

# Case Study

# Geofabrics

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

**GEOFABRICS®**  
 Smarter Infrastructure

## 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)*



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

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

**bidim® A12 (16,000 m<sup>2</sup>)** 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 m<sup>2</sup>)** Used as wrap on subsoil toe drain.

**bidim® A29 (20,400 m<sup>2</sup>)** Used as under floor drainage wrap around crushed rock drainage material as a filtration fines retention function.

**bidim® A44 (6,000 m<sup>2</sup>)** Over liner protection layer under crushed selected layer/earth fill causeway.

**bidim® A64 (9,200m<sup>2</sup>)** Used as under liner subgrade protection layer for decant drainage channels.



**MARC AMTSBERG**  
**Waste & Containment Sector Manager**  
 e: marc.amtsberg@geofabrics.co | m: 0418 791 585

**GEOFABRICS®**  
 Smarter Infrastructure