

## **EXPRESSION OF INTEREST**

## **NSW COAL RELEASE AREA**

# **MT PENNY – WESTERN COALFIELD**

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## **1. OVERVIEW**

### **1.1 Introduction**

The Mt Penny area is located in the Western Coalfield and covers an area of 84 km<sup>2</sup>. It is the largest of the release areas and is favorably located in terms of infrastructure and transport.

### **1.2 Location and Setting of Release Area**

The Mt Penny area is located some 50km from the regional centre of Mudgee, to the south of the Goulburn River (Figure 1). It is adjacent to Anglo Coal's Bylong Proposal which is located to the East, and reportedly contains a resource of 468,000Mt of thermal coal within the Lithgow and Ulan seams, suitable for underground operations. These seams extend into the Mt Penny area.

The area is readily accessed via major bitumen roads and some minor dirt roads and farm tracks. There is a railway line which passes along the northern boundary of the area, which is used as the main coal transport link between Newcastle and the Ulan Coal operations located further to the west.

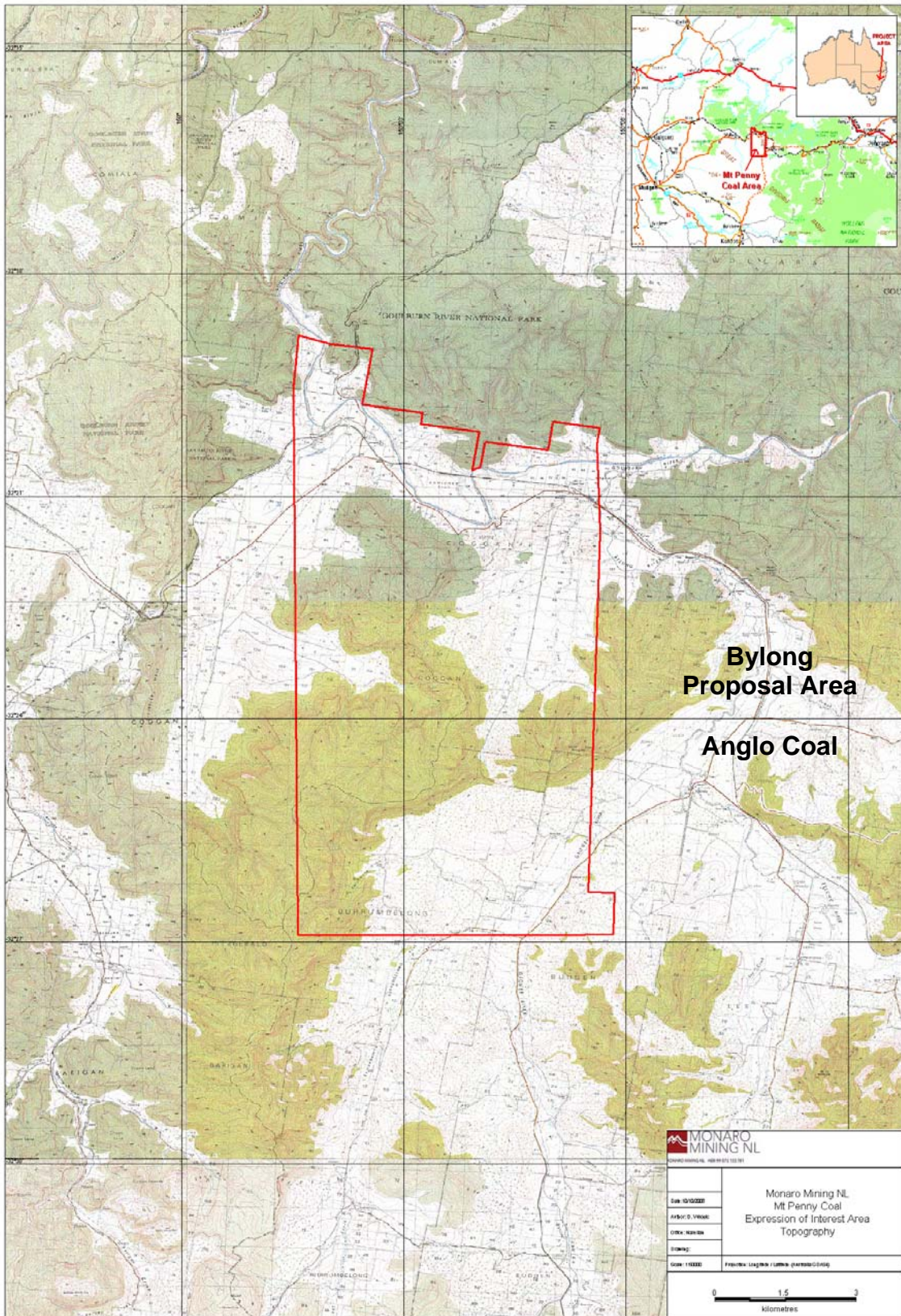
A substantial part of the area, usually the high ground made up the Triassic sandstone plateaus, is heavily forested. The major land use in the Mt Penny area is agricultural - mainly cattle farming.

