EVALUATION OF COKING COALS

*P. A. Bennett, N. Andriopoulos

ALS Coal,
478 Freeman Rd. Richlands Queensland 4077 Australia

Abstract:
Coal producers conduct product evaluations on existing and new coking coal resources for purposes of resource valuation, product determination and product differentiation within the market. While relationships used to derive coke quality from coal properties are useful in initial feasibility studies these relationships are at best tenuous.

Many such relationships have been proposed in the literature and ALS Coal (formally known as ACIRL) has developed several using a database of over 6000 pilot scale (350 kg) and small scale (7kg) coke tests conducted mainly on Australian coals. Over recent years ALS Coal has conducted several ACARP funded research projects. Included in these projects are projects aimed to improve the understanding of the plastic layer formation using the Chinese Plastometer and the Chinese Caking tests; characterising the fused and unfused coke structure by imaging and the modelling coke breakage to allow the determination of theoretical strength parameters from drum indices. Many of these projects have been conducted in collaboration with other Australian research organisations.

Drawing on the results of these research projects this paper aims to add to the understanding of the formation of coke and thus methods for the appraisal of coking coals.

Keywords: coking coal, CRI, CSR, drum indices, coke strength

Acknowledgement: The research projects summarised in this paper were funded under the Australian Coal Association Research Program (ACARP).

* Corresponding author:
e-mail: Philip.Bennett@alsglobal.com
Tel: +61 412057434