



## CASE STUDY

### CUSTOMER

RIO TINTO IRON ORE GROUP

### LOCATION

HOPE DOWNS, AUSTRALIA / NOV 2008

### EQUIPMENT

CAT 16H GRADER CHAIN CASE

### APPLICATION

LUBE OIL

### PROVEN RESULTS



PREDICTIVE MAINTENANCE TOOL PREVENTED OPPORTUNITY FOR INJURY

### CHALLENGE

Rio Tinto Iron Ore Group was experiencing frequent grader chain case downtime due to contamination prematurely wearing the chain case, sprockets, bearings, and gears.

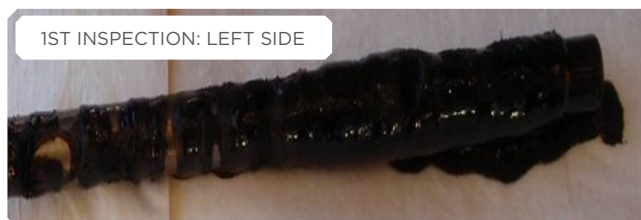
### SOLUTION

Install an OEI magnetic filter on the chain case inspection plate. This design sets the magnetic filter in the central splash area for maximum filtration without interfering with system operation.

### RESULTS

The first inspection showed significant wear debris resulting from the operation of the chain, sprocket and gear. The second inspection 60 days later, with oil analysis, identified a reduction of the metal contamination on the LH side, and a considerable increase in ferrous debris on the RH side tandem (on grader 12D1).

To further confirm the analysis results to personnel that doubted them, the magnetic filter elements were pulled again from both sides. The LH side had a reduced amount of debris which confirmed the oil analysis. The RH magnetic filter element showed a huge amount of ferrous debris on the magnetic filter element, so much so that the maintenance manager was only just able to get it out of the 2 1/2" opening. The RH side tandem was stripped and the brake packs were overhauled. The RH side was in such bad condition that it is very likely the brakes were ineffective on that side. The friction discs were cracked and warped and the internal gear/splined portion of the brake pack casing where the friction disc's are retained were completely stripped. The magnetic filter element, utilized as a preventative maintenance tool, prevented serious injury due to worn out breaks.



PRODUCT RECOMMENDATION  
**MAGNETIC FILTER ELEMENT**



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