### **1.3 Mining History**

No mining has occurred within the area of interest.

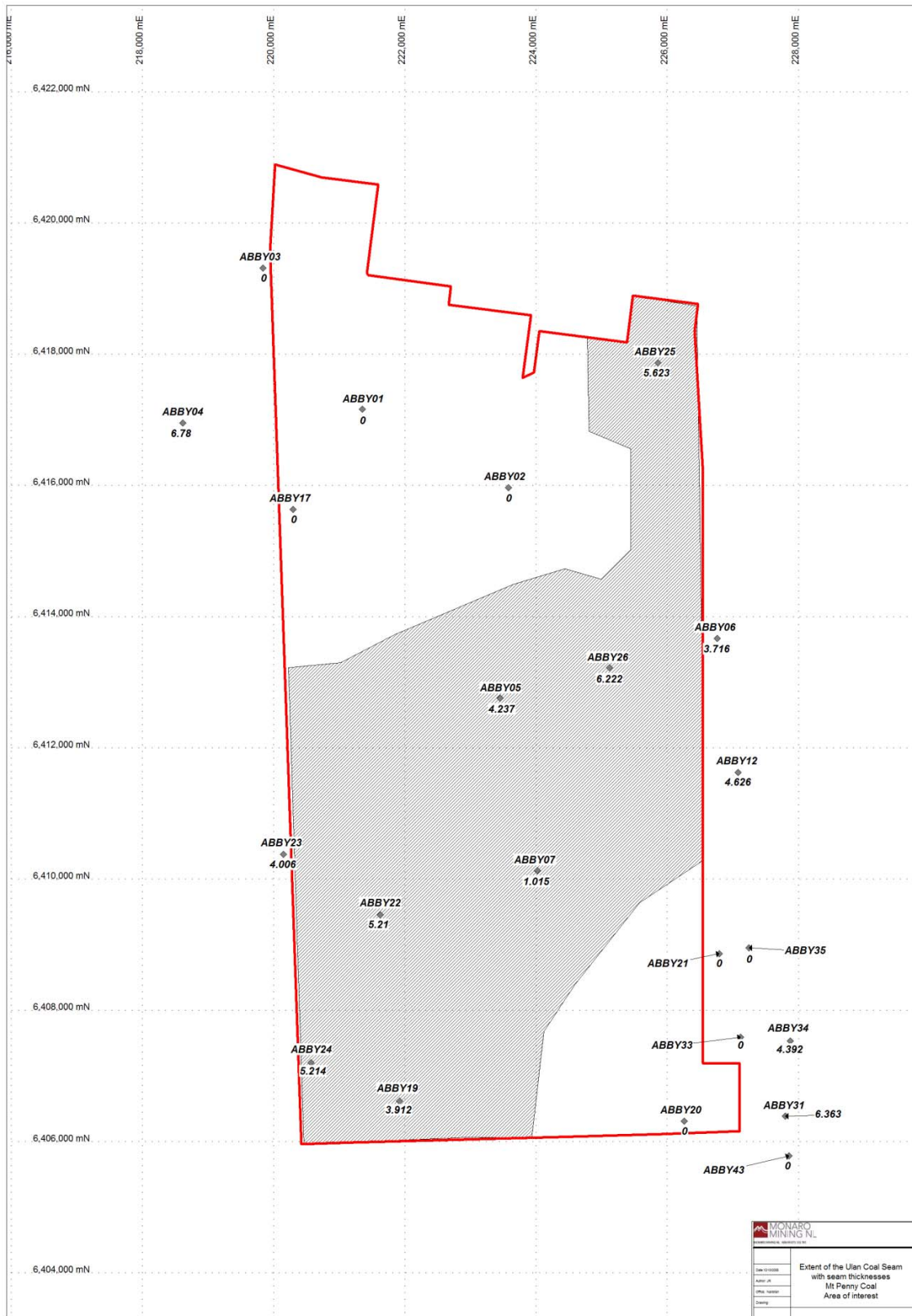
### **1.4 Previous Exploration**

The drilling data for the area is scarce, consisting of 22 holes (Figure 2). These were drilled between 1982 and 1984 by Austen and Butta, targeting the Ulan seam and Lithgow seams. See attached maps. There is no coal quality data available. A review of the data suggests that a number of drill holes may not have reached their target depths, especially in the SE portion of the area.



**Figure 1:** Location and setting of the Mt Penny area





**Figure 2:** The interpreted extent of Ulan and Lithgow coal seams within the Mt Penny area. The thickness of the Ulan Coal Seam is shown below the drillhole location.

## 1.5 Geology

The geology of the Mt Penny area consist of subcropping to outcropping Illawarra Coal Measures occurring in the low lying areas whilst the Triassic sandstone cover of the Narrabeen group forms the more rugged topography. More recent Tertiary Basalts and Quaternary Alluvium occur in the valleys - See figure 3.

The Illawarra Coal Measures usually consist of a number of coal seams, interbedded with sandstones, mudstones, siltstones and occasional tuffs (Figure 4). In the area of interest, the 2 dominant seams are the Lithgow and Ulan seams. These seams dip shallowly to the northeast and east.

