

Project Data

Region: Puglia / Italien

Client: Syndial Spa (ENI Group)

Involved Units: Bilfinger Berger Ambiente Srl,
ARE Deutzen GmbH

Bilfinger Berger Entsorgung Nord GmbH

Execution Time: November 2006/ September 2008

Contract Value: 18,0 Mio. EUR

Work Performed

Excavation, transport, thermal treatment and final disposal of 100,000 t of soil contaminated by Caprolactam



Site Remediation and Disposal Services Manfredonia, Italy

Services for Contaminated Sites and Waste Producers

Waste Management

Project Background:

From 1970 to 1980 the Enichem Agricoltura SpA, a wholly owned subsidiary of the Italian state-owned ENI Group, operated a Chemical Plant for production of Caprolactam, situated in Manfredonia, in the south of Italy. All of the residues deriving from the production process were stored in several landfills on the site since the production in Manfredonia first started.

In the beginning of the '80s the Chemical Plant was closed and the need for site remediation was given.

Remediation Works:

In 2006 Bilfinger Berger Ambiente Srl participated successfully in a call for tenders offering a turn-key remediation concept for the residue landfills in Manfredonia. The remediation concept considered the whole process chain and was optimised regarding economical and ecological requirements, beginning with the separation of the contaminated material during the excavation process, proceeding with providing the transportation logistics to several Italian and German facilities for treatment and disposal of the waste and closing with the proper treatment and final disposal of 100,000 t of material. Bilfinger Berger's activities on remediation of the landfill „Isola 12“ started with the adjudication of the tender in September 2006.

The area of „Isola 12“ was divided in plots of roughly 1.200 m³ showing different levels of contamination. Straight after excavation samples were taken from the contaminated material just before the material was loaded in fully sealed and covered containers and transport to the treatment and disposal facilities started. To be able to assure the necessary transport capacities during the whole execution time Bilfinger Berger designed a highly cost and time efficient logistics chain.

Material with a high level of contamination was taken to the company-owned thermal treatment plants situated in Bremen and ARE Deutzen GmbH Deutzen (Germany) using an intermodal transport system (road - train - road). After thermal treatment the cleaned material was properly reused or disposed on German landfills.

Besides the challenge of assuring the logistic concept emphasis had to be given on dealing with odorous gas emissions caused by highly volatile organic substances. Also for this problem a convenient and tangible solution was offered: the workers on the site in Manfredonia were equipped with a personal monitoring system, and as the thermal treatment plants of ARE Deutzen are equipped with enclosed and special encapsulated storage areas (partly) the surrounding area was protected against unpleasant odours.

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