

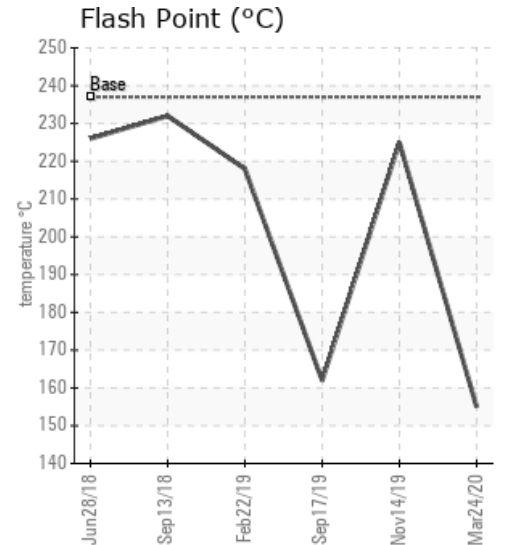
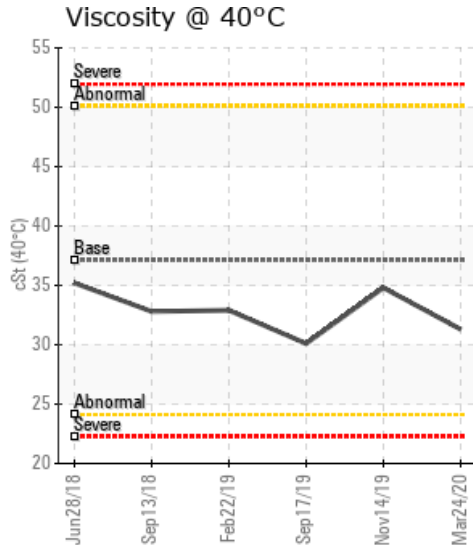
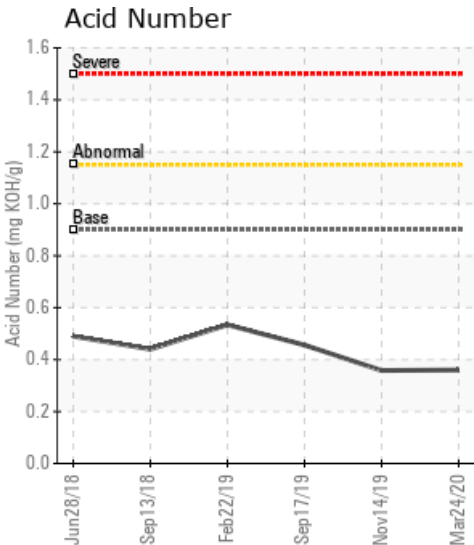
## KORAT (THAILAND) - RETURN - FUTHER1

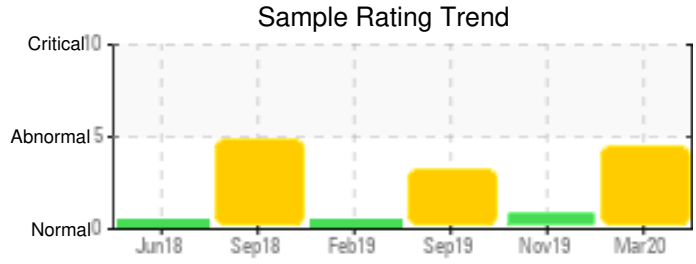
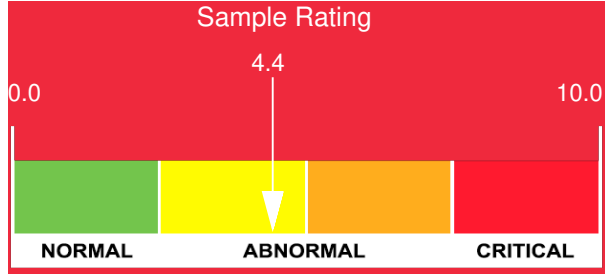
Customer: PTRHTF60010	System Information	Sample Information
SYNLUBE INTERNATIONAL CO LTD 76/1 MOO.7 THACHIN MUANG SAMUTSAKHON, 74000 THAILAND Attn: Kittisak Suthithanakom Tel: 6(681)850-1907 E-Mail: kittisak@synlube.co.th	System Volume: 20910 ltr Bulk Operating Temp: 554F / 290C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: HAVOL	Lab No: 02346702 Analyst: Philip Riley Sample Date: 03/24/20 Received Date: 03/31/20 Completed: 04/28/20 Philip Riley philip.riley@petrocanadalsp.com

Recommendation: COC Flash Point is very low and the trace shows evidence of some light molecules. If it can be done safely suggest venting the fluid to remove light ends, but only if safe. Please re-sample when done to check if the flash point has recovered. If it cannot be done consider an oil change based on the decreasing flash point

