

Wood Chips & Coal

COVEY CASE STUDY

The Port of Bunbury had been exporting bleaching quality eucalyptus wood chips for some years. It then wanted to export coal as well and to use the same ship loader for both products. The chip producers were concerned about contamination and took legal action to prevent the Port from proceeding.

Covey Consulting were engaged as expert witnesses to provide an opinion on the degree of contamination that was likely and on the consequences in terms of pulp quality and hence of potential loss of markets for the wood chips.

Our study involved two distinct considerations: the likelihood of contamination and the ease of removal of contaminants.

Possible sources of contamination that were considered and quantified where possible included, residual coal in the conveying and loading system. Drift from spillage on adjacent roads and airborne dust from one storage area to another.



Studies on removal of contaminants included both theoretical and experimental assessments of the effects of various types of equipment to be found in the chip handling and pulping areas of kraft pulp mills. It was found that most types of equipment normally used in pulp mills had limited effect on coal removal. One possible point of coal removal after pulping was in centrifugal cleaners. However, existing theory of cleaner operation was inadequate to give other than a general indication of performance in this role. Therefore theory on segregation in centrifugal cleaners (or Hydrocyclones) was adapted from that used in the mineral industry for the quantitative estimation of the separation of coal and wood fibre.

Having determined the possible degree of contamination and the scope for removal of contaminants, we then assessed the effect of this residual on pulp brightness and dirt count and to assess the effect of this on the desirability of the final product.

