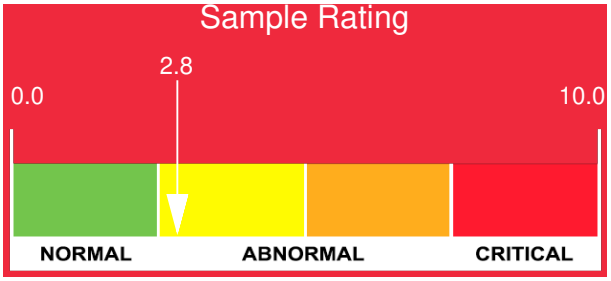
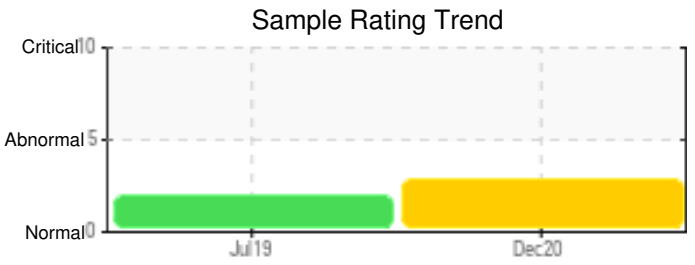




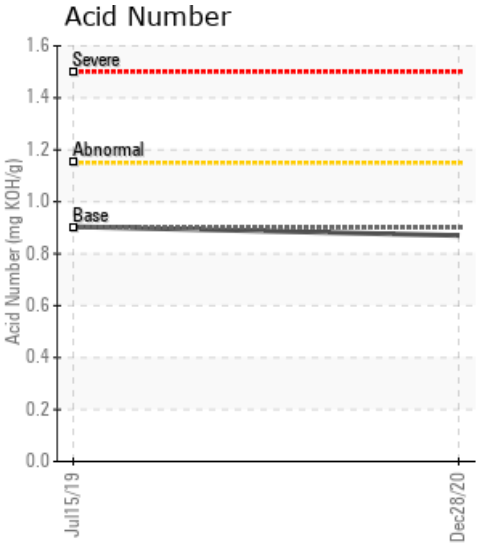
[KUMAS MANYEZIT ISLETMELERI A.S] HEAT TRANSFER OIL

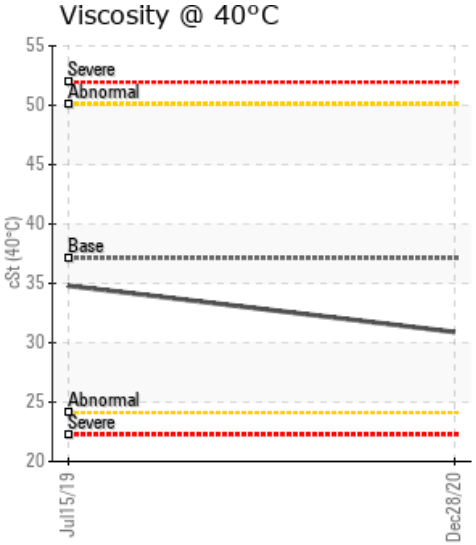
Customer: PTRHTF40074	System Information	Sample Information
LUBRICON LTD STI ATASEHIR ISTANBUL ISTANBUL, 34770 Attn: Murat Baslilar Tel: x: E-Mail: mbaslilar@lubricon.com.tr	System Volume: 820 ltr Bulk Operating Temp: 455F / 235C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make:	Lab No: 02396388 Analyst: Philip Riley Sample Date: 12/28/20 Received Date: 01/08/21 Completed: 01/14/21 Philip Riley philip.riley@petrocanadalsp.com

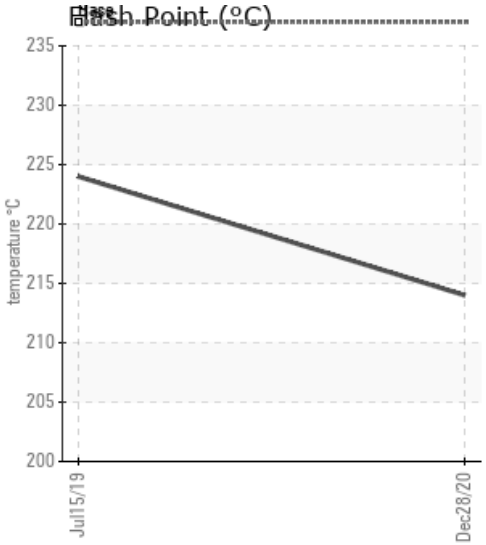
Recommendation: Improved from previous sample, has some maintenance been carried out on the fluid and system. Previous sample contained visible white metals and higher content of Zn. Also a reduction in water content and acid number clearly evident. Flash Pt remains good but marginally lower. Based on this sample the product is fit for further use, sample again at next set frequency, maintain the practices to reduce the contaminents

Comments: Zinc ppm levels are severely high. (GCD) 90% Distillation Point is marginally high. (GCD) 10% Distillation Point is marginally low.