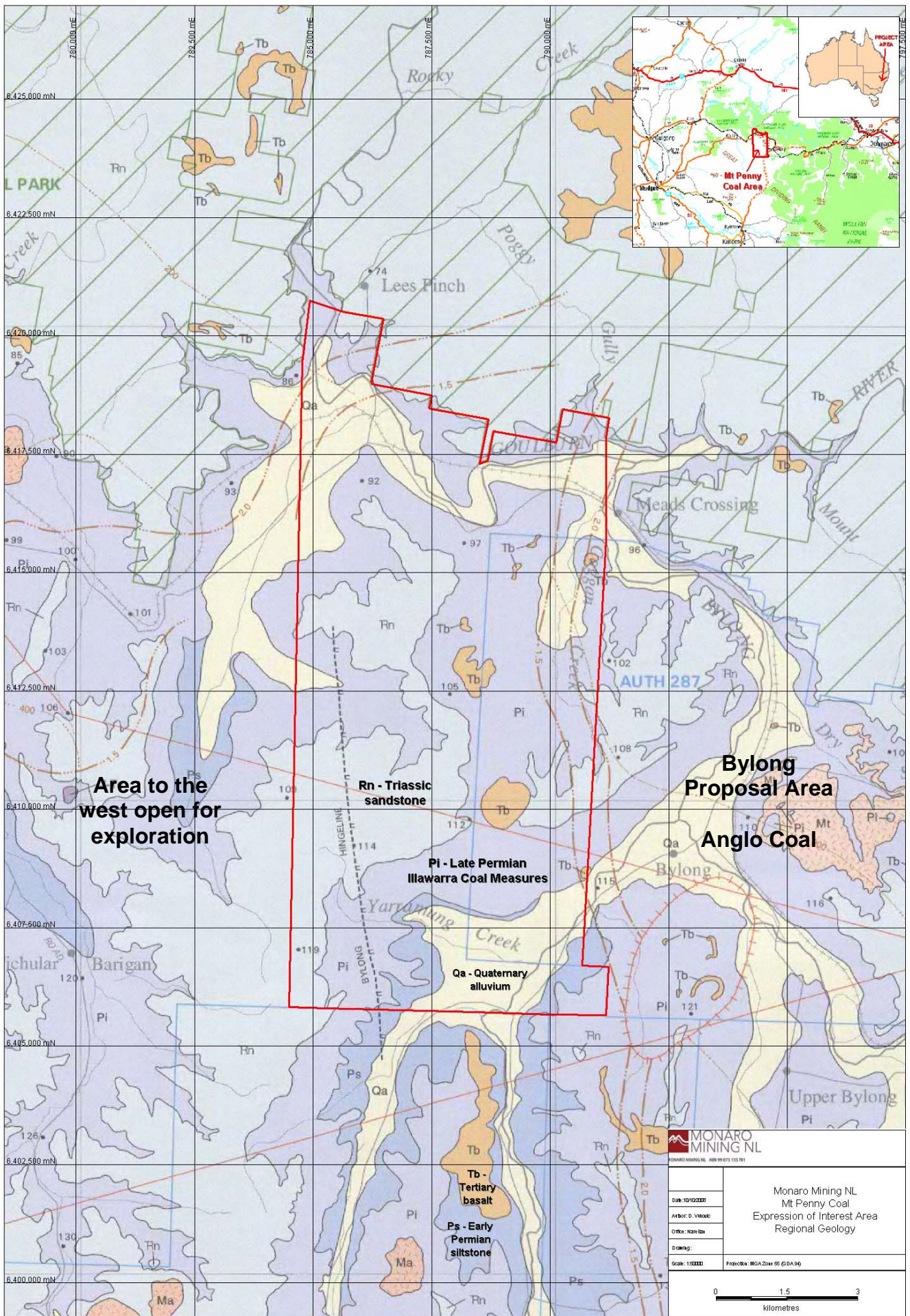
The thickness range of the Lithgow Seam is between 1 and 2 metres, and the Ulan Seam is between 2 and 6m thick. The depth to the top of the Ulan Seam varies from 14m to 272m below surface, whereas the Lithgow seam varies from 15m to 280m below surface. A typical cross-section is presented in Figure 5.

The Ulan Seam is typically a medium to high volatile and medium to high ash coal, where as the Lithgow seam is medium ash, low to moderate sulphur, low phosphorus, thermal coal. Reported specifications for the Lithgow seam within the adjacent Bylong Proposal area are as follows:

Moisture % (ad)	3.0
Ash% (ar)	10.5
VM% (ar)	31.5
TS% (ad)	0.40
SE (k/cal/kg) (Mj/kg)	7050 29.5
AFT (°C) Deform	1530
Flow	1570
HGI	51

