

SUBSOIL DRAINAGE AND CONTAINMENT SYSTEM BENEATH A CALCINE DUMP

NATURE OF INTERVENTION

The protection of ground water systems beneath industrial waste storage facilities is of paramount importance when designing the new generation of facilities.

Designs must take account of the natural environment and allow the continued natural free flow of ground water whilst ensuring it remains uncontaminated and largely undisrupted, in all considerations, by the construction and long-term presence of new or extended facility.

Historically, these lining systems have incorporated a combination of polymer liners together with the use of a wide range of natural granular materials to fulfill the various functions. These have often proved to be cumbersome to install, expensive and difficult to procure and not very effective over the long-term period.

Through the introduction of various Geosynthetics products, to replace conventional construction materials, durability, cost and performance of composite liner systems has greatly improved leading to lower maintenance requirements and improved utilisation efficiencies over extended design and operational lifespans.

Location:

Witbank, Mpumalanga, South Africa

Products:

- *HDD 10 105 10F cuspated sheet with bonded cover geotextile;*

Quantity:

45 000 sqm footprint

Application:

Subsoil drainage and containment

Date:

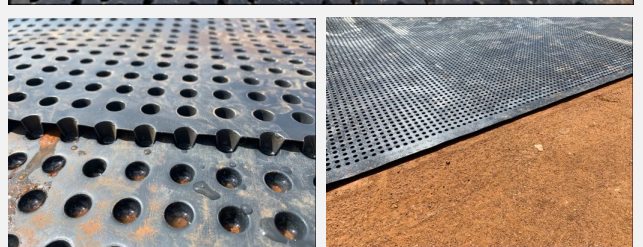
November, 2020

SOLUTION

HDD 10 105 10F, TeMa's 10mm high, Polyolefin-based cusped drainage membrane, with bonded cover geotextile, was laid along the floor area with the geotextile facing downwards. This layer collected and, in conjunction with the overlying compacted clay layer and geomembrane liner, contained any rising ground water. This was then diverted into a network of subsoil drainage trenches that removed the water from the area thus preventing contamination.

HDD 10 105 10F was a tailored grade of the product specifically developed for the unique conditions of the project. Modifications included a higher mass core, for higher compressive strength, and customized geotextile, to ensure adequate through flow and separation.

The use of the TeMa Geosynthetic products, provided significant benefits over other conventional natural materials to the project in terms of cost, ease of installation, long-term durability and a reduction in construction time.



TeMa South Africa (Pty) Ltd

79 Watt Street, Meadowdale, 1609, SOUTH AFRICA
Tel: +27 (0) 72 873 0101
Email: temaSA@temacorporation.com

Web site: www.temaSA.co.za

TeMa Technologies and Materials srl

via dell'Industria 21 – 31029, Vittorio Veneto (TV), ITALY
Tel: +39 0438 5031
Email: info@temacorporation.com

Web site: www.temageo.com