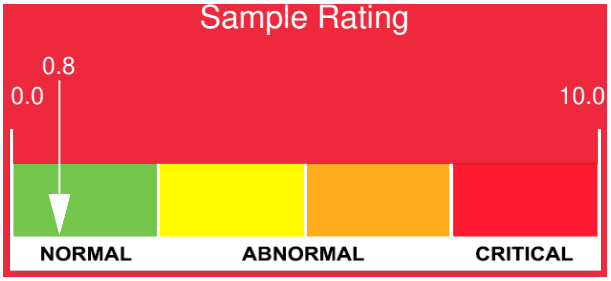
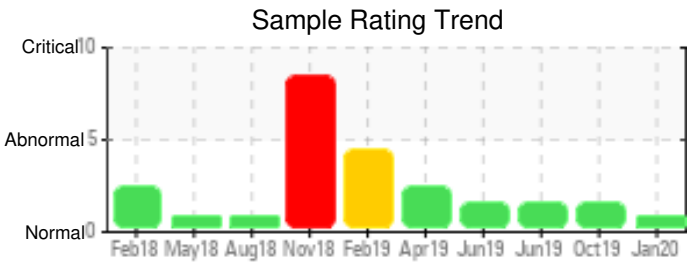




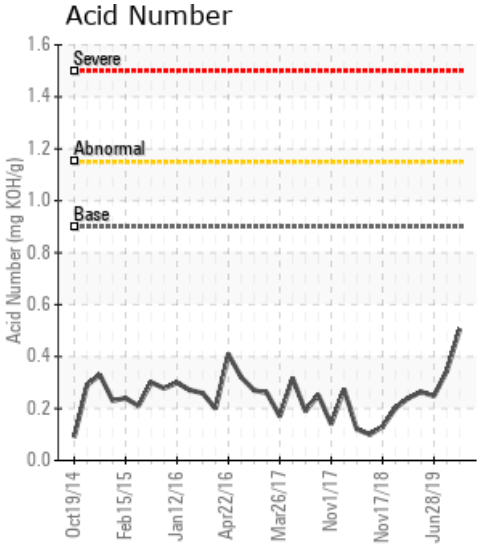
RETURN CARGILL MEAT THAILAND

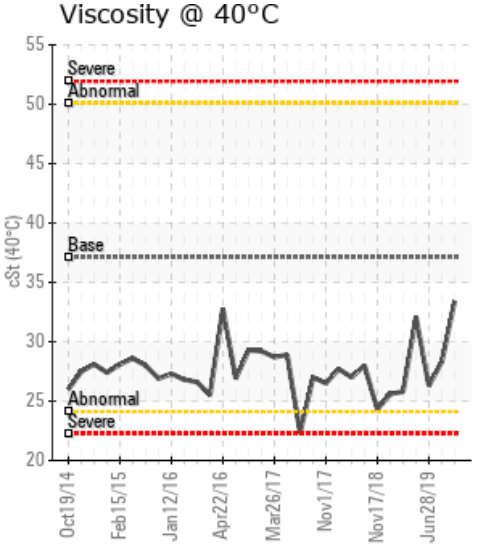
Customer: PTRHTF60010	System Information	Sample Information
SYNLUBE INTERNATIONAL CO LTD 76/1 MOO.7 THACHIN MUANG SAMUTSAKHON, 74000 THAILAND Attn: CHERNPORN CHOBKUI Tel: 034421290 E-Mail: chernporn@synlube.co.th	System Volume: 11275 ltr Bulk Operating Temp: 554F / 290C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: WANSON	Lab No: 02334959 Analyst: Philip Riley Sample Date: 01/14/20 Received Date: 01/30/20 Completed: 02/12/20 Philip Riley philip.riley@petrocanadalsp.com

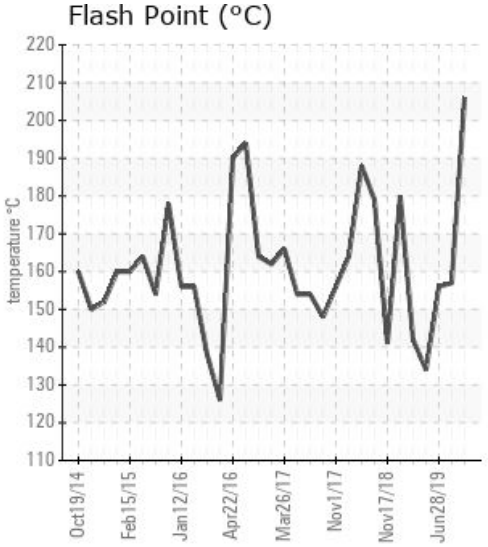
Recommendation: Flash point (COC) slightly low but within reasonable boundaries. If safe venting can take place to recover then look towards this after next analysis if it continues to reduce but currently fit for further use. All other parameters meet spec. Please re-sample at normal interval

Comments: COC Flash Point is marginally low.

