DP 219167. Lot 201 and 202, both which contain Principal Residences, are now owned by Donaldson Coal.

## **4 MINING METHOD AND RESOURCE RECOVERY**

### **4.1 PROPOSED MINING METHOD**

The mining method, bord and pillar method of mining with pillar extraction as the secondary working method in the Upper Donaldson seam within the application area remains generally unchanged.

### **4.2 MINE PLAN**

#### **4.2.1 VARIATION TO THE MINE PLAN**

The variation consists of a decrease in width to part of Panel 26.

The layout of Panel 26 has been revised by the reduction of a heading and development of associated pillars from 1 – 37c/t while 37 – 44c/t remains unchanged from the original application. This will result in a minor decrease in resource recovery within the currently approved area. The variation will create no increased subsidence impacts and basically varies no other items within the previously approved SMP Area 3.

### **4.3 SCHEDULE OF PROPOSED MINING**

The mining schedule has been revised and is shown in **Table 1** below.

**Table 1 - Development & Extraction Panel Timing**

| <b>Panel</b> | <b>Start &amp; Finish Dates Development</b> | <b>Start &amp; Finish Dates Extraction</b> |
|--------------|---|--|
| Panel 26     | 20 November 2013 - January 15               | 25 July 2014 – June 2015                   |

#### **4.4 ESTIMATED RECOVERY**

The estimated recovery will be affected by the variation.

The currently approved layout within the SMP Area 3 application area contains **3,863,088 tonnes** of recoverable coal. This variation will provide a reduction of approximately 71,400 tonnes of recoverable coal due to the reduction in width to part of Panel 26. The reduction of coal from SMP Area 3 is proposed to be recovered from Abel Mine's SMP Area 4 subject to approval.

#### **4.5 POSSIBLE EFFECTS ON OTHER SEAMS**

No change to initial SMP application.

As there are no other economically recoverable seams in the SMP application area there are no effects on potentially mineable coal seams.

#### **4.6 FUTURE PLANS FOR MINING IN OTHER SEAMS**

There are no future plans for mining these other seams in the SMP variation application area due to the currently non economic nature of these seams.

### **5 STABILITY OF UNDERGROUND WORKINGS**

The variation application will have no effect on the stability of the barrier pillars.

## **6 SITE CONDITIONS OF THE APPLICATION AREA**

### **6.1 SURFACE TOPOGRAPHY**

No change to the original SMP Application Area.

### **6.2 DEPTH OF COVER**

No change to the original SMP Application Area.

### **6.3 OVERBURDEN STRATIGRAPHY**

No change to the original SMP Application Area.

### **6.4 LITHOLOGICAL AND GEOTECHNICAL CHARACTERISTICS**

No change to the original SMP Application Area.

### **6.5 EXISTENCE AND CHARACTERISTICS OF GEOLOGICAL STRUCTURES**

No change to the original SMP Application Area.

## **7 IDENTIFICATION AND CHARACTERISATION OF SURFACE AND SUB-SURFACE FEATURES**

### **7.1 MINE SUBSIDENCE DISTRICT**

The SMP application area is not located within a current Mine Subsidence District but was previously located within the Ironbark Mine Subsidence District which was revoked in October 1994. Discussions have been held with the MSB relating to the future reclassification of the area as a Mine Subsidence District.

### **7.2 PROPOSED DEVELOPMENTS**

No change to the original SMP Application.

### **7.3 NATURAL FEATURES**

No change to the original SMP Application.

### **7.4 MAN - MADE STRUCTURES**

No change to the original SMP Application.

## **8 SUBSIDENCE PREDICTIONS**

The maximum predicted conventional subsidence parameters for Panel 26, based on the Modified Layout, are the same as the maxima for the Approved Layout. The reason for this is that the modified panel is still supercritical and, therefore, the decreased overall void width does not result in decreased predicted subsidence parameters.

The maximum predicted subsidence parameters occur at the northern end of Panel 26, where the depths of cover are shallowest. Away from the northern end, the panel is subcritical and the modified width results in a slight reduction of the predicted subsidence parameters.

The impact assessments and proposed management strategies for the natural and built features, based on the *Modified Layout* are the same as those provided in Report No. MSEC596 and the original SMP Area 3 Application. With these management strategies in place, it is unlikely that there would be any adverse impacts on these features.

Further details are contained within the attached MSEC report ***MSEC653 REVISION A***.

## **9 SUBSIDENCE IMPACTS ON NATURAL FEATURES**

No change to original SMP Application



## 10 SUBSIDENCE IMPACTS ON MAN – MADE FEATURES

There are two houses, being Refs A01h01 and A02h01 and associated rural structures, which are located within the SMP Area. Both of these houses have been purchased by Donaldson Coal, and therefore, the Subsidence Control Zones have been removed from around them.

It is intended that both houses will remain vacant during the course of mining within SMP Area 3.

The total length of power lines affected by mining reduces by around 40 metres due to the proposed modification. As a result there is a minor increase in tilt at Pole IS-73113.

Further details are contained within the attached MSEC report **MSEC653 REVISION A**.

## 11 PROPOSED MONITORING AND MANAGEMENT PLANS

Subsidence monitoring methods will be detailed in the “Subsidence Monitoring Program” which will be submitted to the Principal Subsidence Engineer (DTIRIS) prior to extraction of the panel. This variation will have no impact on the recently submitted Management Plan for the relocated Telstra Optical Fibre Cable.

## 12 COMMUNITY CONSULTATION

The Abel Mine Community Consultative Committee (CCC) continues to be updated on the status of the Abel Mine SMP's at the regular scheduled meetings.

## 13 PLANS

| SMP guideline reference | Plan Name - Number             |                   |
|-------------------------|--------------------------------|-------------------|
| SMP Approved Plan       | Approved Plan                  | a6a1040.dwg Rev B |
| Plan 2                  | Natural & Man-made Features    | a6a1042.dwg Rev B |
| Plan 5                  | Mining Titles & Land Ownership | a6a1046.dwg Rev A |

## 14 APPENDICES

### Appendix A:

#### **ABEL UNDERGROUND MINE: SMP Area 3 – Modified Panel 26**

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