

# Case Study

## CETCO LINING TECHNOLOGIES



**PROJECT:** Coal Ash Disposal – Midwest Utility

**LOCATION:** Central Illinois

**PRODUCTS:** Bentomat® SDN Geosynthetic Clay Liner (GCL) and a high density polyethylene (HDPE) geomembrane

**CHALLENGES:** To contain coal combustion by-products (CCB) and deliver the project on time when there are uncontrollable delays

Hanson Professional Services, Inc. was challenged with the design of an engineered lining system to contain coal combustion by-products (CCB) generated by a utility plant in central Illinois. Increased use of coal to generate electricity has increased the production of CCBs. A various amount of metal ions are released from CCBs, some of which can leach to the environment. A pond and landfill would be lined with suited product to store the CCBs at this location.

The engineers were faced with a few challenges. Due to the high inorganic and heavy metals in the waste, both the pond and the landfill required low-permeability liner systems to eliminate releases to the environment. The engineers also needed a system that would perform to their specifications on a 3:1 slope for the sides of the landfill. In addition, poor weather delayed project startup, compressing the overall construction schedule. These challenges resulted in concerns that the new facilities would not be completed in time and would not be permitted to accept waste.

Engineers worked with CETCO to provide a solution. Geo-Synthetics, Inc. (GSI) installed approximately 2.5 million ft<sup>2</sup> of Bentomat® SDN, a CETCO geosynthetic clay liner (GCL), in the gypsum management facility and CCB landfill. A high density polyethylene (HDPE) geomembrane was installed over the GCL to create a state-of-the-art composite liner system. Given the time constraints, the Easy Roller™ GCL deployment system was used to speed installation. Laborers were no longer needed to assist GCL in deployment, and installation on the slopes became much less labor intensive. This increased productivity and allowed more manpower to be allocated to geomembrane installation. The ease and speed of the install, combined with an engineered lining system, allowed for an early completion of the project and exceeded all owner expectations.



**CETCO Lining Technologies**

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