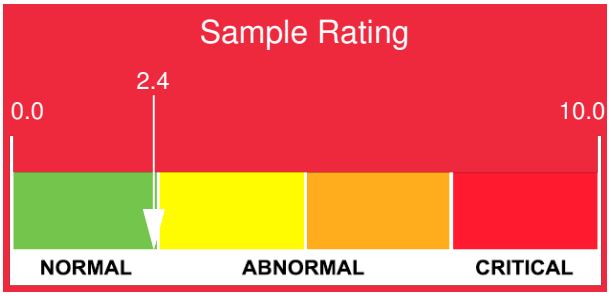
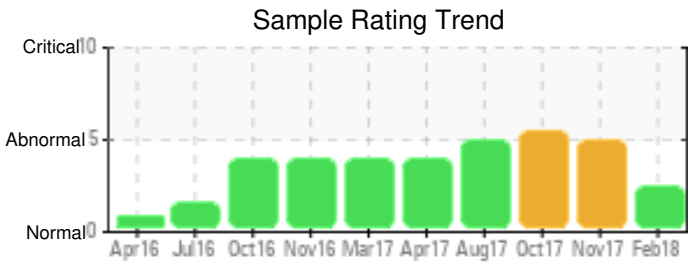




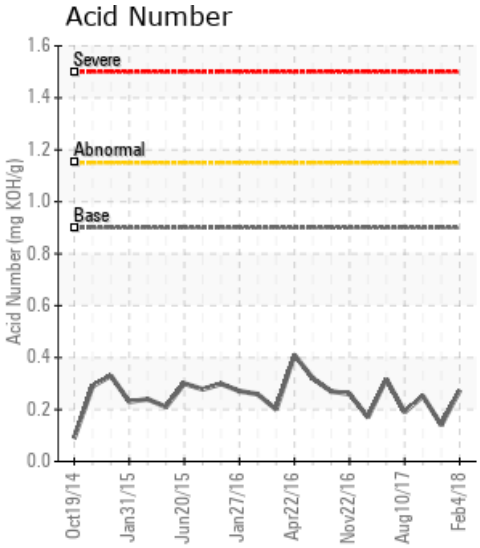
RETURN CARGILL MEAT THAILAND

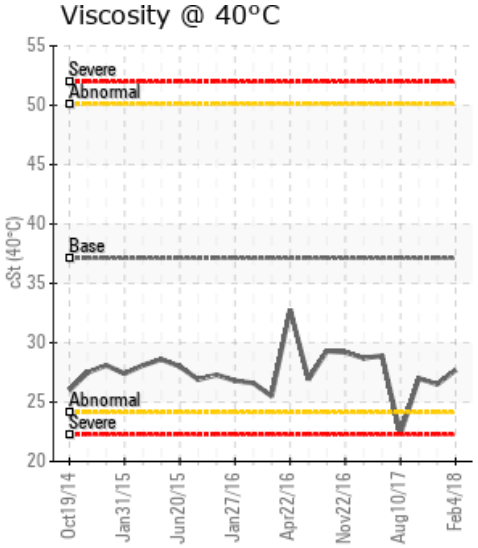
Customer: PTRHTF60010	System Information	Sample Information
SYNLUBE INTERNATIONAL CO LTD 76/1 MOO.7 THACHIN MUANG SAMUTSAKHON, 74000 THAILAND Attn: Kittisak Suthithanakom Tel: 6(681)850-1907 E-Mail: kittisak@synlube.co.th	System Volume: 9635 ltr Bulk Operating Temp: 554F / 290C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: WANSON	Lab No: 02200562 Analyst: Yutong Gao Sample Date: 02/04/18 Received Date: 02/26/18 Completed: 02/28/18 To discuss this report contact Yutong Gao at (403)873-1876

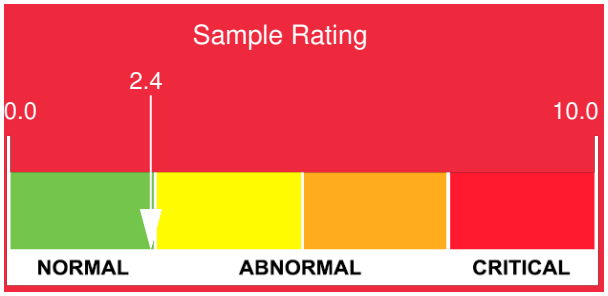
Recommendation: The current fluid has normal distillation points, the acid number and solid contents are all very low. However, the flash point is still much lower than the fresh fluid due to the thermal cracking at the extremely high bulk working temperature. Please do a long and effective system venting and take one sample in 6 months to monitor the conditions.