*Source: NSW Coal Industry Profile 2008*





**Figure 3: Regional geology**

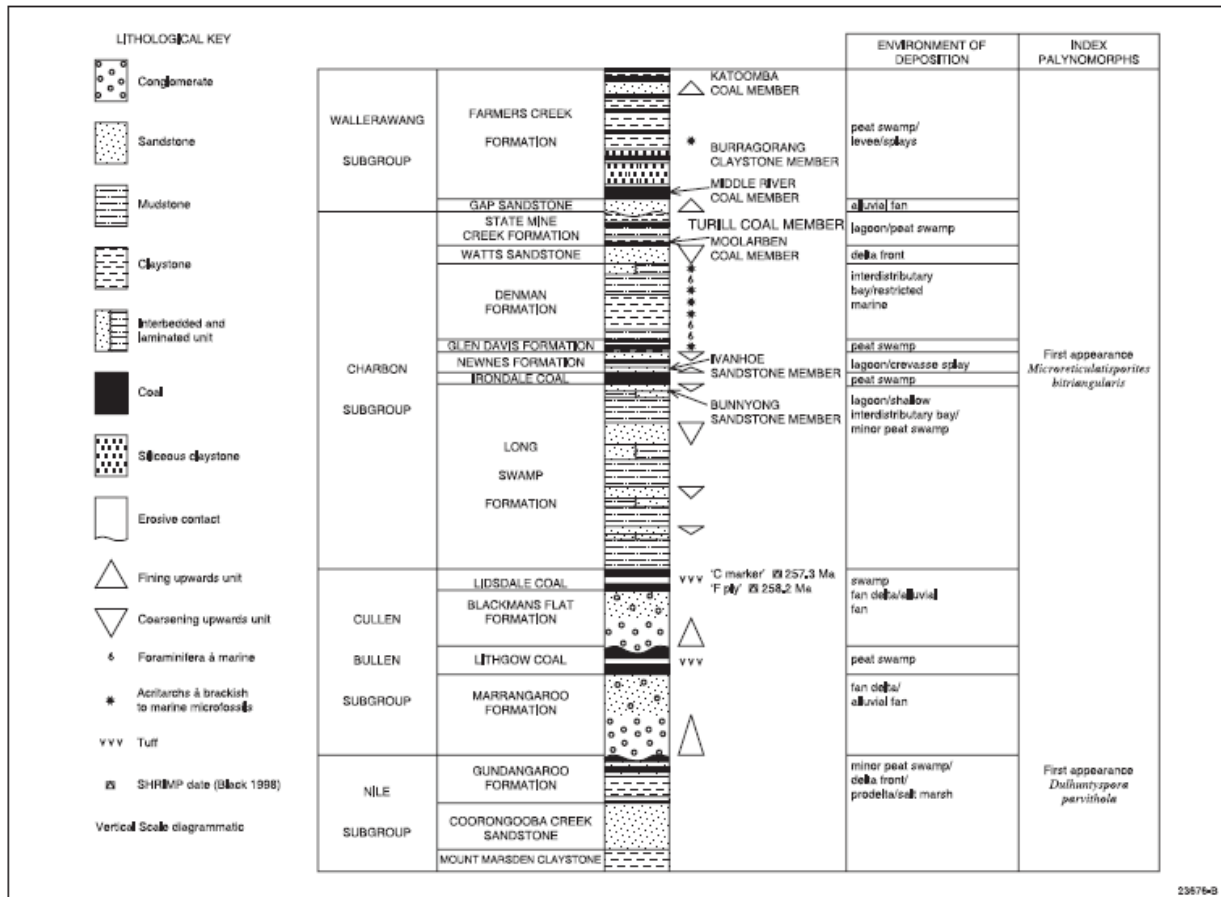
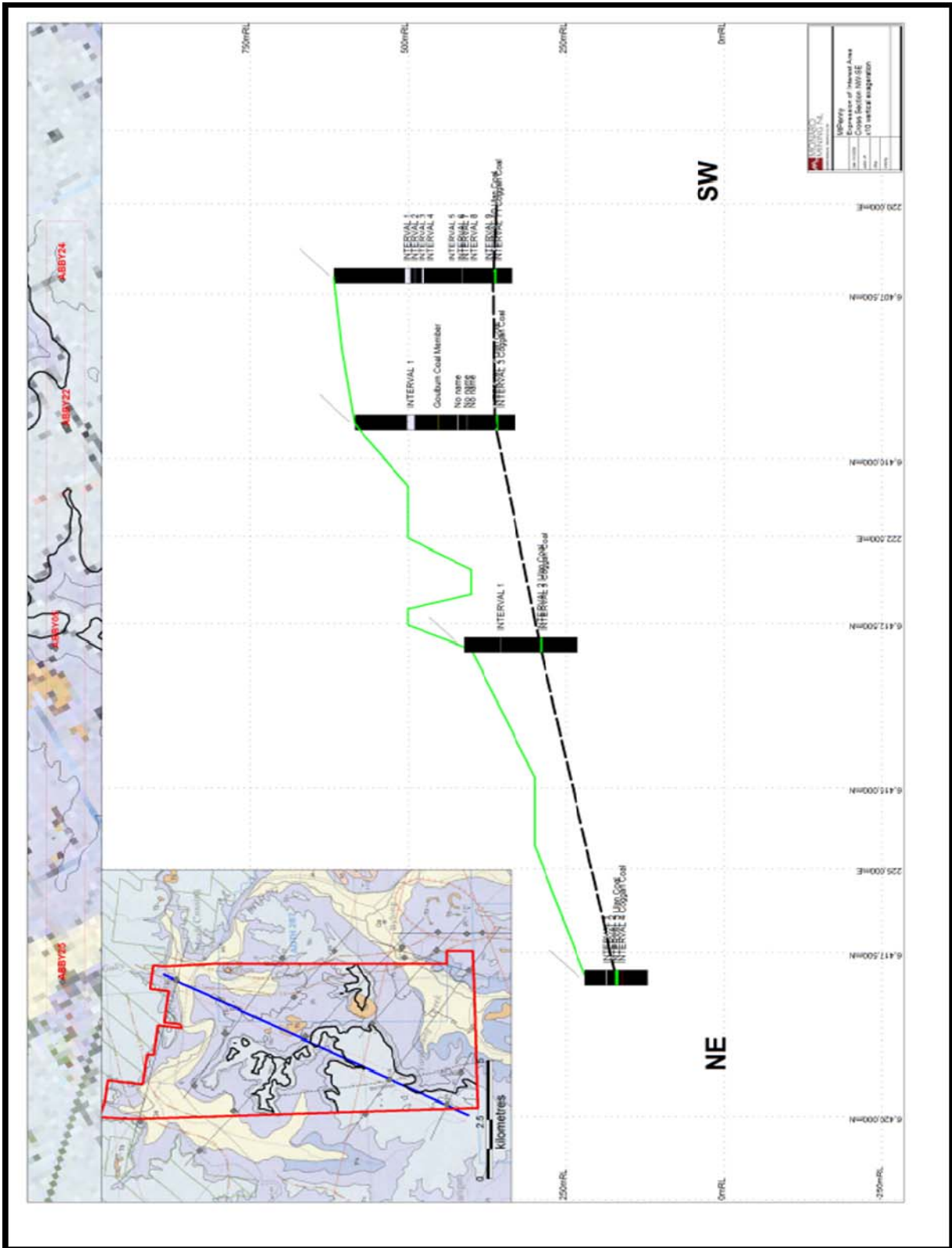


Figure 4: Stratigraphy of the Illawarra Coal Measures. (Source DPI report GS2001/2004)





**Figure 5: Profile of coal seams**

## 1.6 Geophysics

No geophysical prospecting has been carried out.

## 1.7 Environmental Constraints

Environmental constraints are yet to be assessed

## 1.8 Potential Resources

Monaro personnel undertook a first-pass assessment of the potential coal resources at Mt Penny. This estimate was based on the mapped extent of the Ulan and Lithgow coal seams (Figure 2), their average thickness and a bulk density of 1.5. The continuity of the seam in the NE direction can be seen in Figure 5.

**It was estimated that the area could contain in excess of 400 Mt of coal.**

It is concluded that the Mt Penny area appears to be hosts a substantial coal resource which needs further geological exploration and evaluation work to establish a JORC compliant resource. The Lithgow and Ulan seams occur at relatively shallow depths and it appears that an open cut operation could be a viable proposition.

## Disclaimer

It should be noted that statements relating to potential quantity and quality of the coal seams is conceptual in nature as there has been insufficient exploration to define a coal resource and it is uncertain whether further exploration will result in the determination of a coal resource.

In addition, the Company has not yet taken into consideration a number of modifying factors such as mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors, any one of which may render the project in question unviable.