

Case Study

Geofabrics

Project: **Mt. Keith Nickel Mine**
 Client: **Western Mining Corporation Ltd**
 Consultant: **WMC Engineering Services Pty Ltd**
 Contractor: **MacMahon Construction**



bidim[®]

In 1994 Western Mining Corporation Limited developed an open cut nickel mine and concentrator at Mt. Keith in the East Murchison District of Western Australia.

The mine treats 6.6 million tonnes of ore at approximately 0.6% nickel per year with the concentrator producing about 144,000 tonnes per year of nickel concentrate.

To expose primary ore, 47.5 million tonnes of overburden, oxides and transition had to be removed before start up of concentrator and this was the major activity during construction.

Geotextiles formed an integral part of the lining system, by providing protection to the liner and a quality drainage medium.



Decant drainage channel continued at a depth of 3 metres (gravity feed)

bidim[®] geotextiles were selected for the project for their superior performance. Geotextile grades used and their purpose are listed below.

bidim[®] A12 (16,000 m²) Used as a separation layer between two layers of 1.5mm thick HDPE liner material to prevent friction wear as the liner has significant thermal expansion properties.

bidim[®] A24 (3,000 m²) Used as wrap on subsoil toe drain.

bidim[®] A29 (20,400 m²) Used as under floor drainage wrap around crushed rock drainage material as a filtration fines retention function.

bidim[®] A44 (6,000 m²) Over liner protection layer under crushed selected layer/earth fill causeway.

bidim[®] A64 (9,200m²) Used as under liner subgrade protection layer for decant drainage channels.



Decant causeway with Bidim geotextile protection layer over HDPE liner (A44)

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