

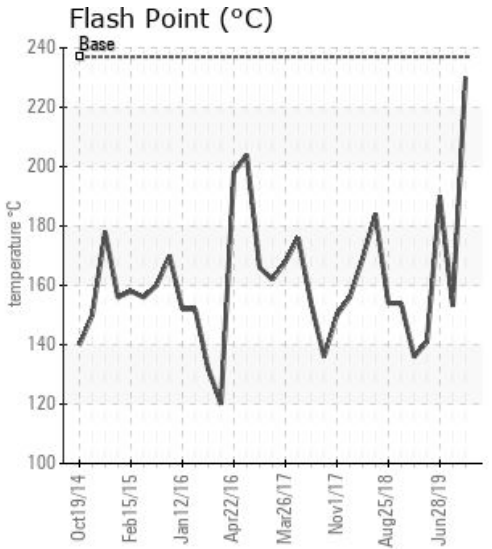
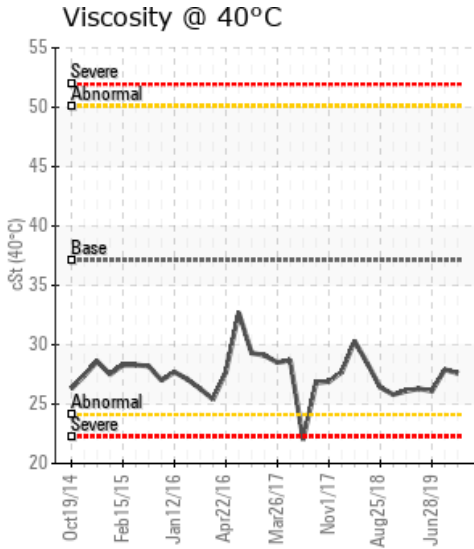
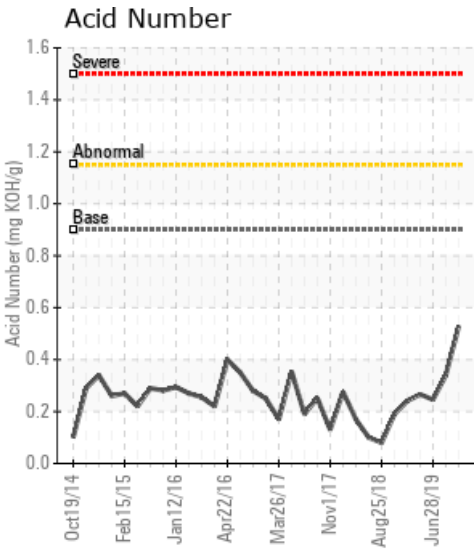
SUPPLY CARGILL MEAT THAILAND

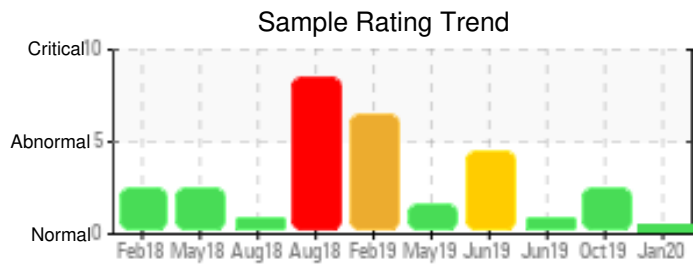
Customer: PTRHTF60010	System Information	Sample Information
SYNLUBE INTERNATIONAL CO LTD 76/1 MOO.7 THACHIN MUANG SAMUTSAKHON, 74000 THAILAND Attn: CHERNPORN CHOBKUI Tel: 034421290 E-Mail: chernporn@synlube.co.th	System Volume: 11275 ltr Bulk Operating Temp: 554F / 290C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: WANSON	Lab No: 02334958 Analyst: Philip Riley Sample Date: 01/14/20 Received Date: 01/30/20 Completed: 02/12/20 Philip Riley philip.riley@petrocanadalsp.com

Recommendation: Oil tests to spec and all parameters as expected. Fit for further use and re-sample at normal frequency

Comments:

