A REVISION OF THE STRATIGRAPHY OF THE WOLLOMBI COAL MEASURES

(Wollombi Coal Measures Working Party of the Coalfield Geology Council of NSW)
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ABSTRACT

The Wollombi Coal Measures Working Party was established in August 2000 with the aim of resolving several concerns regarding the nomenclature of the Wollombi Coal Measures and its use in the Hunter Valley Coalfield. Recent exploration of the upper seams of the Wollombi Coal Measures at Broke and Denman have highlighted miscorrelations in the type bore as well as related issues that rendered the use of Wollombi Coal Measure nomenclature problematic at best, and thus requiring considerable modification. Detailed correlations of tuffaceous strata and seams of the both the Wollombi and the Newcastle Coal Measures have clearly demonstrated their similarity and established that the strata are indeed the same across the northern Sydney Basin. Since Newcastle Coal Measure nomenclature was better understood, more practical in its application and had historical precedence, replacement of the Wollombi Coal Measures with Newcastle Coal Measure nomenclature was proposed by the Working Party.

As a result the Wollombi Coal Measures Working Party recommended the following stratigraphic revisions to the Coalfield Geology Council. At the November meeting of the Council the following resolutions were subsequently ratified:

- That the entire Wollombi Coal Measure nomenclature be replaced with Newcastle Coal Measure nomenclature in the northern Sydney Basin.

- That Amoco Wybong DDH1 be adopted as the “Reference Bore” for the Newcastle Coal Measures in the Hunter Valley.

- That the base of the Newcastle Coal Measures in the Hunter Valley be raised to the top of the Watts Sandstone so as to conform to the same nomenclature in the Newcastle Coalfield. (The Watts Sandstone is therefore retained in Hunter Valley nomenclature and is recognised as the equivalent of the Waratah Sandstone in the Newcastle Coalfield.)

- That the Singleton Supergroup in the Hunter Valley now consists of the Newcastle Coal Measures, the Watts Sandstone and the Wittingham Coal Measures.

Significant outcomes of this work include:

- Miscorrelations identified by previous workers in the Type Bore for the Wollombi Coal Measures (DMDCK11) have been confirmed. Unfortunately these miscorrelations involve the same seams targeted in recent exploration programs at Broke and Denman. It should be noted that the Greigs Creek seam (the only seam name in use prior to the ratification of the Wollombi Coal Measures in 1975) has also been miscorrelated in the Type Bore.

- High-resolution correlations across the northern Sydney Basin have now been identified throughout the Wollombi and Newcastle Coal Measures. This has been a necessary outcome required to support the recommendations of the Working Party. High-resolution correlations of seams below the Great Northern and Fassifern seam equivalents have not been recognised nor published previously.

- Newcastle Coal Measure nomenclature has been successfully applied across both the southern and western perimeters of the Hunter Valley and has been shown to be considerably more practical than the existing Wollombi Coal Measure nomenclature. This included the successful correlation between Amoco Wybong DDH1 (AWYB1) and the recently drilled DM Ridgelands DDH10, DM Sandy Hollow and DM Cuan Ck borehole located several kilometres both west and north (Brunton & Moore 2004). This success represents the most practical test of this proposed revision.

- AWYB1 has been photographed and all seams reconstituted. All significant tuffaceous units and coal seams have been correlated with Newcastle Coal Measure equivalents. As this bore is the suggested “Reference Bore” for the Newcastle Coal Measures in the Hunter Valley it is planned that this data will be readily available from the Department of. Mineral Resources, including being available electronically on the internet.

- A table of suggested correlations for all bores studied by the Working Party have been included to assist future workers in using Newcastle Coal Measure nomenclature in the Hunter Valley. Due to the sparse spacing of relevant bores it is anticipated that such correlations will be subject to review in the future.

- Glen Gallic Colliery, the only mine that has exploited a seam in the Wollombi Coal Measures (Greigs Creek seam), was located in 2001. Both this abandoned mine and a nearby outcrop of this seam were recorded and located using GPS.