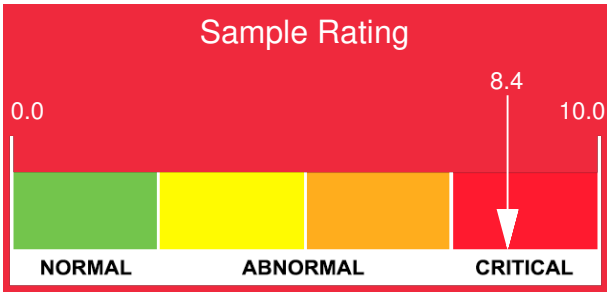
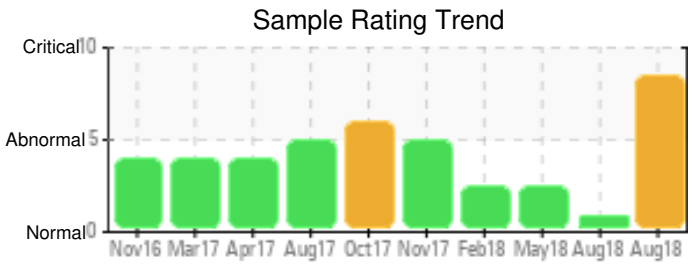




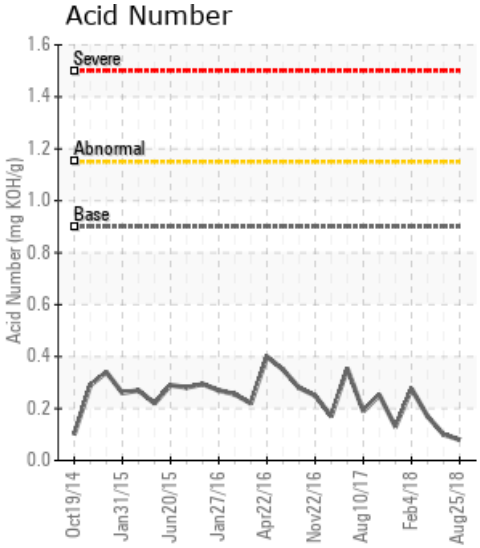
SUPPLY CARGILL MEAT THAILAND

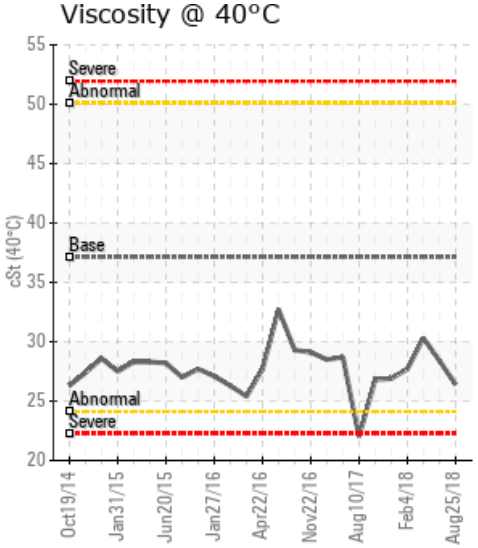
Customer: PTRHTF60010	System Information	Sample Information
SYNLUBE INTERNATIONAL CO LTD 76/1 MOO.7 THACHIN MUANG SAMUTSAKHON, 74000 THAILAND Attn: CHERNPORN CHOBKUI Tel: 034421290 E-Mail: chernporn@synlube.co.th	System Volume: 20910 ltr Bulk Operating Temp: 554F / 290C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: WANSON	Lab No: 02253873 Analyst: Yutong Gao Sample Date: 08/25/18 Received Date: 11/27/18 Completed: 12/05/18

