

WTS OLC

MTK-0000-FCT-QA-0014 Engineering & Design Fact Sheet

CLIENT:

RIO TINTO

PROJECT OWNER:

RIO TINTO

PROJECT VALUE:

\$800M

LOCATION:

TOM PRICE, PILBARA, WA

DATE COMPLETED:

2015 – 2021

Key Project Components

- Engineering Management, Project Management and Project Controls
- SMP Engineering and Design
- DEM Modelling for all chutes in-house
- Static and dynamic analysis in-house
- Civil Engineering and Design
- Electrical Engineering and Design
- Control Systems, including Communication Systems
- Shop Detailing
- Procurement Support of Long Lead Items
- Completions, FAT, SAT and Commissioning
- Handover and Ongoing Support

Project Overview

The EMtek team were engaged by Rio Tinto in a combination of EPCM and EPC contracts to complete all engineering and design works for the Western Turner Syncline project, over several years, including crushing plants, Overland Conveyors, 33kV power distribution system, NPI, associated water, control systems, and communication systems.

The project was completed in phases. Phase 1 included a direct feed gyratory crushing plant, 25 km of conveyors made up of 5 flights with the longest being 14.2 km long and high- and low-grade fixed stackers feeding stockpiles at the Tom Price plant. Phase 2 included an indirect fed gyratory crushing plant, 13.5km overland conveyor, 600 T surge bin and tie-in to the Phase 1 works.

The project aim was to sustain the Tom Price process plant at a rate of 30Mtpa+.

EMtek's scope included the detailed engineering, design, and shop detailing for the earthworks, mechanical, structural, concrete, electrical and control systems from concept to completion.

Major Works Included

- Design of 6 overland conveyors over 38km, including CV2104 (14.2km) and CV2113 (13.5km)
- Transfer Bins TS2111 and TS2105, including apron feeders.
- Primary crusher discharge conveyors
- Primary crushing plants PC1 and PC2
- Switchrooms, including HV, MV and LV, Control Systems and Communications
- FAT, SAT and Commissioning and Completions including no-load, loaded, and 2-week operational.