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

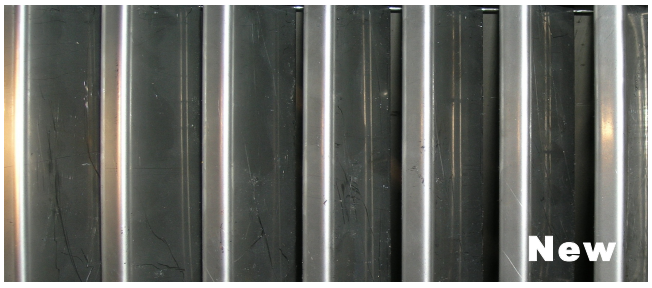
The Problem

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

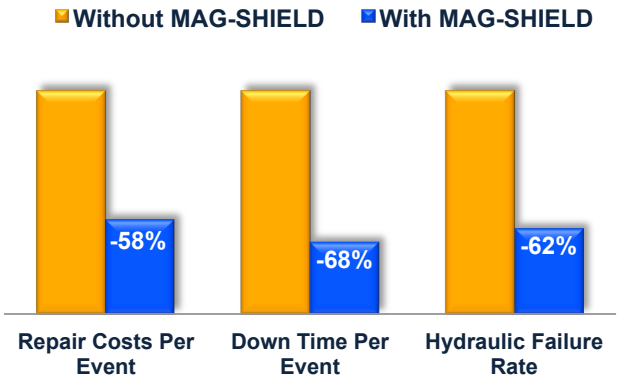
At the customer's request, BAY6 Solutions developed Mag-Shield magnetic filters for the hydraulic system. The customer installed Mag-Shields on one of several problematic trucks that was experiencing numerous repeat failures. The results were immediate: the trial truck did not experience any additional failures which lead to the customer immediately adopting Mag-Shields across the entire fleet. Since installing Mag-Shields, 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 Mag-Shields as an "official reliability improvement" for its mine sites.

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



The Results

Information relating to component failures was compiled for five years before and five years after Mag-Shields were installed in the hydraulic tanks. Since installing Mag-Shields, many serious failures were prevented and all failures were mitigated. There have been no system wide failures compared to their historical average of 6 such failures per year, and follow-on failures have been eliminated. The result: fewer disruptions for operations, planning and maintenance; improved availability and millions of dollars saved.



Return on investment was less than one year.