



McDOWALL AFFLECK
CONSULTING ENGINEERS
Responsive. Reliable. Results.



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Perth, WA

Residue Solutions (now Phibion) - Mudmaster

Overview

The patented MudMaster® is an amphibious vehicle that can safely traverse low strength materials such as tailings, dredge spoils, snow and marshlands. It uses two counter-rotating Archimedes screws to provide traction and buoyancy on any surface. The MudMaster® has been specifically designed to also impart a deep consolidating force on the soil to liberate entrained water thereby allowing the soil to increase in density and strength. The MudMaster® machine and technology is now exported for use around the world.

Currently in operation at BHP Billiton, Rio Tinto, United Company Rusal and Alcoa sites.

Type of Engineering Work

Mechanical Engineering

Work Timeframe

Ongoing with machines built regularly

Contract Value

Commercial in Confidence

McDowall Affleck Contact

Ben Veale



Scope of Work

- Mechanical design, 3D modelling and drafting of the complete MudMaster machine
- Production of drawings for manufacture
- Certification of the design of the machine to relevant Australian Standards
- Inspection of various components during manufacture to ensure the machine meets specification

Project Challenges

- Every MudMaster machine includes improvements and upgrades from the previous build
- Incorporating these changes into the design and 3D model, and maintaining a database of each version of machine required an in-depth knowledge of the history of the project

How we managed this

McDowall Affleck modelled the MudMaster in Autodesk Inventor and maintained a comprehensive database of each machine.

Value Engineering

- McDowall Affleck worked closely with Phibion over many years to develop the mechanical design of the MudMaster
- The technology of the MudMaster has revolutionised the tailings management industry

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