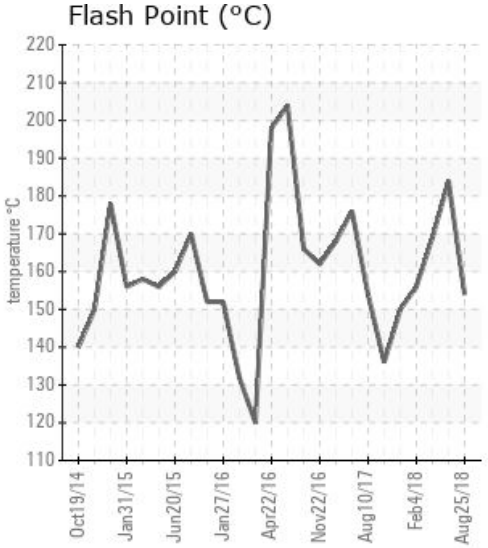
Recommendation: This sample results are very similar to the Feb 4th 2018 sample. The current fluid has low viscosity, low flash point due to the severe thermal cracking at high bulk working temperature. Please conduct the effective system venting to release the low boiler. The acid number and solid content are all very low indicating minimum oxidation and minimum system deposit. Please take one sample in 4 months to monitor the conditions.

Comments: (GCD) 10% Distillation Point is severely low. (GCD) 90% Distillation Point is severely low. COC Flash Point is severely low. (GCD) % < 335°C is abnormally high. (GCD) 50% Distillation Point is abnormally low.

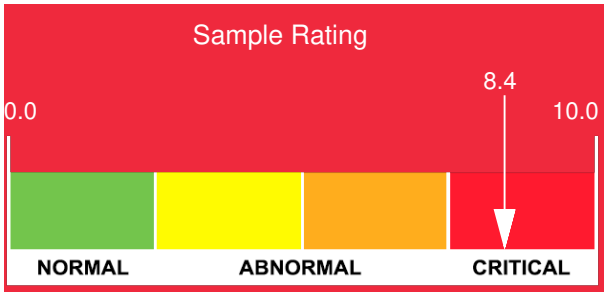
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/25/18	11/27/18	31m		309 / 154	12.2	26.4	0.08	0.023	598 / 314	728 / 386	821 / 439	15.22
08/25/18	09/05/18	28m	SUPPLU	363 / 184	11.7	28.4	0.10	0.025	685 / 363	805 / 430	902 / 483	5.29
05/23/18	06/12/18	25m		336 / 169	12.7	30.3	0.17	0.048	677 / 359	781 / 416	873 / 467	4.51
02/04/18	02/26/18	22m		313 / 156	0.00	27.7	0.276	0.036	665 / 352	769 / 409	890 / 477	4.38
11/01/17	11/14/17	19m		302 / 150	10.7	26.9	0.13	0.031	674 / 357	805 / 430	897 / 481	6.43
10/13/17	10/24/17	19m	SUPPLY	277 / 136	0.1	26.8	0.252	0.015	668 / 353	798 / 426	892 / 478	6.82
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5

