

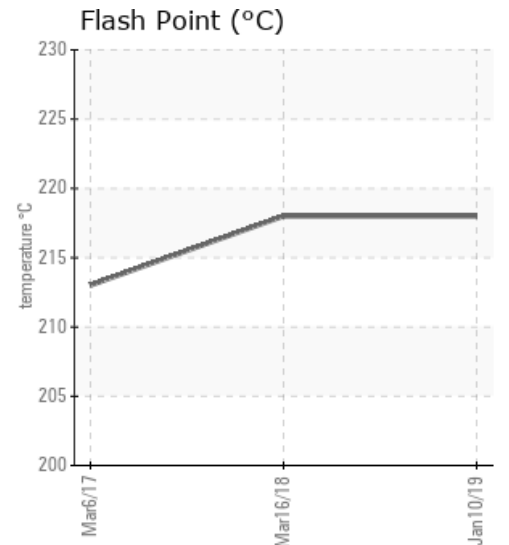
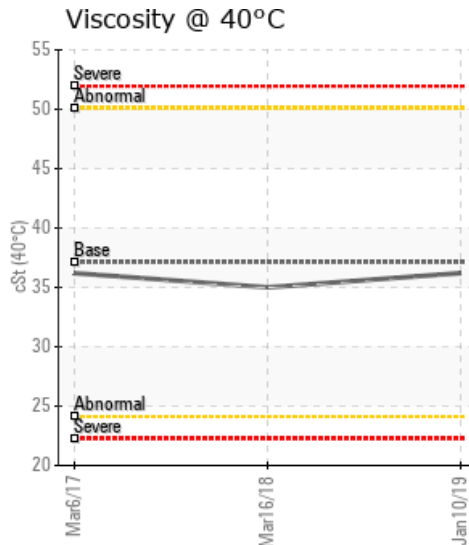
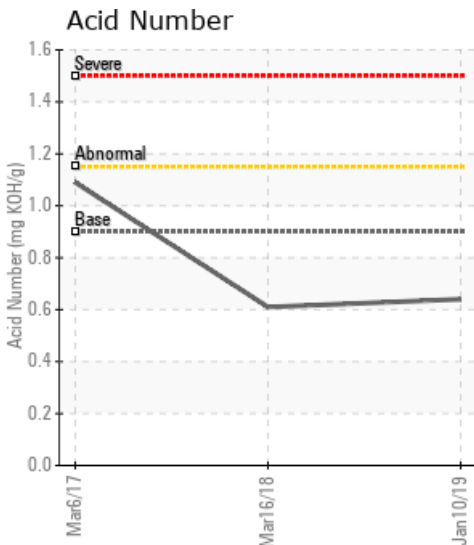
## FERROLI RLICOIL 400

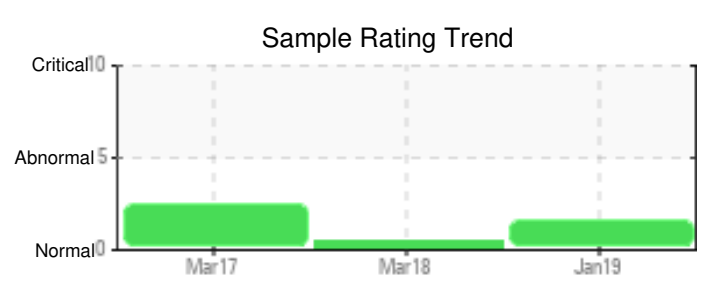
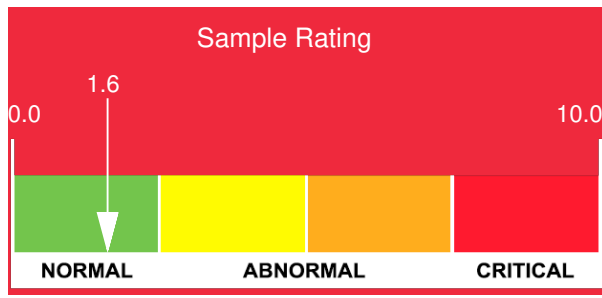
Customer: PTRHTF40108	System Information	Sample Information
WILTHAGEN VLEESWAREN ENERGIE WEG 1 THOLEN, 4691SE Netherlands Attn: Wilbert Snijers Tel: E-Mail: w.snijers@klt.nl	System Volume: 600 ltr Bulk Operating Temp: 475F / 246C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: FERROLI	Lab No: 02262369 Analyst: Philip Riley Sample Date: 01/10/19 Received Date: 01/15/19 Completed: 01/17/19

Recommendation: Recommend to conduct some form of removal of insoluble if this can be done safely. All other parameters meet specification, and from historic data it looks like the system has been high in insoluble before therefore can be resolved.

