

**Clients: Geelong Cement and Scori Environmental Services**  
**Project: Cement Kiln Dust Market Evaluation**

## CLIENTS

Geelong Cement, a division of Adelaide Brighton Cement Ltd, is one of Australia's largest suppliers of portland cement. It operates a cement manufacturing plant in Fyansford to the west of Geelong.

Scori Environmental Services (SES) is one of Australia's leading waste management companies, operating principally in the hazardous industrial waste field.

## BACKGROUND

Cement kilns at the Fyansford plant are presently fired by a combination of natural gas and substitute fuels. The latter fuel comprises blended liquid organic waste, typically waste solvents and oils, collected by SES from a variety of industrial premises.

Cement kiln dust (CKD), a by-product of cement manufacture, has up until recent times been largely sold by Geelong Cement as a lime potash to the agricultural sector. The increasing use of substitute fuels has led to a progressive increase in the content of some heavy metals in the CKD. This situation has jeopardised the supply of CKD to the agricultural market.

## PROJECT OBJECTIVES

The main objectives of the study were to evaluate existing uses, and identify new and substantial markets for the CKD that are not influenced by its trace element chemistry.

## KEY ACTIVITIES

- ❑ An examination of existing chemical and mineralogical data for the CKD was initially undertaken.
- ❑ Additional analytical work was conducted to better characterise the physical, mineralogical and chemical properties of the CKD.
- ❑ A comprehensive literature review was performed to identify a range of potential market sectors.
- ❑ Discussions were held with various government agencies to gain an understanding of heavy metal limits applying to the land application of CKD.
- ❑ Potential markets were prioritised to produce a short list satisfying the immediate and longer term needs of Geelong Cement.
- ❑ For each priority market, key potential users were identified, contacted and provided with data to assist in the evaluation of the CKD.
- ❑ Alternative approaches to CKD management were identified and a preliminary evaluation conducted.

## OUTCOME

More than twenty potential market sectors were identified and nearly forty key potential users contacted during the course of the study. While the findings of the study remain confidential, we are able to report that the CKD was under evaluation by potential users within six market sectors at the completion of the study. A number of dry and wet particle size segregation processes were identified that could potentially expand upon existing markets adding value to this material.