

Tiger Brennan Drive Duplication- Rock Cuttings



PROJECT SUMMARY

The Department of Infrastructure NT/BMD/Chief Group contracted Global Civil and Mining (GCM) to assist with the excavation of rock on a number of significant cuttings along the Tiger Brennan Drive duplication alignment.

The rock along the alignment varied from soft free dig material to relatively hard Phyllite with interbedded sandstone and Porcellanite. Excavations were to be carried out alongside the very busy Tiger Brennan Drive carriageway and close to some nearby housing. Key project objectives were:

- To keep the existing road open at all times;
- To minimise disruption to traffic;
- To ensure the safety of all road users; and,
- To minimise vibration, noise and dust.

In these circumstances traditional drilling and blasting or rock breaking was problematic.

GCM mobilised a Wirtgen 2500 Surface Miner (2500SM). The 2500SM progressively milled the rock creating the large rock cuttings right up to the edge of the existing carriageway. The 2500SM, which is fitted with GPS level and position controls, was also used to box out the road in preparation for the placement subbase material. In the process the excavated material was crushed to less than 100mm in size and mixed. The result was a homogenous sub base material that was recycled and used along the alignment in fill areas.

In addition the 2500SM was able to excavate the walls with great precision and with no damage to remaining rock in the walls. The result was the creation of walls that were structurally very competent and aesthetically very pleasing.

Case Study
GCM15-02

Year
2015

Client
Department of Infrastructure
NT/BMD/Chief

Site/Location
Darwin

Region
Northern Territory

Scope
Highway Cuttings

Total Production
60,000m³

Rock Type
Phyllite with interbedded
sandstone and Porcellanite

Rock Hardness
Up to 100Mpa

GET Consumption
Variable due to wide range
of materials encountered

Safety
Zero LTIs

Project Highlights
Ability to safely work
adjacent to existing Road
& Quality of excavated
walls

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