ElectronicScrap Process

Populated printed circuit boards, and other precious metal bearing electronic components.

Engelhard at Cinderford developed a process for treating electronic scrap in the early 1980's. The process was based on recovering precious metals from circuit boards and components taken mainly from main frame computers. That process is proving equally useful in the 21st Century. The market in electronic devices has transformed into both consumer and business applications. European legislation has insisted that electronic devices are safely recycled rather than being landfilled. The process at Cinderford is now used to treat components from personal computers, laptops, mobile telephones and provides a safe and reliable route to recover precious metals.

Rotary crusher cuts scrap into Fragments pass into a sampler via a rotating tube. Sample for assay proportion of the whole batch. The calciner burns off the plastics and reduces the raw, metallic scrap to an oxidised ash.

A bucket elevator carries the ash to the top of the tower for the following gravity-dependent processes. Computer analysis determines the precise types and amounts that must be mixed with the fines to optimise melting. The powdered mixture is sprayed with water in a Heavily sound-proofed vibratory crusher contains pelletiser which rolls it into marble-sized steel bars which reduce ash balls - the best to particles of various sizes. form for melting. The pellets are then After sieving dried in a heated the larger chamber. particles fall past a rotating electro-magnet. The 'fines' are passed through another sampler. of fines is analysed and the results fed into a fraction for metal bars for First two fractions to melt shop, for separate



Pure precious metal bars. 15

The Chemical Company