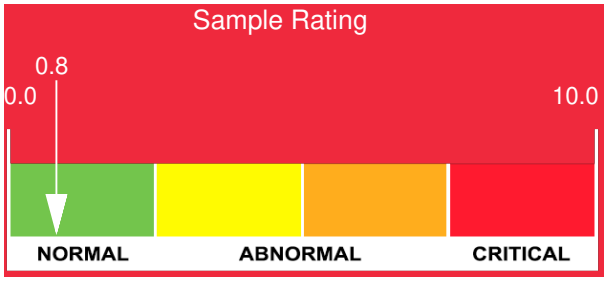
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/14/20	01/30/20	10d		403 / 206	2.2	33.4	0.505	0.058	725 / 385	807 / 431	896 / 480	0.00
10/12/19	10/25/19	42d	SUPPLY/RETURN	315 / 157	9.6	28.3	0.345	0.117	672 / 356	791 / 422	885 / 474	6.15
06/28/19	07/11/19	38d		313 / 156	28.1	26.3	0.248	0.027	677 / 359	794 / 423	885 / 474	5.71
06/02/19	06/11/19	38d		273 / 134	10.8	32.1	0.264	0.182	671 / 355	797 / 425	893 / 479	6.55
04/26/19	05/03/19	36d		288 / 142	8.0	25.8	0.240	0.049	664 / 351	798 / 426	895 / 479	7.38
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5

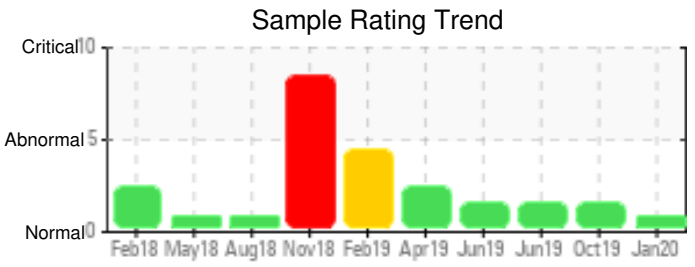






PETRO-CANADA LUBRICANTS

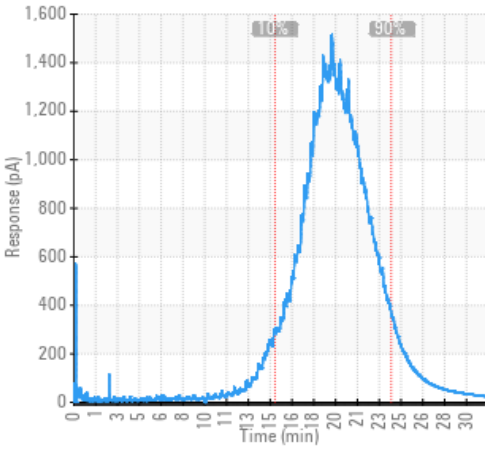




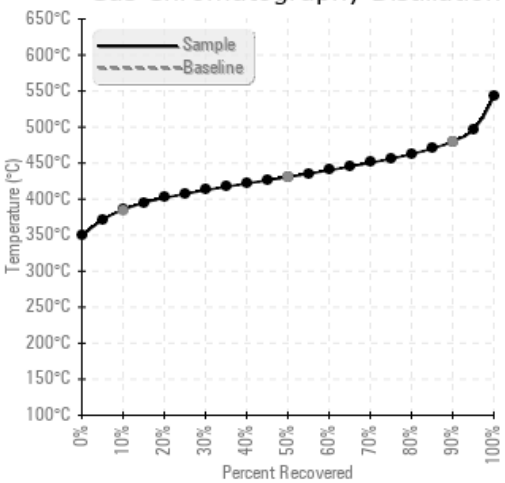
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
01/14/20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	0
10/12/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0
06/28/19	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	1
06/02/19	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0
04/26/19	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0
Baseline Data			0	0						0			0	0					0				230	

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

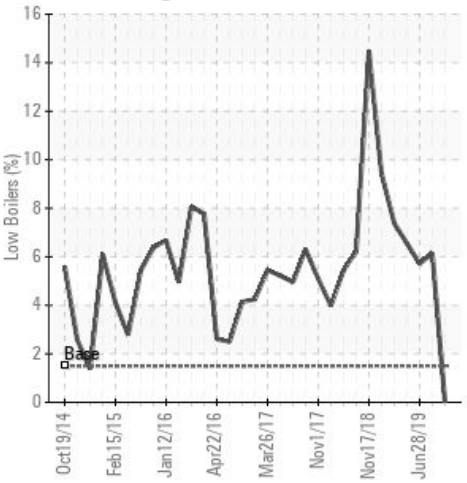
GCD Spectrum



Gas Chromatography Distillation



% Boiling < 335°C



Historical Comments

10/12/19	COC very low and evidence of thermal cracking of the oil, with a history in this application. Viscosity has recovered slightly from last sample and COC Flash Pt is almost identical. Please look to further vent this system (if safe) and see if flash point can be recovered also. Distillation properties in line with expectation. Please sample following venting and check on recovery of the oil COC Flash Point is severely low.
06/28/19	The current fluid has normal distillation points. The acid number and solid content are all normal. The current fluid is suitable for operation. Please do the system venting as one of the routine maintenance activities to release the low boiler. Please take one sample in 6 months to monitor the conditions.
06/02/19	The current fluid condition is similar to the previous oil sample two months ago. The oil viscosity has been greatly improved. The oil distillation points are normal. The oil Acid Number and Solid contents are all low. However, the flash point is still severely low based on two repeated tests. Please conduct a long and effective system venting to release the light oil moisture to restore the higher flash point as soon as possible.
04/26/19	The current fluid has very low flash point and low viscosity at 40C because of the severe thermal cracking. The low boiler needs to be released by effective system venting. However the fluid distillation points are still adequate. Please confirm if the representative sample was taken at the plant? The sample needs to be taken at the sample place after the oil is well circulated. Please take one more sample and send to Focuslab and just do the viscosity and flash point tests to confirm. If the results are still low, please drain half of the system and fill the new fluid. If the system is dirty, please arrange the system cleaning and flushing. COC Flash Point is severely low. (GCD) 10% Distillation Point is marginally low.

