



TLO Flow Enhancement Project

PROJECT DETAILS

The Newman Mt Whaleback Train Load Out (TLO) Flow Enhancement Project involved the installation of two 188 tonne flow enhancing hoppers to the top of the existing TLO concrete vault. The new hoppers are situated over the existing stockpile cast-in chutes, located within BHP Billiton's Iron Ore facility at the Newman Hub. The purpose of the installation was to improve the live capacity of the fines stockpile which was restricted due to changes in the Ore flow characteristics since the original installation in 2008.

The Scope of Work included the transportation of the two free issued flow enhancing hoppers. The units were transported in three pieces to site on Heavy Haulage Hydraulic Floats under permit and escort.

The Hopper components were unloaded onto rated supports using the hydraulics of the float to set the main halves down within 50mm of the joining position without the use of a crane.

Following delivery the halves were assembled using a 220T hydraulic crane. Prior to installation, 40x 130mm diameter holes were core drilled into the heavily reinforced TLO Vault roof to a depth of 1.25m for the installation of M75 shear key bolts.

Once preparation was complete the assembled hoppers were lifted and transported 300m to their final installation location using a bespoke configuration consisting of four, six axle line Self Propelled Mobile Transports and an overhead Lift and Lock gantry system.

Key Challenges:

- » Operating in the heart of Iron Ore operations adjacent to a live stock pile constrained by rail lines and haul roads.
- » The requirement to transport heavy loads down live haul roads to our assembly and installation location at the TLO.
- » Interface between other contractors in a restricted work area during a critical shutdown.
- » Drilling large and deep core holes into heavily reinforced concrete in a tight time frame.
- » Transporting and placement of large heavy structures into position with small tolerances and overhead clearance restrictions.

Key Project Achievements:

- » Zero Injuries
- » Completion on time
- » Successful innovation in heavy lift and installation technology translation into efficient and cost effective delivery.
- » Minimisation of high risk activities such as crane operations
- » Successful change management

Client: BHP Billiton Iron Ore

Location: Mt Whaleback, Newman WA

Duration: 3 months

Completion: November 2013

Value: \$2.8m



PROJECT HIGHLIGHTS

Personnel on Site: 30

Manhours: 10,000

Heaviest Lift: 180 Tonnes

Shut Down Time: 240 hours