

# CASE STUDY: MINING – IRON ORE



## RIO TINTO MARANDOO

The Maradoo mine site is located in the centre of Karajini National Park, and it is important that they meet their environmental obligations. A coalescing plate pack was originally installed to treat water coming from the *heavy vehicle wash* and *heavy vehicle workshop*. However, this technology wasn't capable of meeting the discharge requirements for this environmentally sensitive site, which left the company exposed to risk for non-compliance with their environmental license conditions. Rio Tinto engaged Ultraspin to design a new oily water system that would comply with the required discharge standards. The Ultraspin ES25 system was installed, and Rio Tinto is now successfully meeting the required water quality and is in full compliance with the oily water standards set out in their mining license.



### OUTCOME REQUIRED:

Replace current coalescing plate pack with high performance oily water separator system in compliance with strict environmental conditions. Minimise existing compliance risk for Rio Tinto. 30 mg/L total Petroleum Hydrocarbons (TPH) for discharge to the evaporation pond.

### APPLICATION:

Treating water from:

- Heavy vehicle wash
- Heavy vehicle workshop

### EQUIPMENT SUPPLIED:

ES25 Oily Water Separator (25m<sup>3</sup>/h) package

### START UP DATE:

July 2010

### OUTCOME ACHIEVED:

High performance oily water separator system meeting compliance with strict environmental conditions to minimise compliance risk for Rio Tinto

### Ultraspin Technology

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## PERFORMANCE RESULTS:

### DESIGN CONDITIONS:

Treat highly emulsified oily water

Oil and grease: Up to 10,000 mg/L

Suspended solids: 1500 mg/L

Oil spills: Up to 500 L

### TEST RESULTS:

Average < 5 mg/L post commissioning

Continues to meet less than discharge required

## CUSTOMER OUTCOMES:

The customer's risk exposure has been minimised. Following the installation and commissioning of the Ultraspin ES25 system, test results have consistently shown results below the required TPH levels.

- Compliance with strict environmental conditions
- Risk exposure minimised
- Consistent performance from the separator
- Protection during large rain events
- Low maintenance costs
- Minimal operator input



Heavy Vehicle Workshop

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*Commissioning in July 2010*



*Site Overview*

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