

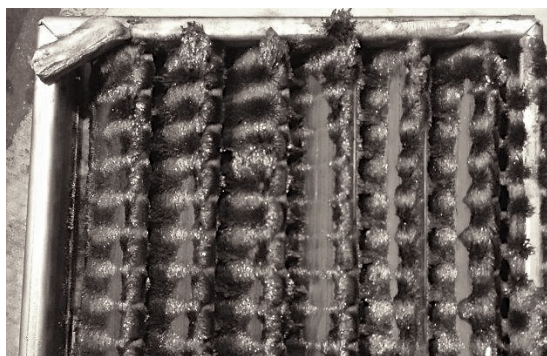
## MAG-SHIELDS® prevent expensive brake damage due to hydraulic oil contamination in fleet of CAT 777 haul trucks

### The Problem

This customer's fleet of Caterpillar 777 trucks, operating in a large central Alberta coal mine, was experiencing expensive brake and cylinder damage. The damage was caused by iron contamination from hydraulic pump failures. In these trucks, hydraulic oil circulates as a coolant throughout the four-wheel wet brakes. Contamination in the oil gets trapped, embeds into the brake components, and cannot be flushed out. When the machines are put back into service following a hydraulic system repair, this embedded contamination in the brake components is continually released starting another failure cycle. With our customer experiencing frequent, low hour follow-on failures, their only options were to replace the brake components when a pump failure occurred at a cost of \$96,000 plus labour, or find a solution that could prevent the brake damage.

### The Solution

The company chose Bay6 Solutions' Mag-Shield filters. Since installing Mag-Shields in the hydraulic systems of the fleet, brake damage has been prevented and follow-on failures have been eliminated. Post repair, residual contamination is captured by the Mag-Shields in the hydraulic tank and prevented from circulating back into the hydraulic system.



Captured and Safely Contained Contamination

### Customer quote:

“ Since installing Mag-Shields over 6 years ago, hydraulic failure costs have dropped dramatically. Our biggest savings are realized from not having to replace brakes and cylinders on a 777 truck following a hydraulic failure. On a 777D, \$96K is saved on brake components alone. Down time for repairs has been cut in half or less and the trucks do not experience follow-on failures. Larger trucks realize increased savings. Have a look at the attached pictures.”

### The Results

These results represent Mag-Shield performance over a period of 4 years, in a fleet of 35 trucks operating at an Alberta mine. Mag-Shields were installed in the hydraulic systems of this fleet due to expensive and repeat failures associated with collateral brake damage. Since installation, there have been no system wide failures compared to an historical average of 3 such failures per year and there have been no follow-on failures. The result: less disruption for operations, planning and maintenance; improved availability and millions of dollars saved.

Return on investment was less than one year.