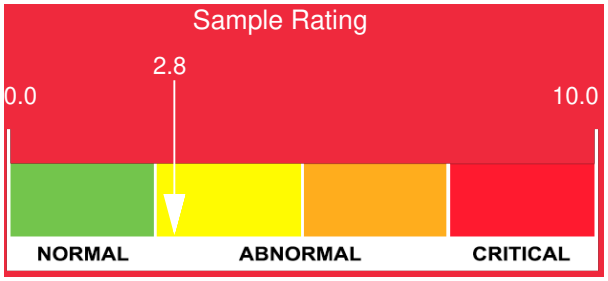
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/28/20	01/08/21	5000h	Before filter	417 / 214	31.0	30.9	0.87	0.051	650 / 343	810 / 432	918 / 492	0.49
07/15/19	07/22/19	1000h	BEFORE FILTER	435 / 224	238.7	34.8	0.904	0.134	716 / 380	811 / 433	917 / 492	0.90
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5

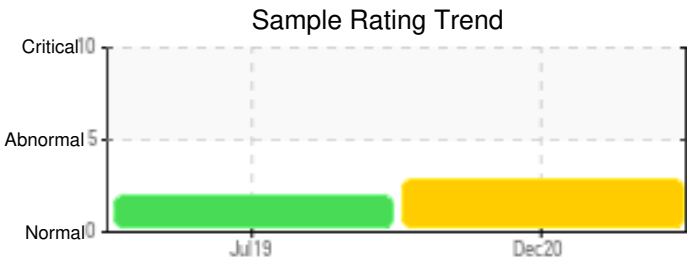






PETRO-CANADA LUBRICANTS

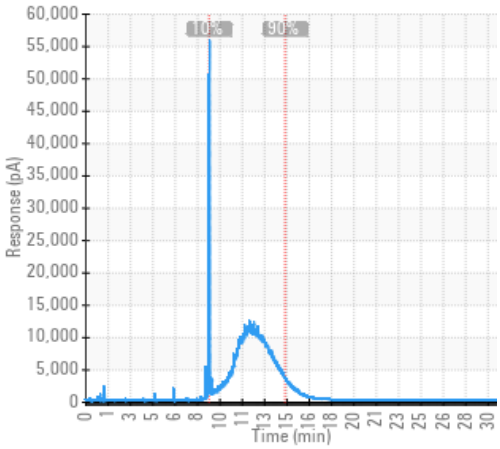




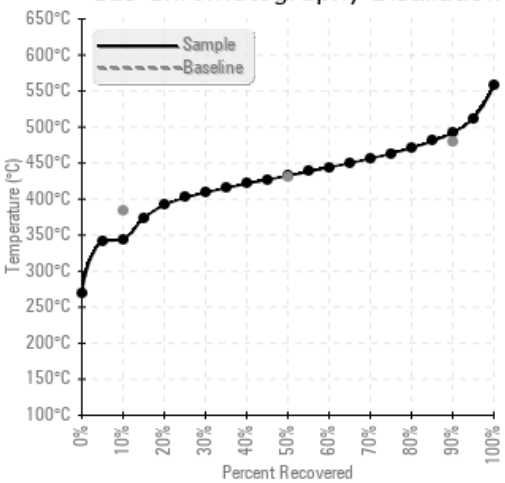
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
12/28/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	20	42
07/15/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	2	0	11	108
Baseline Data			0	0						0			0	0				0	0				230	

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

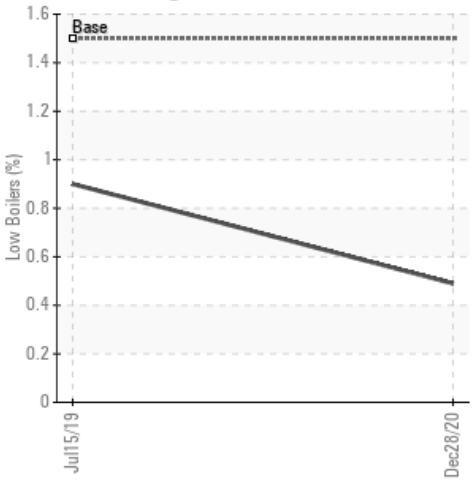
GCD Spectrum



Gas Chromatography Distillation



% Boiling < 335°C



Historical Comments

07/15/19	Please check system and history as the Zn levels are high with visible metal present in the sample. Recommend a check of the system to look for faults and/or some form of safe filtration. Other main parameters for the fluid itself raise no concerns, but recommend system and part check for the debris present to be identified alongside where in the system it could be sourced from (or work may have been carried out ahead of fill). Light concentration of visible metal present. Zinc ppm levels are severely high. (GCD) 90% Distillation Point is marginally high.