

Information - test of Kluber bio oil.

We have received an assignment from a customer to test the effectiveness of our Purifiner oil cleaner on biodegradable oil so-called environmental oils, and especially the water content in this type of oil as it is very difficult to remove water from environmental oil.

We have therefore been sent new oil from Kluber Oil Germany to test their bio oil type LR 9-32 which is a hydraulic oil with a viscosity of 32 cSt. (Centi Stokes)

We know that there is very little water in new oil, about 2-300ppm or 0:02 to 0:03%, so to test the Purifiners water removing efficiency on these types of oils, we added 2.5% (25,000 ppm) water, and mixed this into the oil. See attached 2 photos, first photo is with the water mixed in, and the next photo is after 2 hours of cleaning.

We have taken an oil analysis during these stages of the test:

- New oil
- After we added and mixed 2.5% / 25.000ppm water in the oil
- After 2 hours of cleaning with Purifiner
- After 4 hours of cleaning with Purifiner

We have tested this using 40 liters of LR 9-32 bio oil.

There are 4 attachments with oil analysis from Norsk Oljelaboratorium AS on all the 4 stages of the test.

We can therefore set up the following table:

	Number of particles above 5 micron	Water in ppm	Water in %	NAS grade
New oil	11.410	254	0.0254	6
After added water	18.847	25.000	2.5	7
After 2 hours of cleaning	16.573	1.800	0.18	6
After 4 hours of cleaning	3.723	158	0.0158	4

After 4 hours of cleaning, the oil is better than new oil and the reduction of water in the oil after the test is 99.3%. In addition, the reduction of particles after the test is 80.2%.

Sandefjord 14 feb.2016

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After added water



After 4 hours of cleaning