

2008 has seen Geofabrics continue to operate at a high level of activity, driven by exciting projects in the road, landfill and mining sectors. In the past few months, we have:

- Agreed to purchase a property (to develop into our world-class laboratory)
- Released our mining brochure series
- Been appointed the exclusive distributor for the **Geoweb**[®] geocell product in Australia.

The coming months will see a number of further developments, including -

- Our Albury and Gold Coast plants being accredited to use the CE mark for exports to Europe
- Supplying the geosynthetic sand filled containers for the Bournemouth Reef project in the United Kingdom, Europe's first artificial surfing reef
- Opening our Coffs Harbour sales branch to support our clients in northern NSW
- Release of our landmark R&D into the **ELCOROCK**[®] coastal system, providing design methods for engineers to design coastal structures with greater confidence
- Further investment in our **bidim**[®] line at Albury, to ensure we remain at the forefront of global geotextile manufacturing

We are proud to establish a relationship with Presto Geoweb, the world leader in geocells (a geosynthetic solution for soil stability). Their **Geoweb**[®] system is supported by decades of experience and research, and has been used around the globe in roads, landfills and mining applications.

We are also excited about the research paper into our **ELCOSEAL**[®] geosynthetic clay liner (GCL) presented at the recent GeoAmerica's conference in Cancun (Mexico). The paper highlighted the enhanced sealing performance of our **ELCOSEAL**[®] lining system when used in conjunction with high pH materials. It supports our

approach that the clay is a critical element in a GCL's performance, and when used with leachates, tailings or aggressive waste materials, designers need to consider the compatibility of the waste material with the lining system. Advantages of our GCL are explained in the introductory presentation on a new website www.clay-liner.com.

The Geofabrics Team

TriAx[™] – A New Era for Geogrids

Geofabrics Australasia and Tensar International will introduce the new **Tensar**[®] **TriAx**[™] geogrid to the Australian market. As the proud distributor of **Tensar**[®] products in Australia for more than 15 years, Geofabrics Australasia is arranging a series of technical seminars on the new **Tensar**[®] **TriAx**[™] technology across Australia in the coming months.

Geofabrics can assist you on how **TriAx**[™] and **Tensar**[®] Technology can be employed on your project to solve the problems of constructing over weak or variable soils. Our design engineers can provide design suggestions and project proposals to allow you to evaluate the potential benefit to your project.

If you would like further information please contact Rajesh Bhavsar on 03 8586 9167; alternatively visit www.tensar-triax.com.au

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Ergon Energy Maintenance Access Track - QLD

Access to high voltage power lines for maintenance in the area along Swallow Road in Cairns was difficult due to a very soft and wet subgrade. The area is in a low lying flood plain on a subgrade considered to be "mangrove mud", with typical CBR values of 1.5 or less.

During dry periods the subgrade was acceptable due to a hard "crust" layer on the surface. When this became wet it was difficult for the Ergon Energy maintenance vehicles to traffic over the area to enable access to the power lines as required.

Ron Rodgers from I'MA Holdings approached Geofabrics Australasia for a solution to provide temporary maintenance access tracks for his client, Ergon Energy.

Geofabrics put forward multiple solutions looking at different loadings, CBR values and design life. The final design accepted by the client was a layer of **bidim® A24** placed directly on the subgrade, a single layer of **Tensar® SS30**, 150mm layer of 40mm gravel, 150mm layer of 75mm minus gravel, and then a 200mm final layer of Type 2.2 road-base to complete the access track.

The layer of **bidim® A24** was to provide a separation layer directly underneath the geogrid to prevent the potential for pumping of fines from a wet subgrade into the 40mm gravel layer above the **Tensar®**. The 40mm gravel layer provided the mechanical interlock within the geogrid apertures to ensure that this base layer was effectively locked from lateral displacement under the heavy loads from the maintenance vehicles. After the initial 40mm gravel layer was placed over the grid the larger stone could be used and provided a cost benefit to the client. The final 200mm layer of gravel was a DMR standard Type 2.2 road-base material.

For more information on the project and products used contact the Brisbane office on (07) 3279 1588



ENVIROMAT® SAVES BATTERS FOR TRACKSTAR ALLIANCE

As a part of the Queensland Government's South East Queensland Infrastructure Plan 2006-2026, a third track is being built on the western rail line between Corinda and Darra Stations. It will cover a distance of 5.2km and will increase the capacity of the corridor. The line carries both passenger and freight services and will include a freight passing loop at Corinda Station. The Thiess/United Group joint venture, forming part of "The Trackstar Alliance", are the contractors for this section of the project.

Geofabrics was contacted by the Alliance for a solution to a potential erosion control problem. Batters that were disturbed during the construction of the site compound in Darra had to be stabilised and protected.

A meeting was held on location to inspect the site. After reviewing several products, **Enviromat®** was chosen for its soil retention ability, its natural look and its biodegradable properties.

Since the installation in late November 2007, South East Queensland has had drought breaking rains. The product has performed very well, protecting the batters, and allowing some vegetation to establish. The client is very happy with the results and will consider **Enviromat®** for applications during future projects.

For more information on the project and products used, contact Greg Lock on (07) 3279 1588 or email at g.lock@geofabrics.com.au



RESIDENT GIVES ECOCELL® THE NOD . . .

Following heavy rains around the Newcastle (NSW) region in early 2008, a local resident had a problem - he could not access his property as his unsealed driveway had become a quagmire. With more rain looming, he took decisive action - and used **Ecocell®** along the damaged sections of the driveway.