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

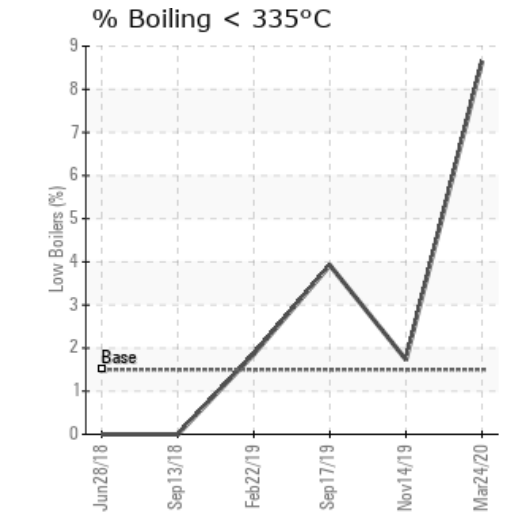
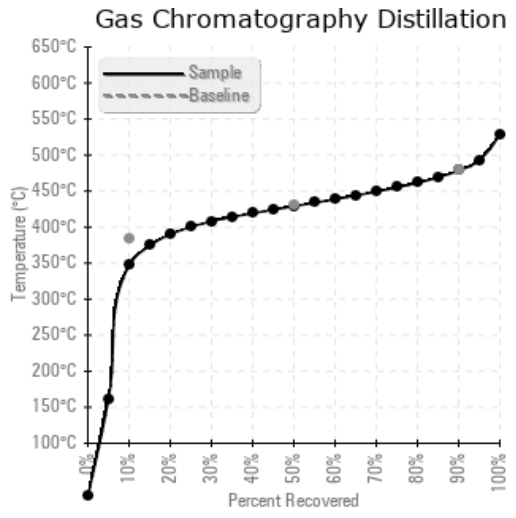
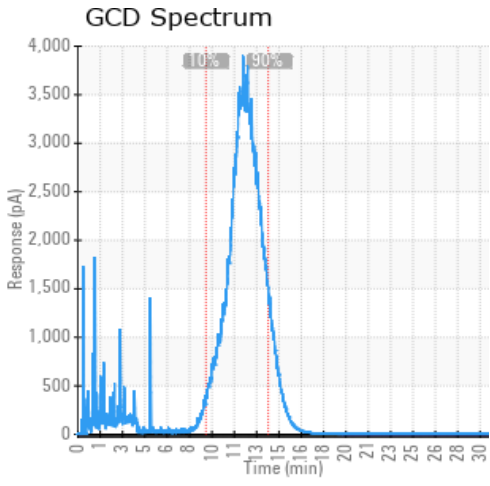
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/24/20	03/31/20	27m	RETURN	311 / 155	67.4	31.3	0.36	0.056	657 / 347	804 / 429	893 / 478	8.65
11/14/19	11/21/19	0m	RETURN	437 / 225	8.0	34.8	0.358	0.057	694 / 368	784 / 418	868 / 465	1.73
09/17/19	10/04/19	21m		324 / 162	474.9	30.1	0.456	0.061	701 / 372	808 / 431	895 / 480	3.92
02/22/19	03/08/19	0m		424 / 218	10.9	32.9	0.534	0.052	708 / 376	801 / 427	882 / 472	1.86
09/13/18	10/02/18	6m		450 / 232	1912.3	32.8	0.44	0.057	729 / 387	804 / 429	885 / 474	0.00
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
03/24/20	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	2
11/14/19	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1
09/17/19	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
02/22/19	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
09/13/18	20	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 analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]



Historical Comments	
11/14/19	Picture of fluid looks darker than expected, was there a flush done between the last product and this new oil? All critical parameters testing to spec and fluid fit for further use. Based on historical oil data recommend re-sample at next normal frequency, estimate 6 months (GCD) 90% Distillation Point is marginally low.
09/17/19	COC Flash Point is very low and the trace shows evidence of some light molecules. If it can be done safely suggest venting the fluid to remove light ends, but only if safe. Please re-sample when done to check if the flash point has recovered. If it cannot be done consider an oil change based on the decreasing flash point Water contamination levels are marginally high. Water contamination levels are marginally high. COC Flash Point is severely low.
02/22/19	The current fluid has normal flash point, adequate oil viscosity and GCD distillation points. The contaminants such as water, dirt or other solid particles are all low. Please continue to run the fluid and take one sample in 12 months.
09/13/18	The current fluid has normal viscosity, flash point and TAN. The solid content is also very low. However, the water level is very high, even though there are no safety concerns, I still recommend to trouble-shoot how the large amount of the water went into the system. Or the sample was just a bad sample. Please make sure to flush the sampling line/port well before taking the real samples next time. Please continue to run this fluid and take one sample in 6 months.

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