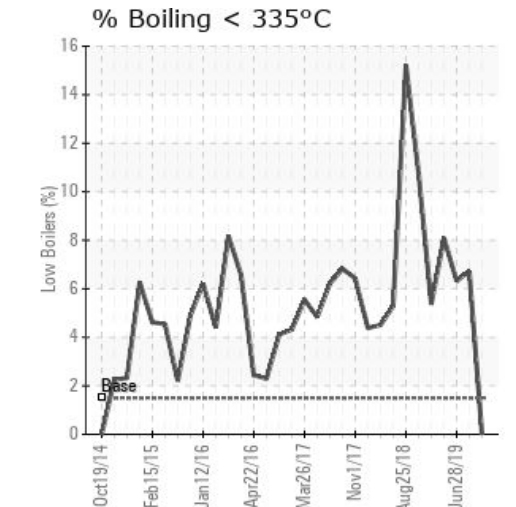
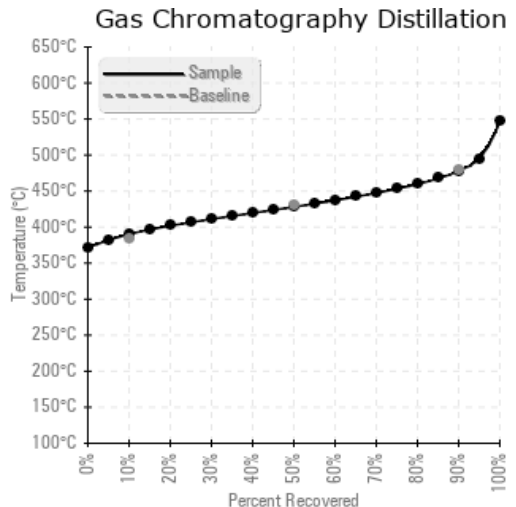
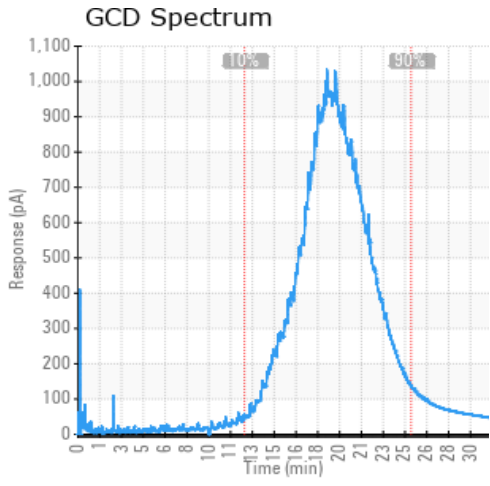
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/14/20	01/30/20	10d		446 / 230	0.2	27.6	0.529	0.077	734 / 390	802 / 428	892 / 478	0.00
10/12/19	10/25/19	42d	SUPPLY/RETURN	307 / 153	13.3	27.9	0.340	0.086	666 / 352	788 / 420	883 / 473	6.73
06/28/19	07/11/19	38d		374 / 190	28.8	26.1	0.246	0.038	673 / 356	795 / 424	886 / 475	6.32
06/02/19	06/11/19	38d		286 / 141	9.9	26.3	0.266	0.054	654 / 346	792 / 422	890 / 477	8.10
05/02/19	05/03/19	36d		277 / 136	8.5	26.1	0.241	0.061	685 / 363	803 / 428	897 / 481	5.37
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
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	50	0
10/12/19	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0
06/28/19	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0
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	18	0
05/02/19	6	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 analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]



Historical Comments	
10/12/19	Strong evidence of cracking indicated by the lowering viscosity and the low flash point. This looks to have been recovered in the past and if safe to do so the system must be vented. Distillation points remain mainly in line with fresh fluid. Please vent the system and take another sample to check how the system has recovered from removal of the light end molecules COC Flash Point is severely low. (GCD) 10% Distillation Point is marginally 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 conditions are slightly better than the previous oil sample two months ago. However, the flash point is still severely low considering the elevated low boiler generated by the thermal cracking? The oil Acid Number and Solid contents are all low. Please conduct a long and effective system venting to release the light oil moisture.
05/02/19	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. COC Flash Point is severely low.

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