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ADVANCES IN MODELLING TECHNIQUES APPLIED TO THE ESTIMATION OF IN SITU TONNES AND PRODUCT TONNES

A.D. Meyers⁽¹⁾, K.R. Leach⁽¹⁾ and T. Wex⁽¹⁾
⁽¹⁾ A&B Mylec Pty Ltd

ABSTRACT

This paper combines the experiences gained through many years of resource based evaluations, working directly with mine site personnel and other mining and geological consultants, to develop robust techniques for the estimation of in situ coal tonnage and final product tonnage to suit typical resource data scenarios, in particular bore core raw coal information.

The paper discusses the mechanisms the authors use to estimate in situ moisture and in situ density following completion of the recent ACARP Project C10042 that developed novel models for these parameters. The project sought to determine a viable empirical measure of in situ density and moisture and then develop models for their estimation utilising a suite of chemical analyses that quantified the key porosity, rank and moisture characteristics. When married to geological volume models, the in situ density and moisture models allows an accurate estimate of in situ tonnage to be obtained.

Plant yield estimates applied to the in situ tonnage result in derivation of accurate product tonnage estimates. It is planned to detail the specific mechanisms utilised for three key yield estimation scenarios. In particular, the generation of mining block washabilities and their simulation, the simulation of individual bore core data followed by contouring and extraction of centroid based quality parameters, and the development of custom ROM ash versus plant yield and other quality based relationships.

**METALLURGICAL
CONSULTANTS**

Reference:

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