



## Hail Creek Mine Sewerage Treatment Plant Upgrade

**Customer:** Rio Tinto Coal Australia

**Location:** Hail Creek Coal Mine

**Case Study ID:** CS-62

**Date:** May 2013

### Overview

Rio Tinto engaged Dowdens Pumping and Water Treatment to engineer and design an upgrade for their Hail Creek Mine's current Sewerage Treatment Plant (STP).

In conjunction with both consultants and Rio Tinto engineers, Dowdens Pumping and Water Treatment investigated many options to upgrade the STP, including distributing the treated wastewater through an onsite irrigation system.

The Dowdens Pumping and Water Treatment Project Department completed the upgrade overcoming many technical challenges along the way.

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## The Problem

The Hail Creek Mine's existing STP had become overloaded due to a significant increase in the workforce and required an upgrade due to the increased demand.



## Our Solution

Dowdens team of specialised engineers and CAD draftspeople were able to design the STP upgrade in great detail, to reduce as much "on-site" work as possible whilst also reducing risk. The results spoke for themselves, with the site work going smoothly and all the equipment coming together without a hitch.

Rio Tinto's expectations were met with the project being delivered on time and within budget. The STP upgrade now treats 255,000L of domestic sewage every day from the village and administration complex.

## Key Components

- Dual WILO FAC Submersible Pumps housed in an Aquatec AFPS Fibre Polymer Chamber with a 415v Control Panel.
- Four 45,000L In Series Balance Tanks c/w 200 mm & 160 mm Electro-fusion Welded Fittings
- Two WILO Submersible Jet Aerator Pump Assemblies in Aeration Tank 2
- Emergency Bypass Control / Pipe System
- Specially fabricated SS316 "Stilling Baffle" within Aeration Tank 1
- Specially designed "Automatic Decanting System" on Balance Tank 4

## Project Design Philosophy

Dowdens Pumping & Water Treatment design philosophy for this project was:

- Cost-Effectiveness

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- Innovation
- Ease of Installation
- Simple and Effective Pumping Operations
- System Reliability and Reduced Ongoing Maintenance Costs



## Brands used in this project



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