

# Blackwater System

## Summary Sheet

Version 7.0  
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### General Information

The Blackwater System is located in Central Queensland between the latitudes 23°8' S and 24°28' S and longitudes 148°5' E and 151°15' E.

The system primarily services coal mines off the Central Line and carries the product through to Stanwell Power Station, Gladstone Power Station and the Port of Gladstone via the North Coast Line.

The Blackwater System is bi-directional duplicated track with crossovers between Callemondah and Rocklands, between Rocklands and Dingo, between Umolo to Walton and between Bluff and Rangal, with the remainder being single line.

Because of changed traffic tasks (coal), this system now incorporates the section of track from Burngrove to Nogoia to Minerva (previously part of the Central West System).

Loading balloon loops are located at East End, Boonal, Koorilgah,

Curragh, Boorgoon, Kinrola, Ensham, Gordonstone, Rolleston, Minerva and Gregory with a spur line at Fairhill for Yongala. Triple unloading balloons are located at Golding, with unloading balloons at Stanwell Powerhouse, Fishermans Landing, Gladstone Powerhouse, Auckland Point, Barney Point and Comalco.

The Blackwater System is electrified by an autotransformer system with the overhead line equipment operating at 25 000 volts, 50 Hertz, alternating supply (25 kV, 50 Hz, ac).

### Description of the Railway

The track (1067 mm gauge) on the main trunk route from Blackwater to Gladstone is generally 60 kg/m rail with concrete sleepers.

Bridges allow the passage of 106 t (26.5 tal) wagons at 80 km/h. Allowable axle loads and speeds on branch lines vary as described below.

Based on the improved asset intelligence provided as a result of the Network Asset Management System, the following new totals are provided for this system. The linear data is accurate to sub-meter distances.

Asset Type	Length / Total
Total Track	1171.361 km (Includes yards, sidings & passing loops)
Duplicated Track	296.950 km
Passing Loops	27.298 km (16 Passing Loops)
Sidings	14.371 km (35 Sidings)
Electrified Track	1122.527 km (Includes yards, sidings & passing loops)
Access Roads	979.895 km (Including Left and Right side of track)
Level Crossings	228 Crossings
Lubricators	40 Sites
Crew Change Facilities	87 Sites
Turnouts	447 Turnouts (Mainline & Yards)



## Overhead Line Equipment

The Blackwater System is electrified by an autotransformer system with the overhead line equipment operating at 25 000 volts, 50 Hertz, alternating supply (25 kV, 50 Hz, ac).

Distribution is via a contact wire suspended from a catenary wire and these two wires are held in place by supporting structures to maintain ideal pantograph/contact wire interaction.

Typically, the autotransformer system also uses a 25 kV AC feeder wire run on the back of the supporting structure which is used for voltage support throughout the electrified network.

The dual wire distribution system is automatically tensioned to maintain a constant wire tension and requires a pantograph uplift force of 80 N 3 10 N for smooth spark less current collection.

The contact wire height may vary from 4400 mm to 5850 mm above rail level.

Typically in the Blackwater System the traction system uses both rails for return current.

## Operational Systems and Train Control

The Blackwater system is operated by Remote Control Signalling (RCS), with train movements controlled from Rockhampton.

### Following exceptions:

Gladstone Yard	RCS and Rail Operator (RO) Controlled
Auckland Point	Rail Operator (RO) Controlled
Barney Point and QAL	Rail Operator (RO) Controlled

Callemondah - Gladstone Powerhouse and Callemondah - Golding are controlled from the Callemondah signal cabin.

