TENCATE Mirafi®

Spring 2017

TenCate Mirafi® H_2Ri

Completed roadway with Sukakpak Mountain

See more of Geo the Gopher's Photos

Expert Corner

TenCate was the Platinum Sponsor at Geotechnical Frontiers 2017, the biggest geosynthetics show in the industry. We hosted a cocktail reception inside the Orlando Aquarium and I was taking pictures and swimming with the fish.

AKDOT & PF Final Report – December 2016

DALTON HIGHWAY MP197-209 REHABILITATION

The Alaska DOT&PF recently issued a final report entitled "H_2Ri Wicking Fabric Experimental Feature Final Report – Dalton Highway MP 197-209 Rehabilitation." In this project, Mirafi® H_2Ri – a geotextile with unique hydraulic wicking properties – was used to address drainage issues that led to regular occurrences of differential frost heaving.

"overwhelming success"

"Mirafi® H_2Ri wicking fabric saved AKDOT $2.5M!"

"effectively moves ground water out of embankment."

"validated tool in the toolbox"

"The reinforcement benefits… act in concert with the hydraulic benefits"

Mirafi® H_2Ri Product Spotlights

Application: Capillary Break/Wicking **Location:** Coldfoot, AK

The Alaska Department of Transportation (AKDOT) continually faces frost heave problems in their roadways. The Dalton Highway serves as the only road between Fairbanks and Deadhorse, parallels the Alaska Pipeline, and is a critical link in supporting the needs of moving oil from the North Slope to the lower 48 states.

The road experiences extreme cold and is in a constant state of repair as fresh frost heaves appear both in the road and adjacent tundra.

12" of aggregate over Mirafi® H_2Ri was detailed out with a 6" daylight section on both sides of the embankment. Since water wicks in the direction of decreasing pressure, it will find its way to barometric pressure and evaporate. Mirafi® H_2Ri geosynthetic is also expected to perform as a capillary break as water rises via capillary action in the subgrade, and is also designed to prevent the formation of ice lenses in the roadway as water continually moves to the sides of the road in a lateral fashion.

TENCATE Mirafi®

The Energy Update

The 2017 World of Coal Ash last month in Lexington, KY was another success! The conference is the 7th joint biennial meeting with a focus on the science, applications and sustainability of worldwide coal combustion products (CCP's) as well as gasification products.

The Environmental Protection Agency's 2015 final ruling regarding disposal of coal combustion residuals from electric utilities has resulted in the planning and closure of numerous ash surface impoundments. Common methods of closure in place include 0.46 m (1.5 ft) of compacted clay with 0.15 m (0.5 ft) of vegetated cover. Geomembranes and geosynthetic clay liners are often considered as viable, cost effective options to clay.

Learn more about how high strength, woven geotextiles offer a safe, cost effective and thoroughly engineered solution.

Mirafi® H_2Ri Product Spotlights

Application: Railway Reinforcement **Location:** Edmonton, Alberta

Canadian Pacific's (CP) recently identified a section of track on a site located 30 minutes, northeast of Edmonton, Alberta that was subject to track settlement, resulting in cross level variations.

Moisture was present in the subgrade and surrounding area, and signs of mud-pumping were apparent along the track surface, indicating that the wet conditions were accentuating the process of subgrade attrition and that the sub-ballast was no longer performing properly.

They decided to incorporate Mirafi® H_2Ri wicking geosynthetic at the subgrade and Mirafi® RS580i at the sub-ballast/ballast interface, which resulted in a 43% reduction in the amount of ballast and sub-ballast required.

Mirafi® H_2Ri was placed on the prepared subgrade, backfilled with sub-ballast, and compacted in under 90 minutes. Finally, placement of the Mirafi® RS580i, reconnection of the track panel, ballast placement, ballast compaction and grade correction with the regulator was performed in 4 hours.

Application: High Water Table – Subgrade Stabilization **Location:** St. Louis County, MO

A new bridge was being constructed over the Missouri River where saturated soil conditions required water to be removed from under the pavement section at the bridge approaches. The Missouri DOT design build team originally designed a pavement section that included a concrete section over 4" of road base aggregate, 4" layer of drainable aggregate, and a prepared subgrade. Mirafi® H_2Ri geosynthetic allowed for an overall 2" reduction in aggregate base material along with the ability to wick water from under the pavement. The initial installation of Mirafi® H_2Ri began on a Thursday and was completed along with the placement of 6" of compacted aggregate. The day after the geosynthetic was placed, the project site received 1⁄4" rainfall and wicking was evident where the Mirafi® H_2Ri was installed.

Don't wait until our next publication to find out what TenCate is up to.
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