

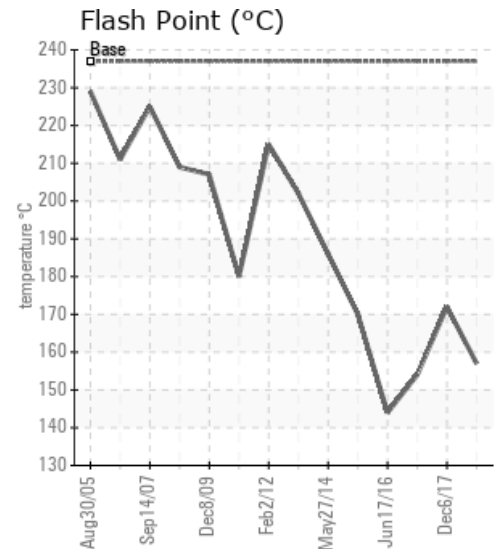
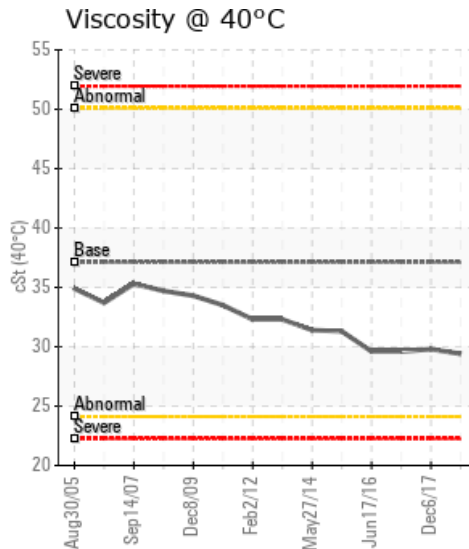
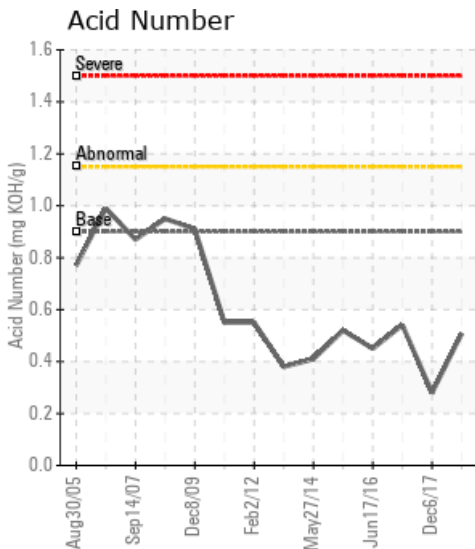
WANSON 450LN

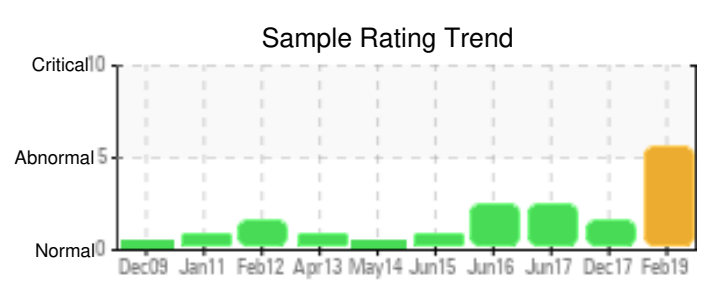
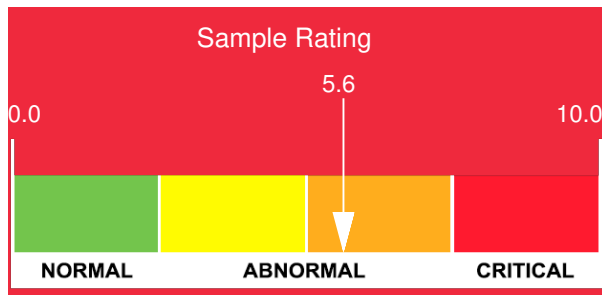
Customer: PTRHTF40045	System Information	Sample Information
OVI NV SA HOOGBUUL 1 OLEN 2250 OLEN, 2250 Norway Attn: WILBERT SNIJERS Tel: E-Mail: w.snijers@klt.nl	System Volume: 4000 ltr Bulk Operating Temp: 270F / 132C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: WANSON	Lab No: 02269990 Analyst: Philip Riley Sample Date: 02/19/19 Received Date: 02/26/19 Completed: 02/28/19

Recommendation: Flash Point seriously low and unless product can be safely vented to remove light ends (although look like very few) recommend oil is changed with a clean and flush. 10% Dist also showing low and evidence on the GCD of cracking somewhat. Sample looks to have been recovered before looking at the results history

Comments: (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. (GCD) % < 335°C is abnormally high.

Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
02/19/19	02/26/19	14y		315 / 157	22.7	29.4	0.508	0.079	608 / 320	769 / 410	887 / 475	11.98
12/06/17	06/19/18	13y		342 / 172	13.0	29.8	0.28	0.073	676 / 358	802 / 428	905 / 485	6.17
06/20/17	06/26/17	12y		309 / 154	74.5	29.6	0.541	0.084	685 / 363	813 / 434	925 / 496	5.57
06/17/16	06/27/16	11y		291 / 144	49.4	29.6	0.45	0.102	695 / 369	819 / 437	911 / 489	4.97
06/02/15	06/05/15	10y		338 / 170	38.4	31.3	0.52	0.034	706 / 374	820 / 438	913 / 490	3.87
05/27/14	05/30/14	9y		367 / 186	75.1	31.4	0.41	0.072	696 / 369	811 / 433	906 / 486	4.45
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5

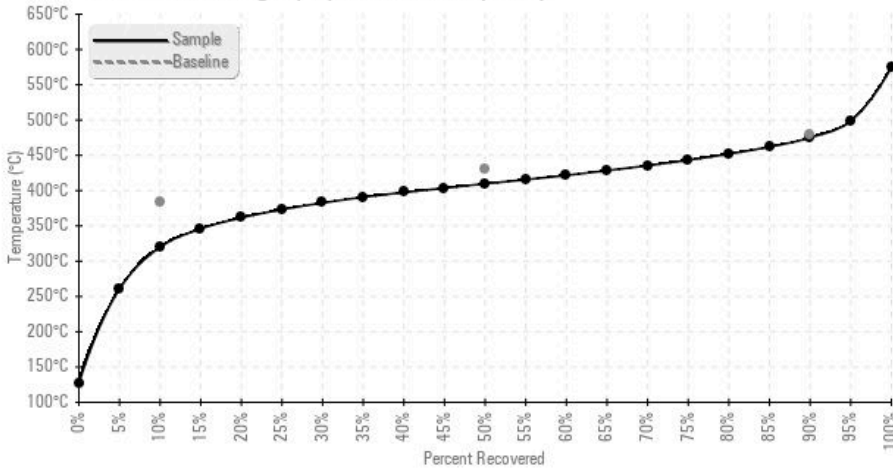




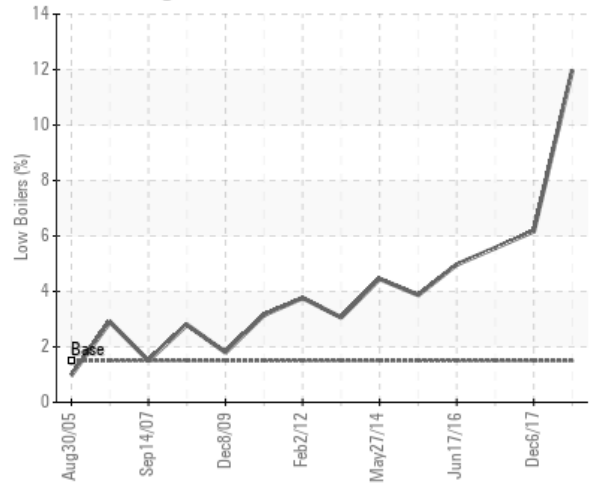
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
02/19/19	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0
12/06/17	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0
06/20/17	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0
06/17/16	8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	8	1
06/02/15	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0
05/27/14	121	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	2
Baseline Data			0	0						0			0	0					0				230	

Elemental analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]

Gas Chromatography Distillation (GCD)



% Boiling < 335°C



Historical Comments

12/06/17	Flash Point (COC) is very low. Recommend, if safe procedure to do so, the system is vented to release any light molecules which should raise the COC Flash Point. GCD shows high levels of light molecules which explains low flash point. If flash point cannot be recovered, recommend oil change and flush. COC Flash Point is severely low.
06/20/17	There are some low boilers present. Remove the low boilers if possible. Oil is fit for further service suggest sample at next scheduled maintenance interval. COC Flash Point is severely low. (GCD) 90% Distillation Point is abnormally high.
06/17/16	COC Flash Point tested twice: 132°C and 144°C. Oil is fit for further service - however low boilers are present and efforts should be taken to remove the low boilers or consider replacing the fluid in the near future. COC Flash Point is severely low. (GCD) 90% Distillation Point is marginally high.
06/02/15	Oil appears to be in good condition at this time. Iron levels are under control. Sample at next scheduled maintenance interval. COC Flash Point is marginally low.
05/27/14	There are a few low boilers present - try to remove low boilers if possible. Oil is fit for further service. Sample at next scheduled maintenance interval.