

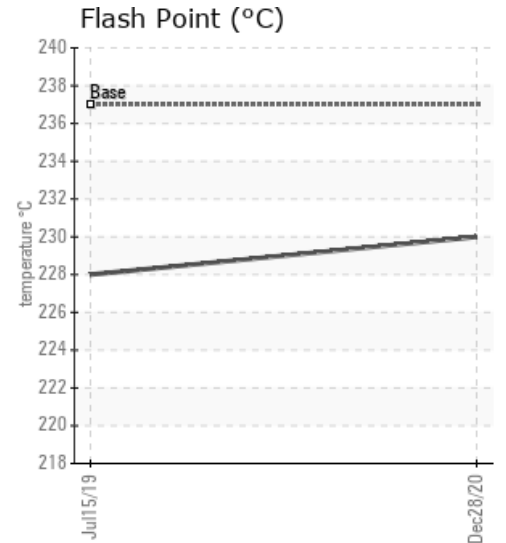
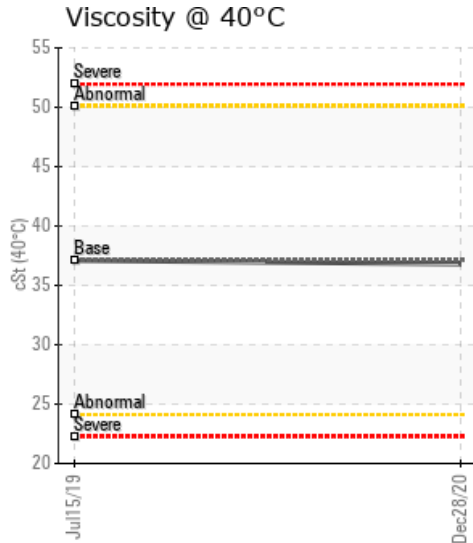
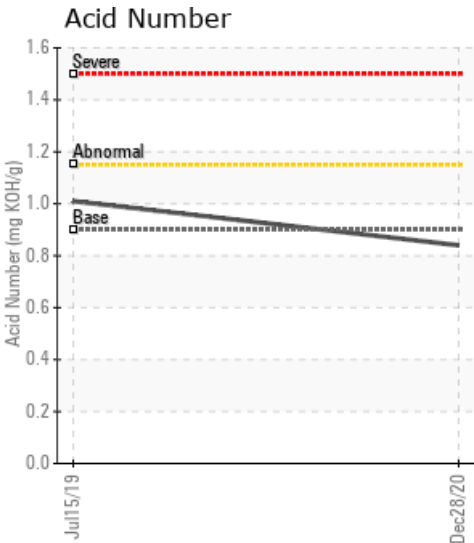
[KUMAS MANYEZIT ISLETMELERI A.S] HEAT TRANSFER OIL

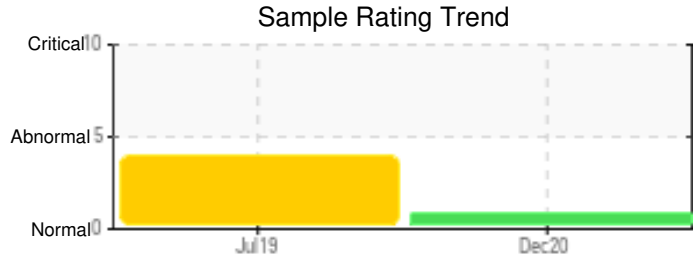
Customer: PTRHTF40074	System Information	Sample Information
LUBRICON LTD STI ATASEHIR ISTANBUL ISTANBUL, 34770 Attn: Murat Baslilar Tel: x: E-Mail: mbaslilar@lubricon.com.tr	System Volume: 1435 ltr Bulk Operating Temp: 428F / 220C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make:	Lab No: 02396387 Analyst: Philip Riley Sample Date: 12/28/20 Received Date: 01/08/21 Completed: 01/27/21 Philip Riley philip.riley@petrocanadalsp.com

Recommendation: Product meets expected parameters and fit for further use. Please re-sample at normal frequency

Comments: (GCD) 90% Distillation Point is marginally high.

