



BACKGROUND

In the early 1990s, Barenco designed and built a *mobile waste management system* which was operated by an associated company called Soil Recycling Company. This initiative was in response to the severe shortage of landfill space in the greater Toronto area and the resulting high cost of landfilling.

THE REMEDIATION

Barenco applied *Low Temperature Thermal Desorption*

(LTTD) technology to treat non-hazardous waste soil that was contaminated with petroleum products, including non-halogenated spent solvents, fuel oils and oily wastes. In this process, contaminated soil was fed through a primary treatment unit where it was tumbled in a drum while heating occurred. Rather than try to incinerate materials that have low heating values, the LTTD evaporated the volatile organic compounds at low temperatures. Clean soil was discharged from the drum while the hot air containing the evaporated organics was drawn from the primary treatment unit into high efficiency cyclones for dust removal.

A secondary treatment unit then heated the gases to destroy the organics by oxidation. Finally, the gases passed through a cooling chamber and baghouse to remove the fine soil particles from the discharge air.



THE RESULT

The product of this process was clean soil which could be used for a number of purposes, from backfilling the original excavation to commercial applications. Barenco's Soil Recycler received Ontario's First Mobile Certificate of Approval from the Ministry of the Environment and was the first thermal treatment unit for reclamation of contaminated soil. Through an agreement with the City of Toronto, it was sited at the Keele Valley Landfill where it received and successfully recycled over 40,000 tonnes of petroleum contaminated soil.

B A R E N C O

Environmental Engineering
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