

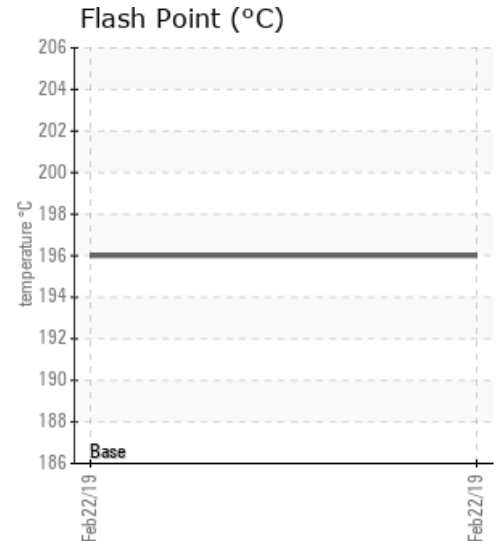
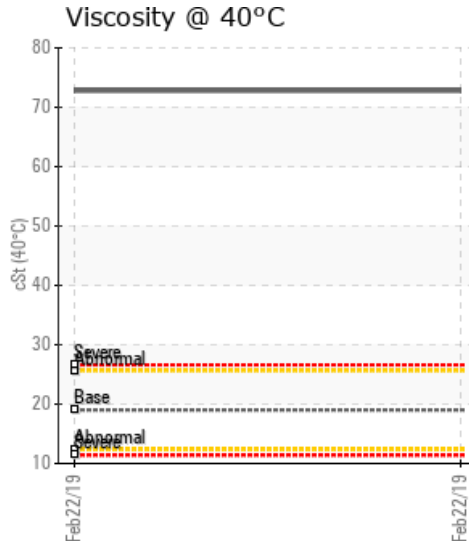
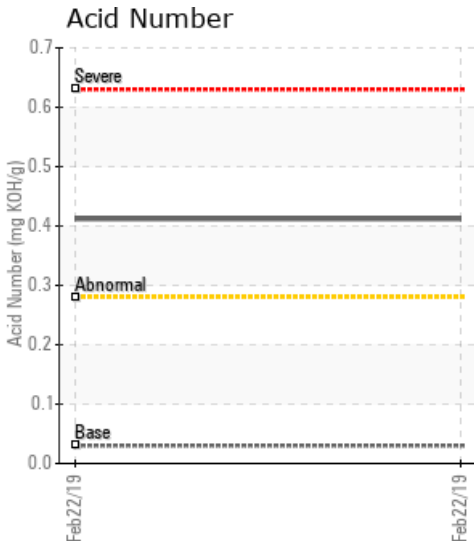
## EAIMRUNGRUANG - WANSON - SUPPLY + RETURN

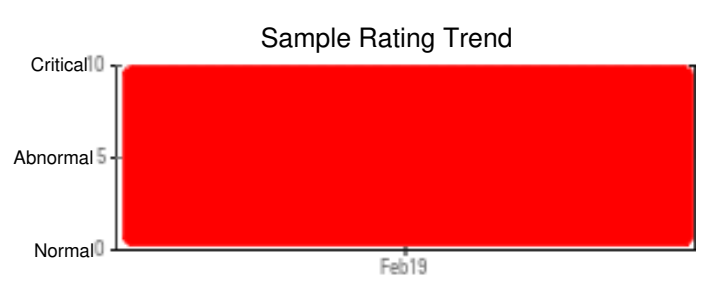
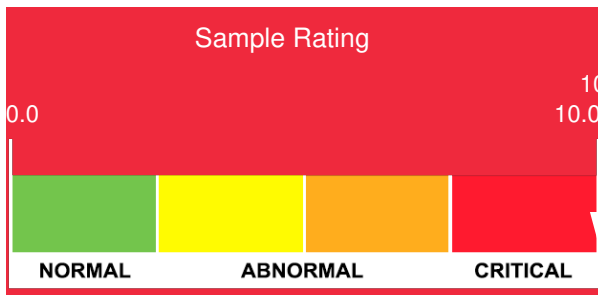
Customer: PTRHTF60010	System Information	Sample Information
SYNLUBE INTERNATIONAL CO LTD 76/1 MOO.7 THACHIN MUANG SAMUTSAKHON, 74000 THAILAND Attn: CHERNPORN CHOBKUI Tel: 034421290 E-Mail: chernporn@synlube.co.th	System Volume: 6500 ltr Bulk Operating Temp: 482F / 250C Heating Source: Blanket: Fluid: EASTMAN THERMINOL 55 Make: WANSON	Lab No: 02272141 Analyst: Yutong Gao Sample Date: 02/22/19 Received Date: 03/08/19 Completed: 03/21/19

