



## Mining Phola Coal Processing Plant Mpumalanga

### Case Study

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<b>Project:</b>	Phola Coal, Ogies	<b>Date:</b>	September 2008 ongoing
<b>Client:</b>	BHP Billiton and Anglo American	<b>Product:</b>	<b>EnviroFix™ X800</b> } 207 883 m <sup>2</sup> <b>EnviroMat™ X800</b> } <b>Rock PC 100/100</b> – 1 500 m <sup>2</sup>
<b>Engineer:</b>	Semane Consulting Engineers		
<b>Contractor:</b>	WBHO Civils		

Construction of the new Phola coal processing plant has begun in Mpumalanga. Mining giants BHP Billiton and Anglo American are joint 50:50 partners in the plant, which is expected to be completed in the second half of 2009.

The Phola coal beneficiation plant in Mpumalanga is a 16-million tons per annum coal washing facility that services coal from two mines, Klipspruit and Zondagsfontein. The contract, which is with joint venture partners BHP Billiton (BECSA) and Anglo Coal, commenced in February 2009.

The scope of works covers the handling of ROM coals, coal processing, product loading for road and rail transport, the management of OEM's sub-contractors, discard and tailings facilities, procurement and stores facilities. The Phola coal processing plant will replace the existing Rietspruit coal washing plant.

Semane Consulting Engineers specified a dry 15 % bentonite mix into the soil as a liner for the pads. Because of the porous nature of the in-situ soil, **EnviroMat X800** was selected by the contractor to line a total of eight pads. Each drying pad used approximately 28 000 m<sup>2</sup> of local and imported GCLs. The contractor negotiated on behalf of Kaytech to use our GCL for ease of installation and the huge cost saving that they could offer to the client.

Kaytech supplied 119 264 m<sup>2</sup> **EnviroFix X800** locally produced in Atlantis, Cape Town, and had to import a total of 88 618 m<sup>2</sup> **EnviroMat X800** to meet required deadlines.



The GCL was placed by use of a spreader bar and a layer of 300 mm-compacted soil was placed over it.

In some areas the ground water level was approximately 300 mm above the excavated level. The subgrade indicated that the bearing capacity was very low with the in-situ soil being too soft to construct the drying pads and structures above. Reinforcement was needed to ensure a stable surface, without any future settlement. The top 500 mm of in-situ soil was removed and a **Rock PC 100/100** composite reinforcing geotextile was placed with G4 material on top. The PC 100/100 provides separation between the in-situ soil and G4 fill, as well as providing load support.



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Rock PC being laid with cover layer.

