

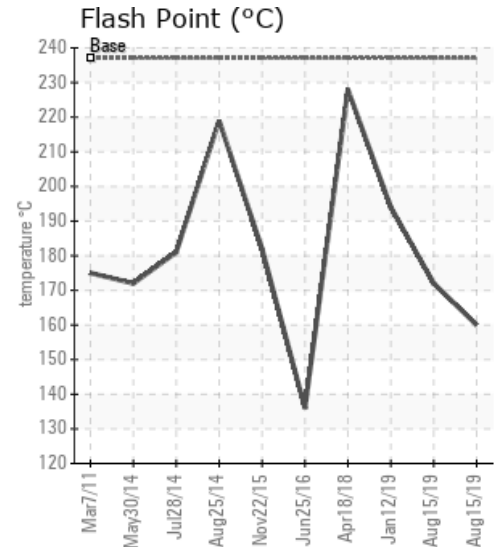
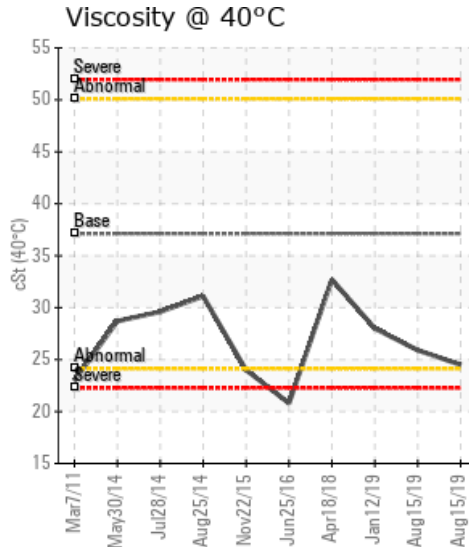
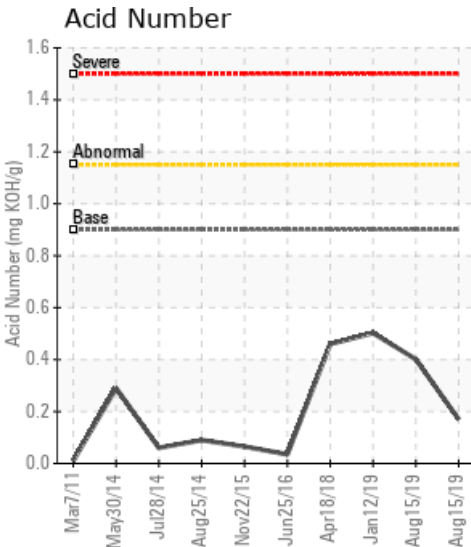
## GFPT-FURTHER#1#2

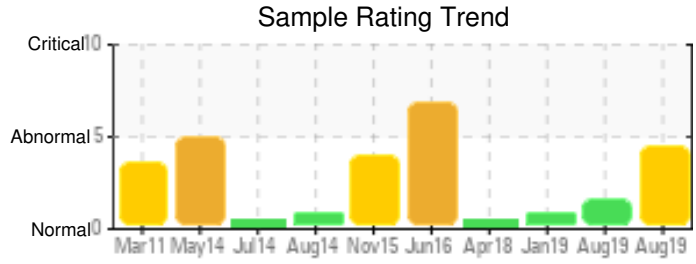
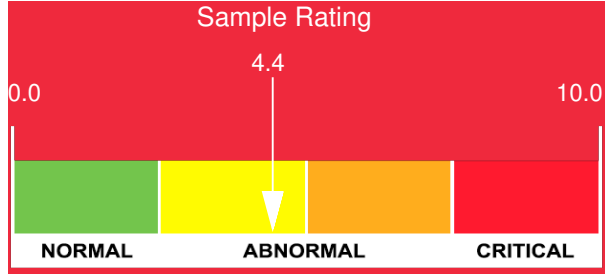
Customer: PTRHTF60010	System Information	Sample Information
SYNLUBE INTERNATIONAL CO LTD 76/1 MOO.7 THACHIN MUANG SAMUTSAKHON, 74000 THAILAND Attn: CHERNPORN CHOBKUI Tel: 034421290 E-Mail: chernporn@synlube.co.th	System Volume: 7000 ltr Bulk Operating Temp: 554F / 290C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: WANSON	Lab No: 02358334 Analyst: Philip Riley Sample Date: 08/15/19 Received Date: 06/08/20 Completed: 06/11/20 Philip Riley philip.riley@petrocanadalsp.com

Recommendation: (GCD) % < 335°C is marginally high. COC Flash Point is abnormally low. (GCD) 10% Distillation Point is marginally low. There is some evidence of thermal cracking which causes the light boiling molecules that reflect in the low flash point, and abnormal GCD. This is supported by the low viscosity also. System venting (if it can be done safely) is required as soon as possible, otherwise the partial oil change is recommended.

