

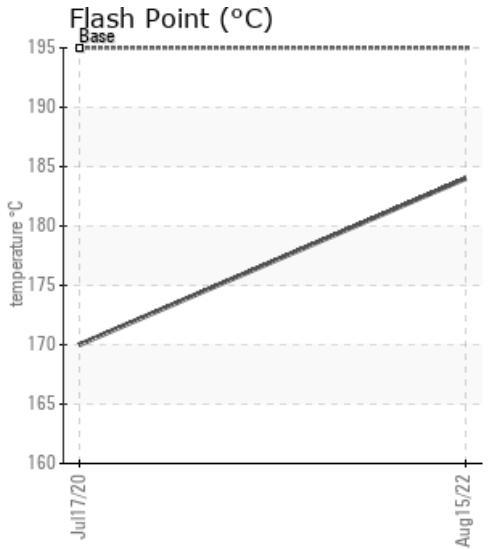
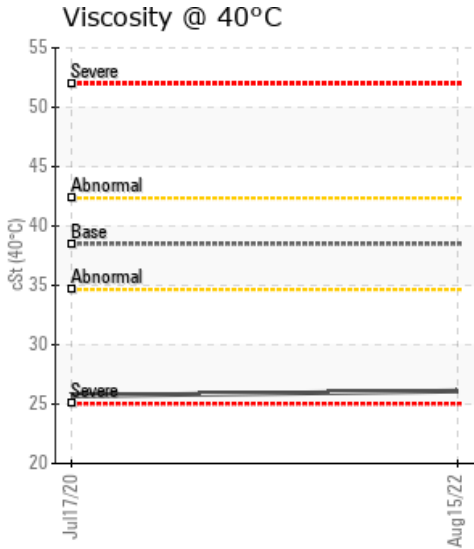
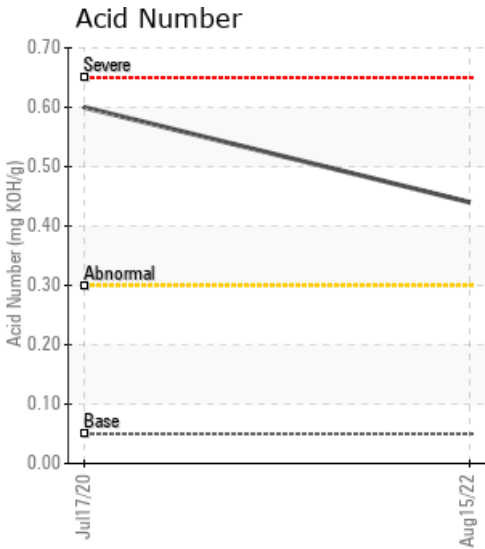
SAHA FARM CO LTD

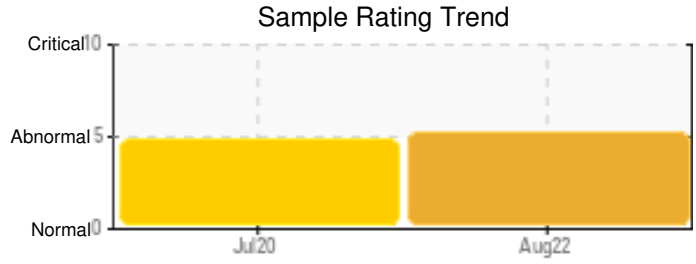
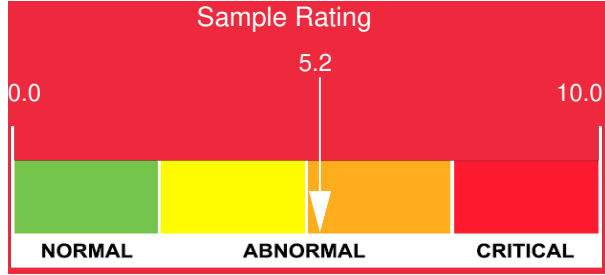
Customer: PTRHTF60010	System Information	Sample Information
SYNLUBE INTERNATIONAL CO LTD 76/1 MOO.7 THACHIN MUANG SAMUTSAKHON, 74000 THAILAND Attn: CHERNPORN CHOBKUI Tel: 034421290 E-Mail: chernporn@synlube.co.th	System Volume: 46000 ltr Bulk Operating Temp: 545F / 285C Heating Source: Blanket: Fluid: SHELL HEAT TRANSFER OIL S2 Make: BULWARKS	Lab No: 02506460 Analyst: Bill Quesnel CLS,OMA II,MLA-III,LLA-I Sample Date: 08/15/22 Received Date: 08/22/22 Completed: 08/25/22 Bill Quesnel CLS,OMA II,MLA-III,LLA-I

Recommendation: No significant change in the fluid since the last sample two years ago. There are low boilers showing in the gas chromatogram (SimDis). Recommend venting the fluid in the expansion tank to remove the low boilers and restore the viscosity.