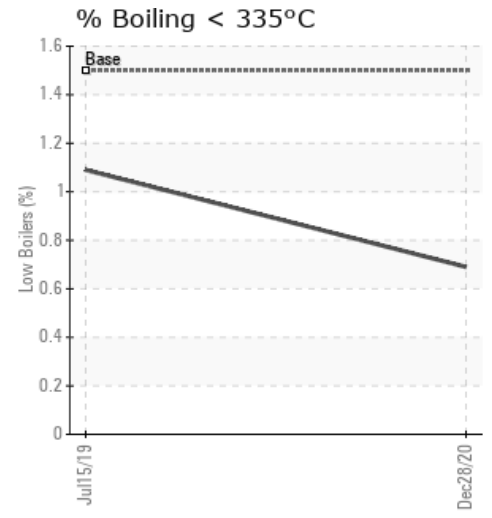
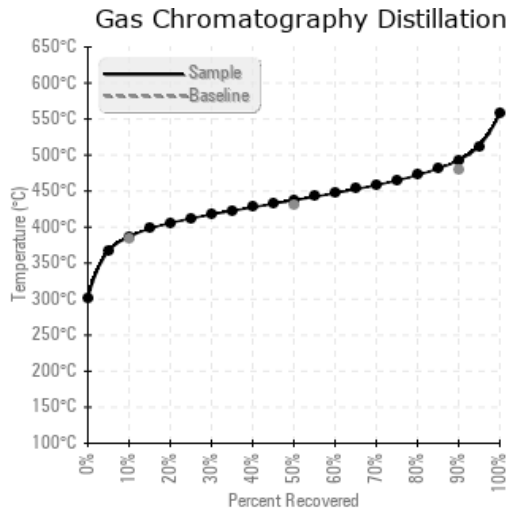
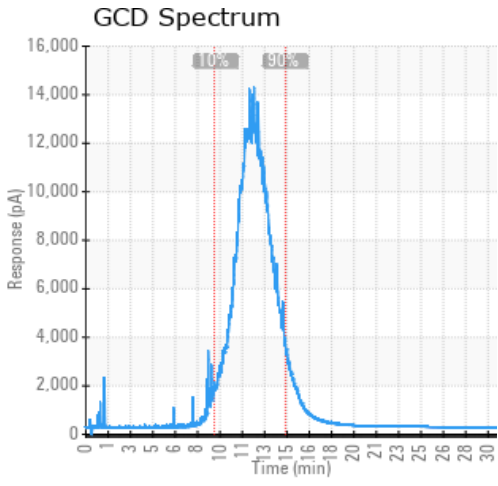
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/28/20	01/08/21	15000h	Before filter	446 / 230	31.8	36.8	0.84	0.214	728 / 387	819 / 437	919 / 493	0.69
07/15/19	07/22/19	5000h	BEFORE FILTER	442 / 228	244.0	37.1	1.01	1.10	714 / 379	810 / 432	909 / 487	1.09
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
12/28/20	4	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	6	2	1	168	0
07/15/19	57	0	0	0	3	0	0	0	0	0	6	1	3	0	0	0	2	0	0	87	22	42	202	8
Baseline Data			0	0						0			0	0				0	0				230	

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



Historical Comments

07/15/19	Pentane insols a concern along with unusual spike on GCD. May be related also to Mg or Ba which are both in the sample that are not in the formulation. Has there been a crossover or top up incorrectly? Was a full flush after a clean done on changing or filling. Recommend filtration for insoluble (if can be done safely). Please look into other chemical contamination and submit sample at normal frequency to monitor. Parameters such as Flash Point and distillation meet specification Pentane Insolubles levels are severely high. Barium ppm levels are severely high. Magnesium ppm levels are severely high.

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