Comments: Pentane Insolubles levels are severely high.

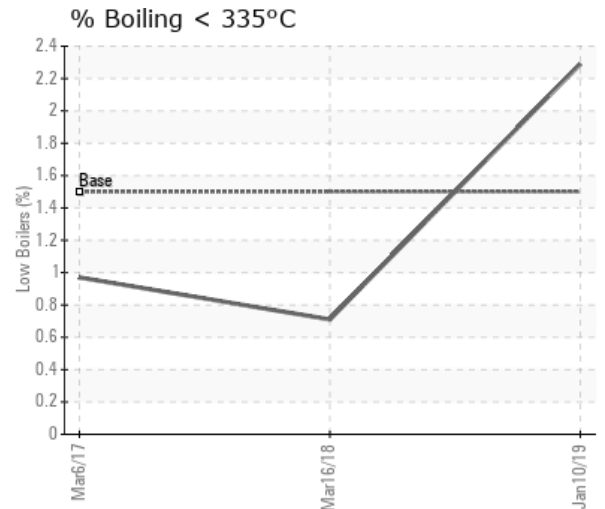
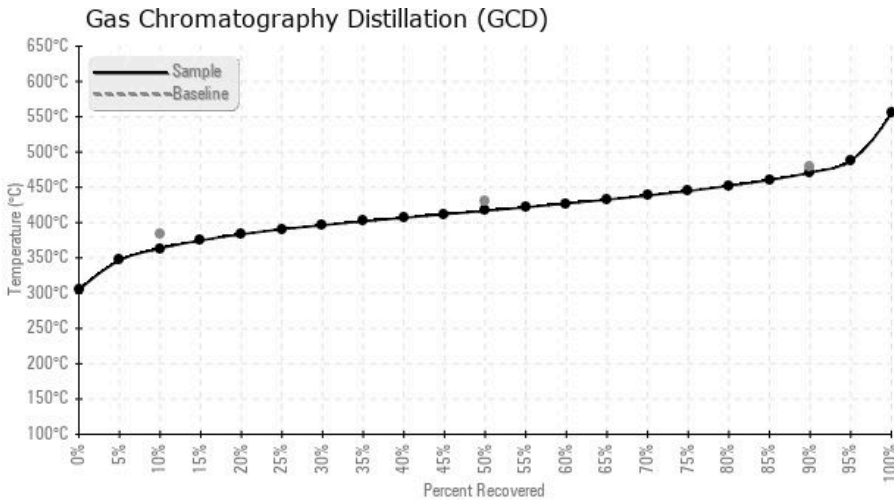
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/10/19	01/15/19	3y		424 / 218	58.3	36.2	0.64	0.878	686 / 363	782 / 417	880 / 471	2.29
03/16/18	03/22/18	2y		424 / 218	19.3	35.0	0.61	0.341	723 / 384	821 / 438	906 / 486	0.71
03/06/17	03/10/17	1y		415 / 213	52.8	36.2	1.09	1.02	716 / 380	812 / 433	921 / 494	0.97
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	
01/10/19	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	0	
03/16/18	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0
03/06/17	86	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	68	2
<b>Baseline Data</b>			0	0						0			0	0					0					230	

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



Historical Comments	
03/16/18	Fluid is in good conditions, resample at you normal sampling interval.
03/06/17	Oil has higher than expected levels of debris - possibly last exchange was not completely cleansed. In this case the oil appears to be satisfactory for further use and a sample should be taken after 6 months for further analysis. Pentane Insolubles levels are severely high. (GCD) 90% Distillation Point is abnormally high.

Petro-Canada makes no representation or warranty of any kind, either express or implied, as to the accuracy or completeness of the analysis and assumes no responsibility and shall have no liability whatsoever with respect to such analysis, or a party's use of it. Petro-Canada is a division of HollyFrontier Corporation.