

Case Study: Lube Oil Filtration
March 2012**Gear Oil Lubrication**
Canyon Technical Services
Red Deer, Alberta, Canada**APPLICATION:** Quintuplex pump**PROBLEM:** After major failure of several drive ends of the Quintuplex pumps on Canyon Technical's N2 Pumpers, it was determined that metal filings in the lube oil had caused the failures. The lube oil systems were still contaminated from the previous drive end failure, even after the pump was cleaned and re-built.**SOLUTION:** Arthur Feteke of Hydra Rig, NOV recommended the installation of OEI's Magnetic Scrubber (5SC12SCLNPT2) to be installed prior to the Quintuplex pump on the suction side of the lube oil reservoir to filter out any remaining ferrous metal contamination in the lube oil filtration system.

Photo A

RESULTS: The pilot test proved successful and John Andrews, the Nitrogen Division Manager for Canyon Technical, directed all of their N2 Pumpers to have OEI Scrubbers installed to protect the lube system and provide the opportunity for the Operators/ Technicians to assess the contamination trapped on the magnetic filter for premature wear on a daily basis.

Photos B and C show both the ferrous and non-ferrous contamination captured by the magnetic filter after circulating approximately 200 Litres of Traxon E Synthetic CD 50 oil for just 40 minutes at 120 degrees F. If left in the oil, these metal particles will prematurely wear the pump components and degrade the oil viscosity. This type of proactive maintenance protocol will extend component life and increase uptime.

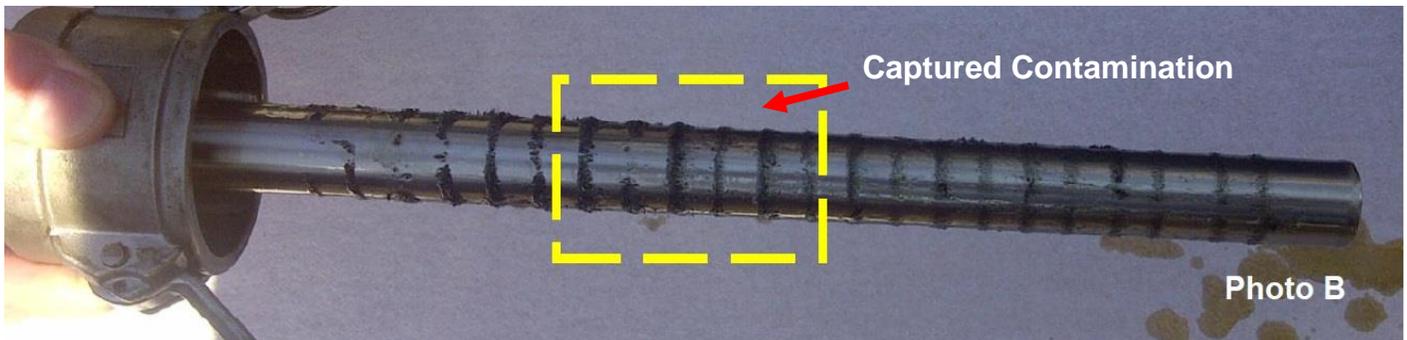


Photo B

RECOMMENDATION: Use the analysis of the contamination trapped on the magnetic filter as a predictive maintenance tool. For further information, contact our office (877-888-8727) or visit our website at www.OneEyeIndustries.com



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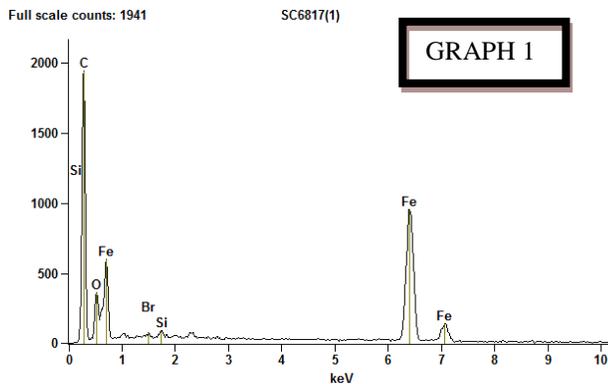
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The particles collected by the magnetic filter rod in the form of slivers, flakes and metal cuttings, ranged from 4100 microns to 0.8 microns in size.

The majority of the particles collected are made of Iron (about 97%) as shown on Graph 1. The photo below shows one of the pieces that appears to be the result of shearing off of the shaft. Also trapped on the magnetic filter rod were particles of Silicon, Chromium, Manganese, Molebdenum, Phosphorus, Copper, Aluminum, Zinc and Calcium.



<i>Element Line</i>	<i>Net Counts</i>	<i>Weight %</i>	<i>Atom %</i>
<i>Si K</i>	461	1.47	2.89
<i>Fe K</i>	15449	97.32	96.27
<i>Br L</i>	145	1.22	0.84
Total		100.00	100.00

