Waste Classification of Metal Flock for Metal Recyclers

Entech was approach by one of Australiaâ€™s largest coal producers to assist with the consolidation of reporting waste management information. At the time they had a fragmented waste management structure with numerous suppliers providing different services. As a result, they were not able to report accurately on commercial, regulatory or environmental performance of their waste management practices.Entech implemented its state-of-the-art TWM, waste and resource tracking software system that streamlined waste reporting.

The Problem

Recycling of ferrous and non-ferrous metal is one of the worlds largest recycling industries. This typically involves the shredding of scrap metals to produce a mixture of metals for recycling along with a residue termed â€œflock.â€• This material typically consists of products such as metal, timber, paper, ceramics, plastics, thermosets and composites.

This waste product can contain elevated levels of specific contaminants including petroleum hydrocarbons, lead, zinc, chromium, nickel and plasterers such as ethyl phthalate in the â€œfinesâ€• fraction.

Entech was commissioned by an Australasian scrap metal recyclers to accurately characterise shredder flock to confirm its applicability for landfill disposal.

Our Solution

The management of wastes in NSW is regulated by the NSW Department of Environment, Conservation and Climate Change (DECC) Protection of the Environment and Operations Act, 1997 and associated regulations. Under POEO the classification and disposal options for wastes are stipulated under the Environmental Guidelines: Assessment Classification and Management of Liquid and Non-liquid Wastes (Guidelines).

In order to classify the shredder floc waste in accordance with the above-mentioned guidelines the following project methodology was adopted:

- Establishment of a statistically relevant sampling and testing regime;
- Undertake Stockpile sampling;
- Analysis of the waste for nominated contaminants at a NATA accredited laboratory;
- Classification of the waste against the criteria in the above-mentioned Guidelines based on a weighted average;

The Outcome

A statistically significant range of shredder flock samples were collected over a period of 1 month. The wastes was screened into various size fractions and the individual fractions were chemically assessed. The weighted average of the analytical results was then used to classify the waste as being suitable for disposal as General Solid Waste.