

# SOIL REMEDIATION IN BOHUS, SWEDEN



For Eka Chemicals AB a plant for thermal soil remediation is being erected.

The plant will be put into operation in spring 2000.

25.000 tonnes of soil, contaminated with mercury, will be cleaned.

Götaverken Miljö AB delivers a complete plant including rotary kiln, after burning chamber and flue gas cleaning with integrated MercOx-system for reduction of mercury.



Rotary kiln during erection

Condensers during erection

#### PLANT DATA

Stationary plant for thermal soil remediation including rotary kiln and after burning chamber.

Capacity: 2 tons of soil per hour

Off gas cleaning: Filter, condensers, gas scrubber and the MercOx-system .

### Götaverken Miljö AB builds the most advanced plant for cleaning of contaminated soil

Eka Chemicals in Bohus, Sweden, is a chemical industry mainly providing chemicals to the pulp and paper industry. In the manufacturing process electrolysis is used as base thus including the use of mercury. During the early years of the business the awareness of the mercury's harmful environmental influence was not as great as today. Therefore the mercury can be found in the local environment surrounding the industry. During the last 5-6 years mercury containing soil from construction activities, has been placed on a disposal site situated on the industrial estate, in total approximately 25.000 tonnes of soil contaminated with mercury and dioxins.

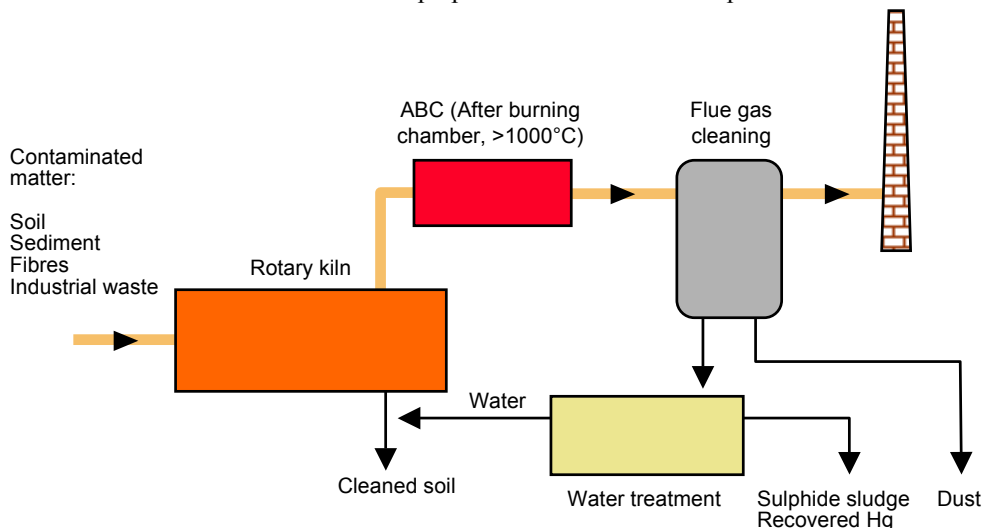
During the next three years a soil remediation plant using the MercOx-process will gradually clean the soil. The plant is the first one of its kind in Sweden and is an example of Götaverken Miljö AB's new emphasis in the soil remediation sector.

The contaminated soil is heated and the contaminants evaporate into the off gases. The cleaning level of the off gases reaches up to more than five times lower values than those stipulated in EU's new, very stringent legislation for hazardous waste plants. Götaverken Miljö is now gaining the leading position in Scandinavia regarding plants for remediation of contaminated soil.

#### Process description

The high concentration of mercury will require a special combination of processes. The basic idea of this combination came from Eka Chemicals and has been further developed together with Götaverken Miljö. Together with Forschungszentrum in Karlsruhe, Germany, Götaverken Miljö has developed a new process called the MercOx-method. By using this method the recovery of mercury is improved at this type of plants.

From a storage close to the plant the soil is transported on a conveyor belt via a feeding screw into the rotary kiln. The rotary kiln, heated with LPG, rotates three times per minute and has a slight underpressure. The off gases, formed at the heating process, are then filtrated, condensed and cleaned in a gas cleaning system consisting of several stages. By means of an oxidizing agent, the mercury is separated and bound in the following MercOx-process. The last stage at Eka Chemical's soil remediation plant consists of two activated carbon filters as safety device if any mercury should remain. The MercOx-process considerably reduces the strain on the carbon filters. Furthermore Eka Chemicals will be able to keep up with the demands of sulphur dioxide emissions.



#### GÖTAVERKEN MILJÖ AB

Postadress/Postal address • Box 8876, SE-402 72 Göteborg, Sweden Besöksadress/Visiting address • Anders Carlssons gata 14  
 Telefon/Telephone No • 031-50 19 60, Int. +46-31-50 19 60 Telefax • 031-22 98 67, Int. +46-31-22 98 67

www.gmab.se