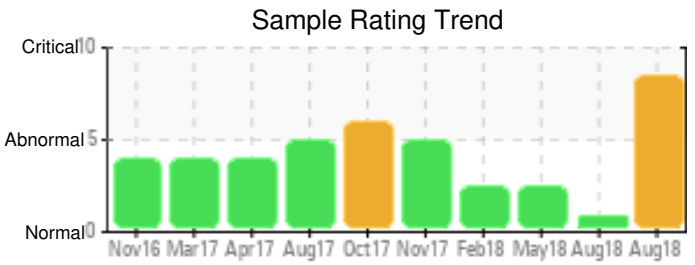






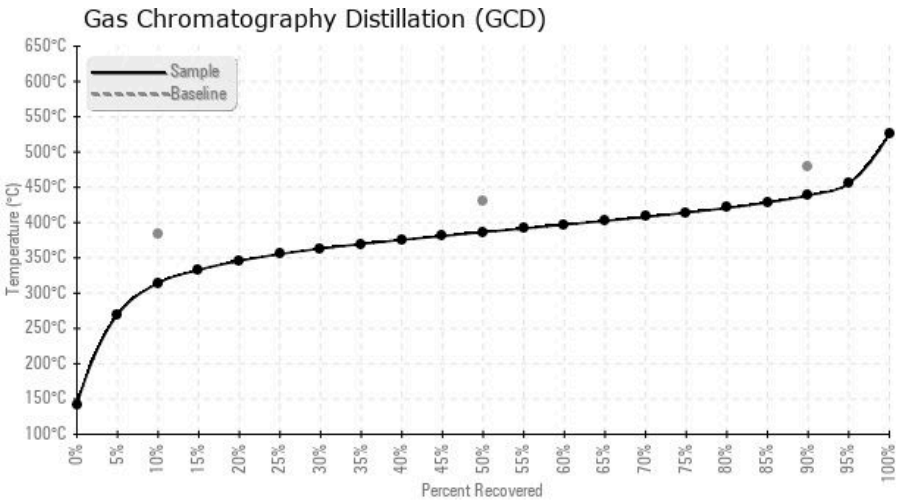
PETRO-CANADA LUBRICANTS

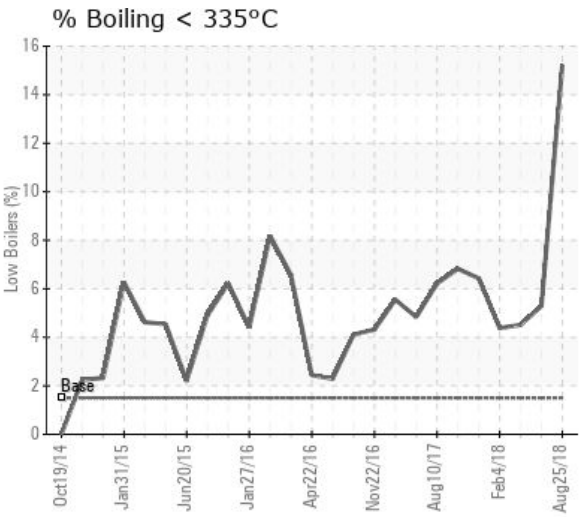




Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
08/25/18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0
08/25/18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1
05/23/18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
02/04/18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
11/01/17	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
10/13/17	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
Baseline Data			0	0						0			0	0					0				230	

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





Historical Comments

08/25/18	The current fluid conditions are improving. There are minimum third party contaminations such as water or dirty. The acid number and solid contents are very low, meaning minimum oxidation. The flash point is also higher than the last sample in May, but still considered low due to thermal cracking at ~290C bulk working temperature. Please continue to do the system venting as a routine maintenance schedule. Please take one sample in 6 months to monitor the conditions. COC Flash Point is low.
05/23/18	The currently fluid has experienced severe thermal cracking at the extremely high bulk working temperature. However, the fluid flash point and viscosity are all higher than the previous three used oil samples, so the overall fluid conditions are improving. Please continue to do the effective system venting and take one sample in 6 months to monitor the conditions. COC Flash Point is severely low. (GCD) 90% Distillation Point is marginally low.
02/04/18	The current fluid has normal distillation points, the acid number and solid contents are all very low. However, the flash point is still much lower than the fresh fluid due to the thermal cracking at the extremely high bulk working temperature. Please do a long and effective system venting and take one sample in 6 months to monitor the conditions. COC Flash Point is severely low.
11/01/17	The current fluid has very low acid number, normal distillation point, and minimum water and solid particles. However, the viscosity and flash point are still much lower than the fresh fluid due to the thermal cracking at 290C bulk temperature. The flash point is higher than the last sample on Oct 13th, so please continue to do the effective system venting, and take one sample in 4 months to verify the conditions. COC Flash Point is severely low.
10/13/17	The current fluid has adequate distillation points, viscosity, Tan or solids reading in general. However, the flash point is very low because of the presence of the low boiler/lighter oil. The fluid was partially thermal cracked by the high working temperature. Please do a longer system venting as soon as possible. The AIT test is recommended to double check the auto-ignition temperature. If the venting cannot be conducted efficiently, a partial oil change can be an option. Please take one sample in 3 months to monitor the conditions. COC Flash Point is severely low.