

Case Study: Mud Pump Start-Up October 2014

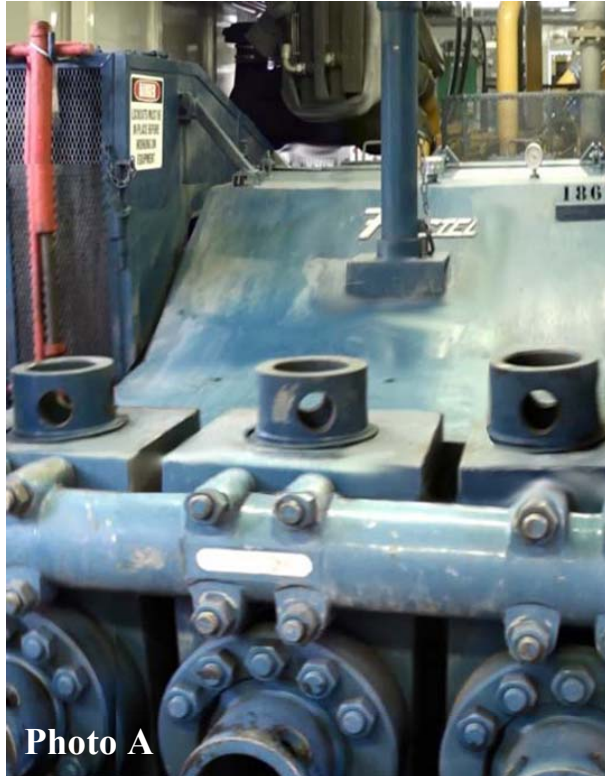


Photo A



Photo B



Photo C

Precision Drilling Drayton Valley, Alberta, Canada

APPLICATION: Rouse Gearbox Lube Oil Filtration on Mud Pump (Rig #169)(Photo A)

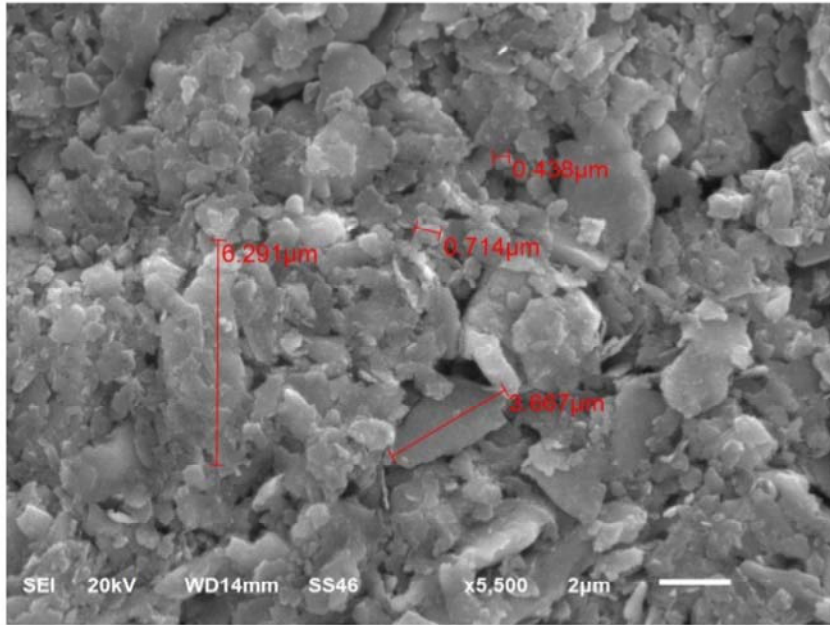
PROBLEM: Traditional filtration is unable to remove the inherent contamination under 10 microns during start-up. This contamination is from the new oil, break-in wear and the manufacturing process and if left in the system this results in premature wear to the bearings, shafts, and seals affecting equipment function.

SOLUTION: Precision Drilling has been utilising OEI magnetic filtration technology on their hydraulic equipment for 3 years with great results. They determined that their mud pumps could use the same technology to protect them on start up and extend their operational life. A magnetic filter scrubber was installed to protect the integral system components (Photo B).

RESULTS: During the first 200 hours 10+ ounces of both fine and large contaminants were removed. On second inspection after another 200 hours 4-6 ounces were removed. On a third cleaning, after 400 additional hours, 4+ ounces of contamination were removed from the lube system (Photo C).

The images show trapped contamination ranging from 30+ to sub-micron in size. 71.8 % was found to be ferrous and 17.2 % was non-ferrous and 11% water.

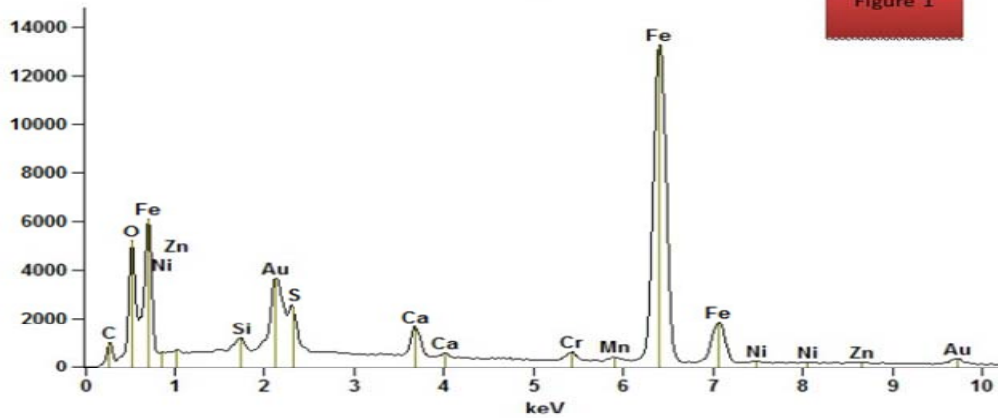
Darren Skjaveland, Rig Manager states "We are very pleased with the amount of contamination being removed. We are using these magnetic filters on all hydraulic applications as well and are seeing similar results."



Full scale counts: 13257

UJ7400(1)

Figure 1



Quantitative Results for: UJ7400(1)

Element Line	Net Counts	Weight %	Atom %
C K	6660	3.10	11.18
O K	33904	5.02	13.59
Si K	4580	0.88	1.36
S K	20097	3.94	5.32
Ca K	15080	3.33	3.60
Cr K	3899	1.20	1.00
Mn K	1806	0.62	0.49
Fe K	219496	80.21	62.25
Ni K	2224	0.98	0.72
Zn K	1241	0.73	0.48
Total		100.00	100.00

RECOMMENDATION: In order to protect equipment on start-up install magnetic filtration technologies to remove the inherent contaminants to protect bearings, shafts, seals and extend fluid life. For more information visit our website at www.oneeyeindustries.com