By placing **bidim® A34** down, he effectively separated the in-situ base material from the imported fill. This ensures that no fine particles migrate up through the imported gravel, thereby compromising the road structure and leading to rutting of the surface.

He then placed 100mm deep **Ecocell®** along the driveway, using the flexibility of the Ecocell to easily move around the curves. Using pins to hold the 6m x 3m panels in place allows the **Ecocell®** to be progressively filled with imported fill material. By using a free-draining fill material, compacting the material after placement & shaping the road edge drains to control the surface runoff, the driveway withstood the next rainstorms comfortably.

Ecocell® uses patented perforations to enhance the interlock of the fill material, ensuring a more durable driveway surface. In a very short period of time, a potentially major problem was transformed into a feature that will give years of use, even in the most severe rainstorms.

For more information on this project or similar works carried out throughout the country contact the Sydney office on (02) 9821 3277

Geofabrics supports Bunbury Highway

Construction of the New Perth Bunbury Highway (NPBH) is recognised as a dynamic and challenging infrastructure project involving design and construction of 70.5 kilometres of dual carriageway, 32 kilometres of which will be developed to freeway standard. The project team comprised of three industry leaders; Leighton Contractors, WA Limestone and GHD, working in conjunction with Main Roads Western Australia.

The project is expected to deliver significant benefits to Western Australians, by enhancing efficiency and accessibility of the state road network and is the largest infrastructure project undertaken by Main Roads. It will provide a gateway to the Peel and South West regions reducing travel time for road users by approximately 30 minutes.

Geofabrics Australasia Pty Ltd worked closely with members of the project team on ways to incorporate geosynthetics which allow efficient and economic completion of the project. The project posed a number of challenges and Geofabrics was able to provide solutions for a number of these issues, primarily:

- Poor in situ soil conditions at Murray River South and Kamup interchange sites – solved using **TenCate Polyfelt WX 100/50** high strength, high tenacity knitted geotextile
- Stabilise and separate the poor subgrade from the imported sub-base materials - solved using **bidim® A24 & A34** non-woven geotextiles combined with **Tensar® SS30** Geogrids.
- Contamination of water courses due to bridge construction - solved using custom made floatation curtains for all the major river crossings

For more information on the products and services provided by our technical sales team, please contact Peter Foxcroft on p.foxcroft@geofabrics.com.au



Megaflo® Drains Middleborough Separation

The \$56.5 million Middleborough Road Alliance, a joint venture between Vic Roads, John Holland, Connex and the Department of Infrastructure, was one of the fastest road and rail infrastructure projects in John Holland's history. The project entailed constructing a rail underpass by lowering the railway line six meters and raising Middleborough Road slightly to bridge the existing rail tracks. It took just under 6 weeks for the team to plan, start and finish an intricate and challenging road and rail separation project on Melbourne's busy outskirts in Box Hill.

Megaflo® drainage pipe was chosen as the primary source of drainage behind the tall shotcrete walls of the underpass and as the vertical drainage between columns. The **bidim®** nonwoven geotextile used to encapsulate the **Megaflo®** provided an effective bond to the shotcrete on the exposed face, while on the inner face it ensured good filtration of the groundwater preventing excessive fines from entering the drainage system.

Megaflo® also provided the following benefits over the other drainage systems considered including:-

- Ease of installation
- Robust nature
- Rapid delivery, on time to specification
- Range of fittings
- Australian Made
- Manufactured from recycled polymer



Geofabrics Australasia is proud to be associated with this project and believe that by supplying 6000m of **Megaflo® 150** on time and to specification, helped in a small way to facilitate the completion of the project in record time.

For more information on this project contact John Goumas on (03) 8586 9100 or email j.goumas@geofabrics.com.au



Staff Profile

David Morgan

David Morgan graduated from the University of NSW with a Bachelor of Civil Engineering Degree with first class honours. He has 30 years experience in Engineering and Sales.

David has 6 years experience with the Roads and Traffic Authority and 5 years experience with Local Councils. He then had 5 years experience as an academic and a further 5 years experience as the Chief Executive Officer of a Pacific Islands Power, Water and Wastewater Utility.

He was then Business Development Manager with an Engineering Contractor. David has 18 months experience as a Sales Engineer with Geofabrics Sydney.

You can contact David on (02) 9821 3277 or email d.morgan@geofabrics.com.au.

RIFFA VIEWS...

The Royal Golf Club at Riffa Views is situated just 20 minutes drive from the capital city of Manama in the Kingdom of Bahrain. The 18-hole, 7102 yard, par 72 championship golf course will officially open in November 2008.

Braemer Golf Developments in conjunction with the Nass Corporation are the golf course construction contractors assigned the task of the major re-development. This project has been jointly designed by Colin Montgomerie and European Golf Design.

Megaflo® was the preferred drainage product in all greens and tee's throughout the course.

Course construction manager, Martin Champion opted to use the 150mm **Megaflo®** in the tee construction and the 300mm **Megaflo®** in the greens.

Due to the deep sand sub-soil, keeping trenches from collapsing using the traditional trenching method would have proven either very difficult or impossible. **Megaflo®** eliminates the need for trenching, thus dramatically speeding up the time spent installing the drainage on this course.

The added bonus of using a trenchless type system means that the use of expensive gravel in the trenches is eliminated, reducing the construction cost even further.



For more information on this project contact Neil Taylor on (03) 8586 9100 or email n.taylor@geofabrics.com.au