

CASE STUDY:

# MURRAY BASIN RAIL

## Ararat Line

ARARAT TO MARYBOROUGH, VIC

NOVEMBER 2017

CLIENT: V/LINE

CONTRACTOR:

MCCONNELL DOWELL & MARTINUS RAIL JV

## TRACKTEX

Tracktex has been created to address the extensive and expensive track and ballast deterioration problem caused by 'Erosion Pumping Failure' or mud pumping which results in mud holes. When installed at the ballast formation interface, Tracktex prevents rain water penetrating through to the underlying deposits whilst under load, allowing a controlled upward movement of water through capillary action and also filtering and retaining any fine soil particles, in situ, during the process.

## TENSAR TRIAX

Tensar TriAx Tx190 large aperture geogrids are widely used with rail ballast and are supported by international rail research.

Railway geogrids improve bearing capacity on railway projects and stabilise the rail ballast and track bed, improving performance. They also limit the movement and displacement of the rail ballast so less maintenance is required over the lifetime of the railway line.

The Murray Basin Rail Project involves standardising the rail freight lines servicing the Murray Basin region in the north-west of Victoria. The project will also increase axle loading on these lines from 19 to 21 tonnes.

These improvements will mean the freight industry in the Murray Basin region will be able to deliver exports to Victoria's ports in a more efficient and cost-competitive way.

Most importantly, the Murray Basin Rail Project will reduce transport logistics costs for our industries and primary producers and ensure our rail network can meet the future freight demands of our state.

Following an assessment of the business case and consultation with freight industry and regional communities, the Victorian Government committed to the \$416 million project.

Historically the section of rail between Ararat and Maryborough has been known to have bad ground conditions and was subject to excessive mud pumping and soft spots of which V/Line knew they had to address at time of preparing the line upgrade.

Geofabrics advised that Tracktex could be used to prevent future mud pumping issues and Tensar TriAx TX190L, a geogrid designed specifically for ballast stabilisation, could be used to prevent future maintenance issues on the line.

Tracktex and Tensar TriAx TX190L was used in identified problem spots as well as 100 m each side of level crossings, bridge and culvert approaches.

Ease of install when compared to traditional solutions also appealed to the project team as Tracktex and Tensar TriAx could be installed quickly, as the project had very tight time constraints the contractor needed an effective and proven product that could be installed easy during construction, also the knowledge that Tracktex would essentially eliminate future maintenance required due to mud pumping.