



Case Study

Overburden Stracker for Loy Yang Open-Cast Mine

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This case study describes the new overburden stracker in the most recent expansion project of the S.E.C. of Victoria. Design details and technical data are given. Following Morwell and Yallourn, the Loy Yang open-cast mine is the most recent expansion project of the State Electricity Commission of Victoria in the Latrobe Valley coalfield, approximately 120 km to the east of Melbourne.

The Latrobe Valley extends over a length of 30 km at a width of roughly 12 km. A thin overburden of but 20-30 m covers 180 m of almost pure lignite with a mean calorific value of 1,900 Kcal/kg. This equivalent to an overburden to lignite ratio of 1:6. In Europe's best open-cast mines the overburden to lignite ratio is 1:4. The large-scale open-cast mine currently being developed at the Hambacher Forst between Cologne and Aachen in West Germany will even have an overburden to lignite ratio of 6:1. Even though the overburden in the Latrobe Valley is not very thick, substantial problems are being encountered in connection with its extremely adverse physical and chemical properties and difficulty of handling it. The overburden predominantly consists of adhesive clay and tends to form lumps in size of up to 1 m diameter at a weight of approximately 1 t. During the dry season the clay becomes as hard as concrete and entrained sand makes it extremely abrasive.