MAGSHIELD®

NEXT GENERATION BEST PRACTICE
for fluid contamination control

MAG-SHIELD®
CASE STUDY

Equipment: Caterpillar 797 Trucks

Client: Oil Sands Operation In North America

Mag-Shield® capture debris from component failures, saving hydraulic systems from massive damage in a large fleet of CAT 797 haul trucks

THE PROBLEM

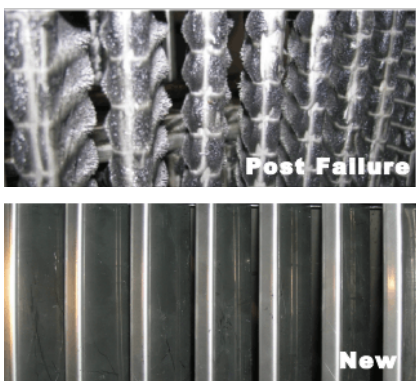
This customer operates a fleet of over seventy 797 haul trucks in a northern Alberta oil sands operation. The fleet was experiencing catastrophic hydraulic system damage caused by component failures. Following a component failure, circulating contamination damaged many other components including other pumps, cylinders, control valves, wheel brakes, oil coolers and hoses. During braking (maximum flow), this occurs rapidly since the entire 1842 liter (489 US gal) of oil exchanges in 30 seconds. What starts out as a relatively simple and inexpensive failure turns into a very expensive, time consuming, system-wide failure in a short period of time. Once back in service, the customer's equipment experienced many follow-on failures.

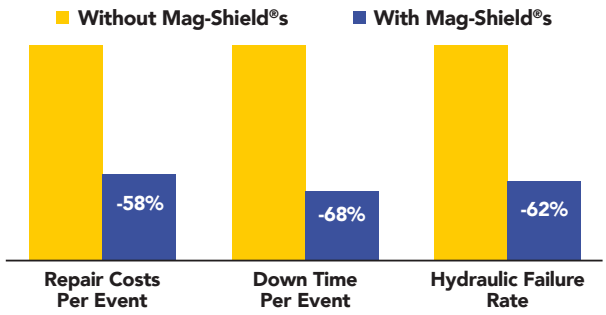
THE SOLUTION

At the customer's request, We developed **Mag-Shield®** magnetic filters for the hydraulic system.The customer installed **Mag-Shield®** on one of several problematic trucks that was experiencing numerous repeat failures. The results were immediate: the trial truck did not experience any additional failures which lead to the customer immediately adopting **Mag-Shield®** across the entire fleet. Since installing **Mag-Shield®**, there have been no system-wide failures or follow-on failures in the machines, and repair costs and down time have been drastically reduced.

The customer has designated **MagShield®** – NEXT GENERATION BEST PRACTICE for fluid contamination control as an "official reliability improvement" for its mine sites.

"We have attached a few pictures to show **Mag-Shield®'s** effectiveness at capturing metal contamination that standard factory hydraulic filters were unable to capture or contain. **Mag-Shield®** are performing to the level we had expected."





THE RESULTS

Data on component failures was gathered for five years both before and after the installation of **MagShield®** products in the hydraulic tanks. Since implementing **Mag-Shield®**, numerous serious failures were averted, and all failures that did occur were effectively mitigated. The absence of system-wide failures contrasts sharply with the historical average of six such failures per year, and subsequent failures have been entirely eliminated. This outcome translates to fewer disruptions for operations, improved planning and maintenance, enhanced system availability, and significant cost savings amounting to millions of dollars.
The return on investment was achieved in less than one year.