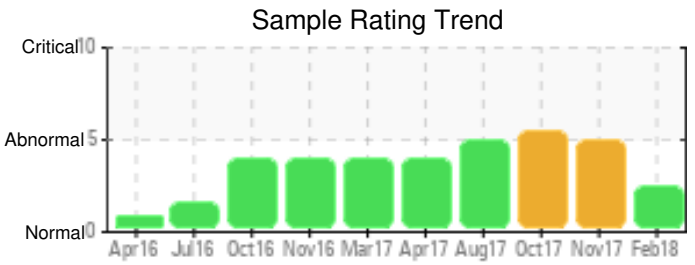
Comments: COC Flash Point is severely low.

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	%
02/04/18	02/26/18	22m		327 / 164	0.00	27.7	0.274	0.022	685 / 363	787 / 419	868 / 464	3.98
11/01/17	11/14/17	19m		313 / 156	9.8	26.5	0.14	0.028	670 / 354	779 / 415	869 / 465	5.10
10/13/17	10/24/17	19m	RETURN	298 / 148	11.5	27.0	0.252	0.028	675 / 357	803 / 429	900 / 482	6.31
08/10/17	08/22/17	17m		309 / 154	49.9	22.3	0.19	0.038	689 / 365	807 / 431	900 / 482	4.95
04/21/17	05/01/17	12m		309 / 154	20.4	28.9	0.317	0.054	683 / 362	804 / 429	900 / 482	5.22
03/26/17	04/03/17	12m		331 / 166	13.2	28.7	0.17	0.029	681 / 361	802 / 428	901 / 483	5.45
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5



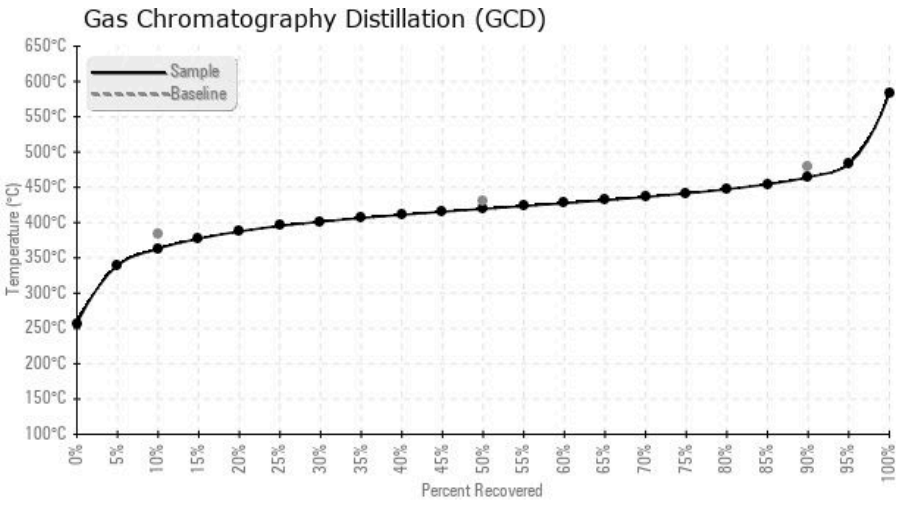


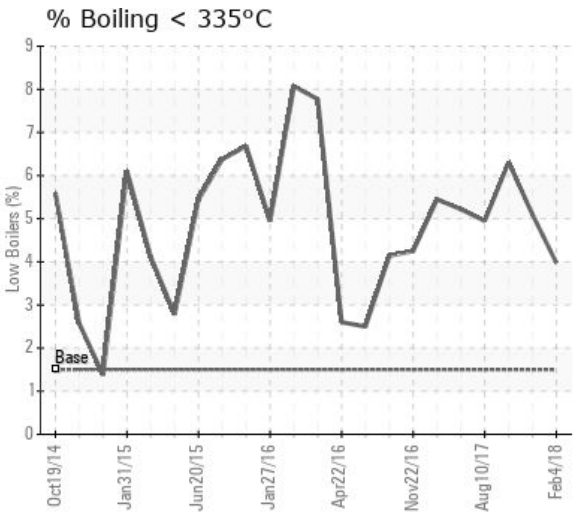




Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
02/04/18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	11	0
11/01/17	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1	0	0	0	10	0
08/10/17	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	1
04/21/17	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0
03/26/17	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	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

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.
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.
08/10/17	The current fluid contains low boiler/light oil due to the thermal cracking, therefore, the flash point and the viscosity are all quite low. Based on the GCD distillation results, the fluid is still suitable for use. However, we recommend a longer effective system venting as soon as possible. Please take one sample in 3 months to monitor the oil conditions.
04/21/17	The current fluid has correct viscosity, TAN and distillation points. The solid level is acceptable. The flash point is still lower than the new fluid which is resulted from the thermal cracking at the high bulk temperature. Please continue to perform the system venting and take one sample in 4~6 months to monitor the conditions. COC Flash Point is severely low.
03/26/17	The fluid viscosity and flash point are all much lower than the fresh fluid. However, they are very similar to the samples taken on Nov 2016 and Oct 2016. The GCD, TAN, solid and water content are all normal. Please keep on doing the system venting as much as possible. Take one sample in 6 months to monitor the conditions.