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

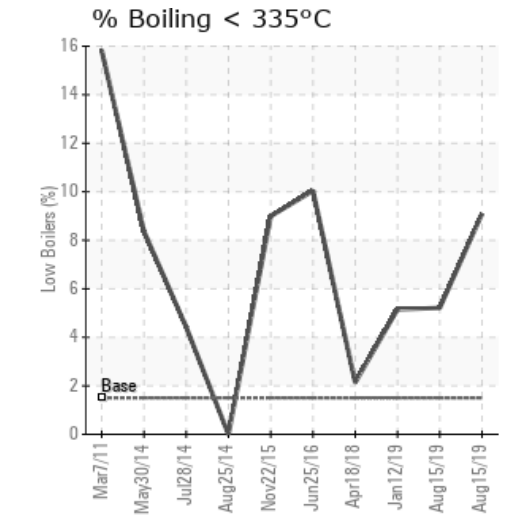
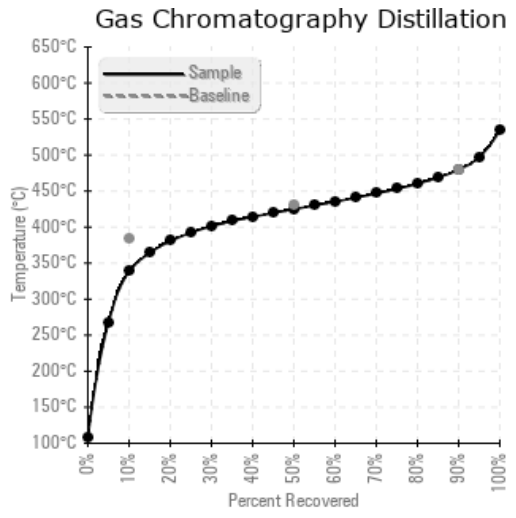
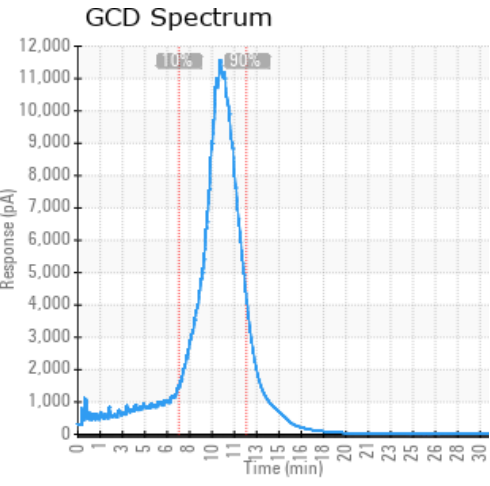
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/15/19	06/08/20	20m	SUPPLY RETURN	320 / 160	0.00	24.5	0.17	0.053	641 / 338	797 / 425	895 / 480	9.09
08/15/19	10/04/19	20m	SUPPLY RETURN	342 / 172	0.00	25.9	0.401	0.069	696 / 369	819 / 437	910 / 488	5.21
01/12/19	03/05/19	24m	SUPPLY RETURN	381 / 194	4.9	28.0	0.502	0.087	678 / 359	792 / 422	878 / 470	5.15
04/18/18	06/12/18	4m	SUPPLY RETURN	442 / 228	3.0	32.7	0.46	0.034	708 / 375	804 / 429	891 / 477	2.14
06/25/16	07/11/16	5m		277 / 136	9.6	20.8	0.035	0.087	628 / 331	795 / 424	916 / 491	10.04
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
08/15/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
08/15/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0
01/12/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
04/18/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0
06/25/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0
Baseline Data			0	0						0			0	0				0	0				230	

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



### Historical Comments

08/15/19	Viscosity trending towards low and COC Flash Pt very low. If the product can be safely vented to remove light molecules this should be done and a sample taken afterwards to check if there is recovery of the flash point. If not then should consider an oil change COC Flash Point is severely low.
01/12/19	The current fluid has normal viscosity and distillation point. The acid number, solid content and the contaminants are all low. The flash point is lower than the fresh oil, but still acceptable. Please continue to run the oil and take one sample in 12 months to monitor the conditions.
04/18/18	The fluid has adequate viscosity, flash point, distillation points. The acid number and solid content are all low. The oil is suitable for use, please take one sample in 12 months to monitor the fluid conditions.
06/25/16	(GCD) % < 335°C is abnormally high. COC Flash Point is abnormally low. (GCD) 10% Distillation Point is abnormally low. The current fluid has been thermal cracked. The high content of light boiler causes the low flash point. The system venting is required as soon as possible, otherwise the partial oil change is recommended. Please confirm the oil working hours to assist the oil analysis data interpretation.

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.