The Problem

A by-product of petroleum refinery operations is acid sludge, a black mixture of asphaltic hydrocarbons, sulfuric acid and water. This material is highly corrosive and would cause disastrous contamination in any disposal area.

The Preferred / W. N. Best Solution

Long before “being green” became a national concern, Preferred W. N. Best developed equipment for a process designed to recycle this waste. Not only does this process eliminate a critical disposal problem, it pays important dividends in the form of fresh, white, 99% sulfuric acid. The heart of this regeneration process is the Preferred/W. N. Best acid sludge atomizer which was designed specifically for this application. Built of acid-resistant materials, it has a range of sizes to handle from 100 to 7,000 gallons of sludge per hour. This unique atomizer utilizes centrifugal force combined with a blast of compressed air to break the sludge into a mist of minute droplets which is blown into a refractory lined furnace.

This atomized waste is burned in suspension. In most instances supplementary fuel is used to augment the hydrocarbons in the sludge to maintain the required 2200° F furnace temperature. When the waste has an adequate hydrocarbon content the firing of the supplementary fuel is discontinued and the combustion of the sludge becomes self-supporting. The hot gas is drawn from the furnace through a series of stills, scrubbers, heat exchangers and other apparatus which reclaims the sulfur and otherwise cleans and cools the gas before it is released to atmosphere.