Comments: Pentane Insolubles levels are severely high. (GCD) 90% Distillation Point is severely low. Acid Number (AN) is abnormally high.

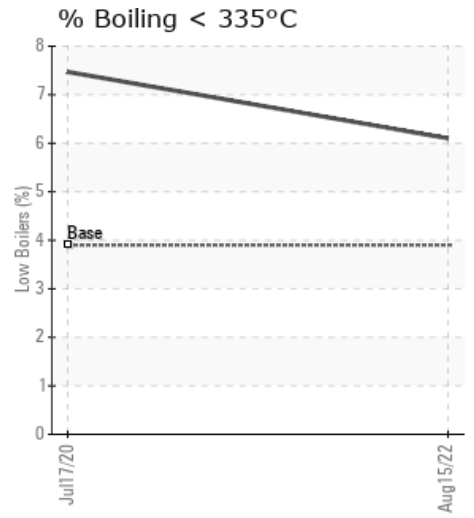
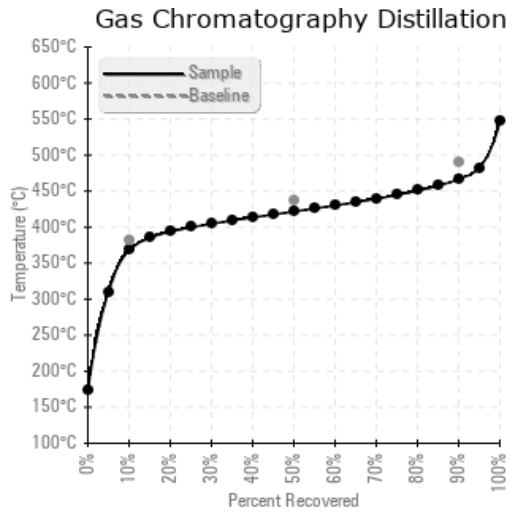
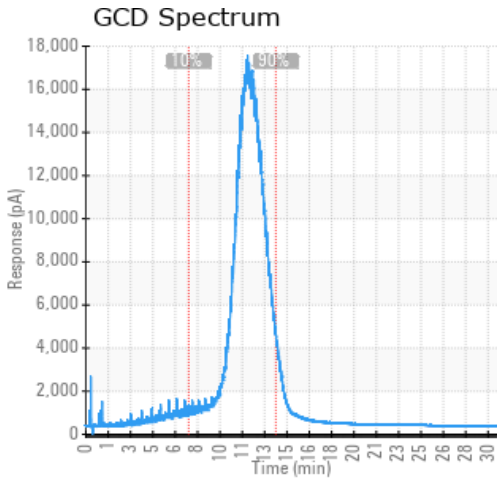
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/15/22	08/22/22	54.0m	SUPPLY AND RETURN	363 / 184	30.6	26.1	0.44	0.946	695 / 368	791 / 422	872 / 467	6.10
07/17/20	07/23/20	60.0m	SUPPLY AND RETURN	338 / 170	324.7	25.7	0.60	1.06	673 / 356	789 / 421	877 / 470	7.47
Baseline Data				383 / 195		38.5	0.05		718 / 381	819 / 437	914 / 490	3.9





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
08/15/22	11	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	2
07/17/20	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	15
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	
07/17/20	Not Petro-Canada product so comments are restricted. However, it is key to note that the product is not operating well. The COC Flash point is low at 170C, and there is evidence of cracking of the product in the shape of the GCD Distillation. The insoluble show high levels of degraded product which risk obstructing oilflow pathways and lower the performance to the system. The system then requires more energy to put in for the ideal heat levels, which further cracks the oil and causes more issues. Acid number is high also. I recommend that you schedule an oil change, including a clean and flush at the earliest convenience. Please share with us the full operating conditions and we can recommend the most suitable Petro-Canada product that will show a higher performance Pentane Insolubles levels are severely high. (GCD) 90% Distillation Point is severely low. Acid Number (AN) 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.