Recommendation: The current Therminol 55 needs to be changed as soon as possible. The solid content is severely high, which indicates the system might have severe carbon deposit. The oil viscosity is almost 4 times higher than the fresh oil, which definitely reduces the system efficiency and causes extremely high energy consumption. It is better to conduct a system inspection. If the system is fouled badly, the system cleaning and flushing is recommended.

Comments: Water contamination levels are severely high. Solid Particle levels are severely high. Visc @ 40°C is severely high. Acid Number (AN) is abnormally high.

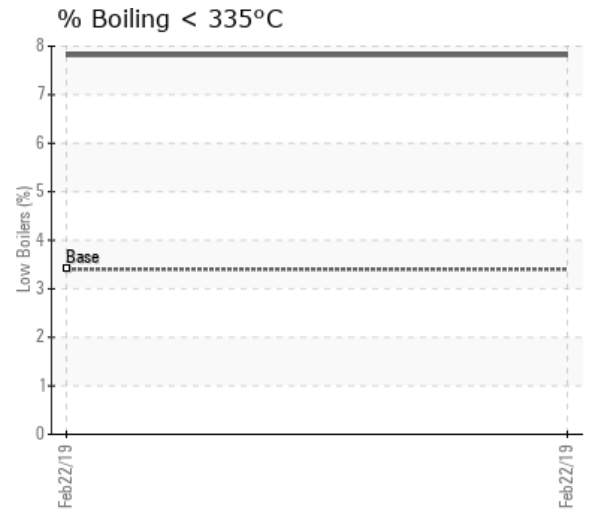
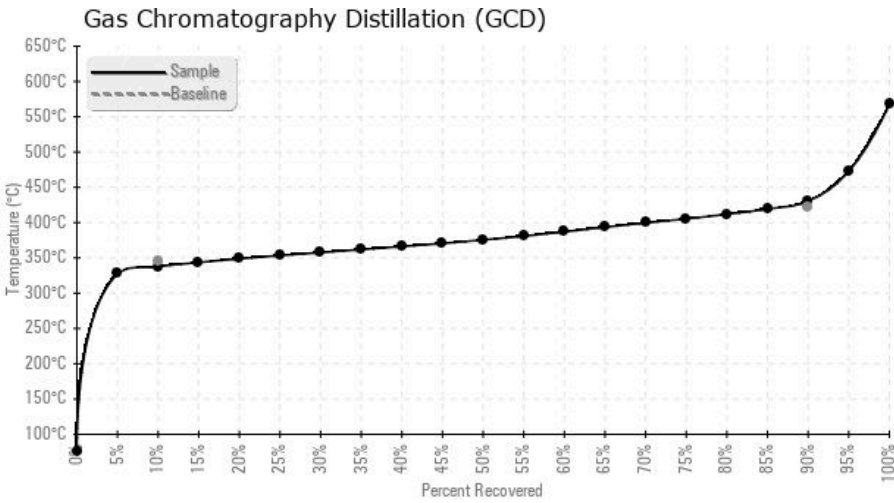
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
02/22/19	03/08/19	36m	SUPPLY/RETURN	385 / 196	1748.0	72.8	0.412	8.52	640 / 338	708 / 376	807 / 430	7.82
Baseline Data				349 / 176		19.0	0.03		655 / 346		790 / 421	3.40





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
02/22/19	192	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	3	0	3	0	7	0	0	2
Baseline Data			0	0						0			0	0					0				0	

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



### Historical Comments


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.