



GEOFABRICS CASE STUDY



GEOSYNTHETICS STRENGTHENS HAUL ROAD FOR EXTREME LOADS

PRODUCTS USED

Presto Geoweb® Cellular Confinement Geocell System

- Made from robust UV resistant high-density polyethylene (HDPE), the system contains a network of interconnected cells that confine and compact soil
- Quick installation through the use of patented ATRA clip connection system or high strength tendons, saving on installation costs
- Eco-friendly soil stabilisation solution that blends into the natural environment
- Reduces the thickness of structural support elements by 50% or more

Mirafi® H2Rx Multifunctional Woven Geotextile

- Made from high tenacity polypropylene yarn, providing superior separation, mechanical stabilisation, and moisture management for road pavements and railway structures
- Separates and prevents the intermixing of subgrade soil and structural gravel layers
- Advanced wicking technology quickens moisture removal and drains moisture to prevent cracks, potholes and frost boils
- Equalises moisture content in expansive clay subgrades, preventing differential heaving and shrinkage that cause pavement stress
- High tensile modulus mechanically strengthens road pavement for longer design life

MIRAFI® is a registered trademark of Solmax.

PROJECT DESCRIPTION

Geofabrics was requested to provide a geosynthetic solution for a haul road experiencing the heavy axle loads of a CAT 745 dump truck. The existing subgrade was soft and highly variable, with one section unable to support the weight of the dump truck, causing its rear axles to sink into the subgrade.

The client required a reinforced pavement structure capable of improving load distribution and maintaining long-term performance under extreme conditions.

OUR SOLUTION

Faced with heavy axle loads and a weak, highly variable subgrade, Geofabrics recommended a geosynthetic solution combining a wicking geotextile, Mirafi H2Rx multifunctional woven geotextile and Geoweb cellular confinement geocell system. The H2Rx geotextile reinforced the pavement while drawing excess moisture away, and the Geoweb geocell provided exceptional aggregate confinement, ensuring long-term stability.

Working closely with Presto Geosystems, Geofabrics proposed a design that met the client's requirements. The H2Rx geotextile was directly placed on the subgrade, followed by a layer of gravel and the Geoweb system.

A total of 1,000 m² of geosynthetics was supplied for this project, creating a robust pavement capable of withstanding the heavy axle loads of the CAT 745 dump truck, even on challenging subgrade.

By using geosynthetics, the pavement thickness was reduced by over 50%.



1,000m²
of geosynthetics
installed

Robust
pavement for
heavy axle loads



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Sustainable solutions

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