

Roy Hill Rail – Cuttings & Borrow Pits



Case Study
GCM14-01

Year
2014

Client
NRW/Samsung C&T

Site/Location
Roy Hill Rail Alignment

Region
Pilbara WA

Scope
Borrow Pits/Rail Cuttings

Daily Production
6,000 bcm in borrow pits

Rock Type
Granite

Rock Hardness
100MPa

Safety
Zero LTIs

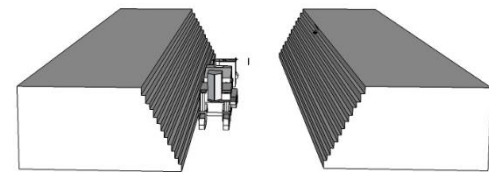
PROJECT SUMMARY

NRW contracted Global Civil and Mining (GCM) to assist with the excavation of rock cuttings along the Roy Hill rail alignment.

Initially NRW had employed traditional methods of earthmoving to remove the rock. That involved drilling and blasting through the hard granite which was encountered along the alignment. During this process the sub-drill would create blast effected material below the required level (RL) of the rail line embankment. NRW would then remove all of the blasted material (including the material below the RL) before sourcing approved fill material to build the level back up to the design RL. This method was costly, in particular when the blasts became shallow or when rock breakers were brought in to trim areas that had not been blasted properly.

GCM mobilised two Wirtgen 2500 Surface Miners (2500SMs) to cut through rock where shallow blasting was too expensive, and to provide trim cuts in previously blasted ground. The GCM surface miner's then effectively and accurately milled the rock to the exact RL. This eliminated the need for any back filling and provided a source of quality and low cost sub ballast capping material.

In this application GCM used surface miners to achieve an excellent outcome despite the relatively hard rock. This project further demonstrates the versatility of surface mining techniques in civil earth moving projects.



Global Civil and Mining

4 Dampier Road
Welshpool WA 6106
(08) 9258 3900

www.globalcivilandmining.com