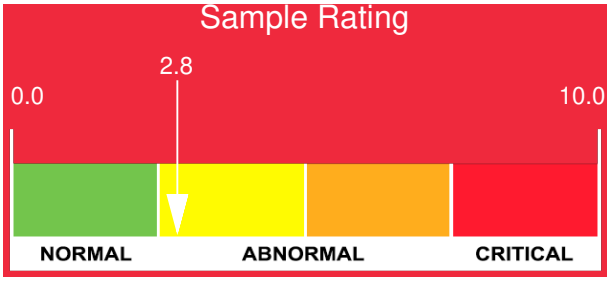
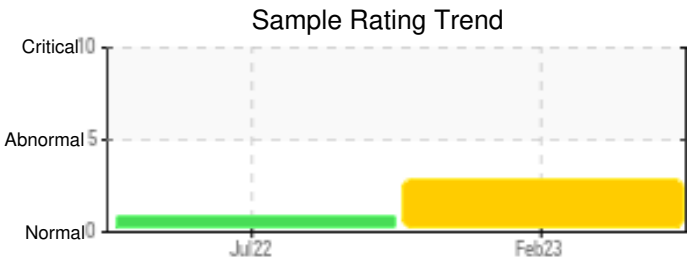




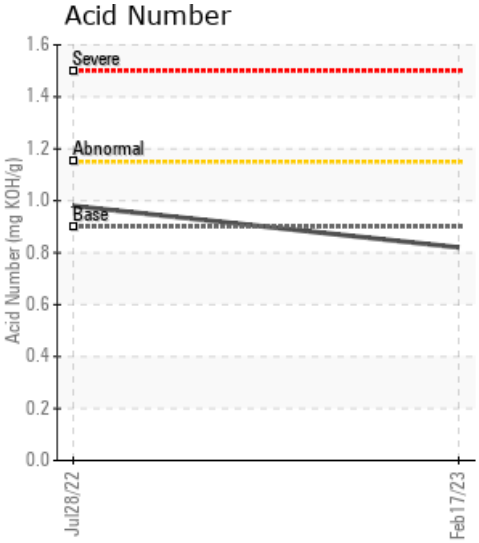
BASUKI THERMAL OIL HEATER

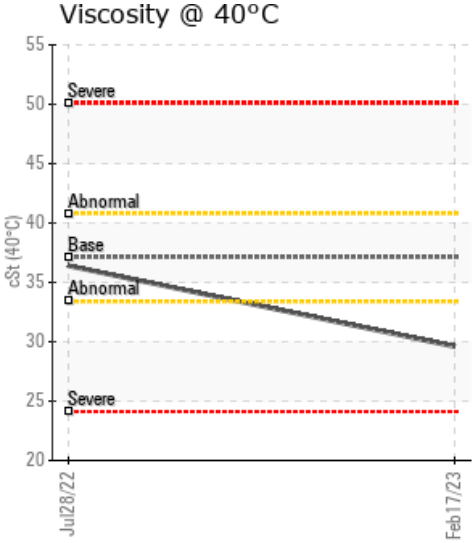
Customer: PTRHTF60035	System Information	Sample Information
PT. Indonesia Millenium Perdana Jakarta, ZZ 13220 Indonesia Attn: Nathaniel Utama Tel: (628)129-0912801 E-Mail: nathanielutama@petrocanada-imp.com	System Volume: 33255 ltr Bulk Operating Temp: 572F / 300C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: BASUKI	Lab No: 02542198 Analyst: Philip Riley Sample Date: 02/17/23 Received Date: 02/28/23 Completed: 03/05/23 Philip Riley philip.riley@HFSinclair.com

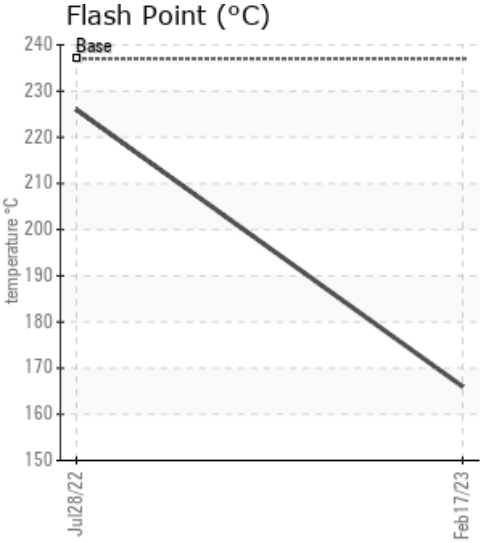
Recommendation: Reduction in flash point over the first 6 months. COnsider safe venting of the system to release the lighter molecules and recover flash point if possible (and if can safely be done). Lower viscosity supports thermal cracking alongside reducing flash point. Re-sample after venting

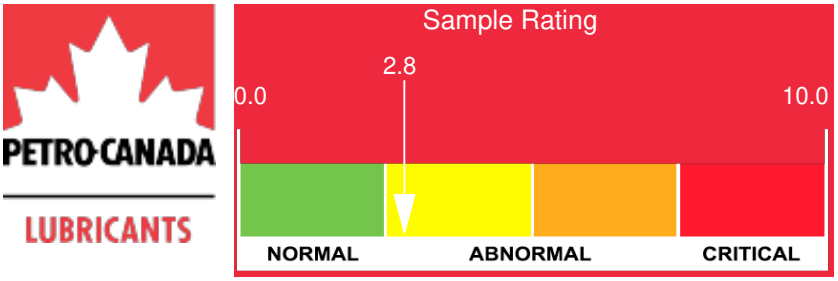
Comments: COC Flash Point is severely low. Visc @ 40°C is abnormally low. (GCD) 90% Distillation Point is marginally high.

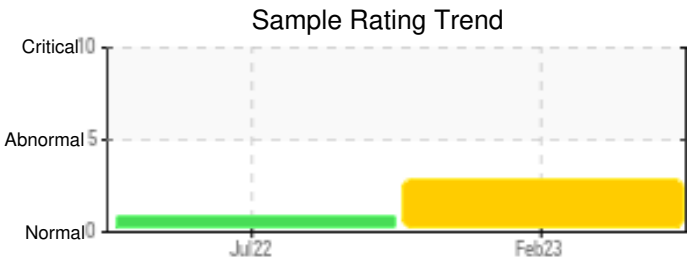
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
02/17/23	02/28/23	6.0m		331 / 166	14.3	29.6	0.82	0.069	697 / 370	813 / 434	919 / 493	4.28
07/28/22	08/08/22	0.0m		439 / 226	7.0	36.4	0.98	0.282	724 / 385	818 / 437	920 / 493	0.50
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5





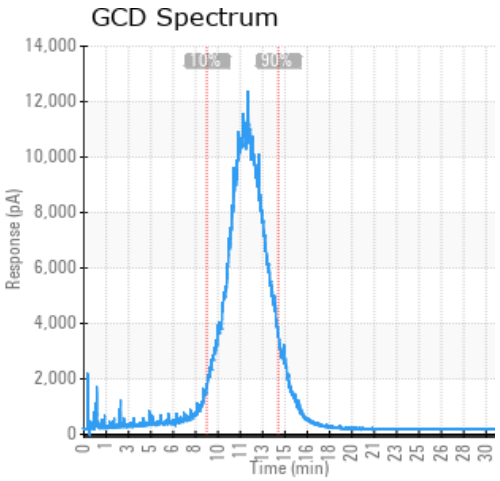


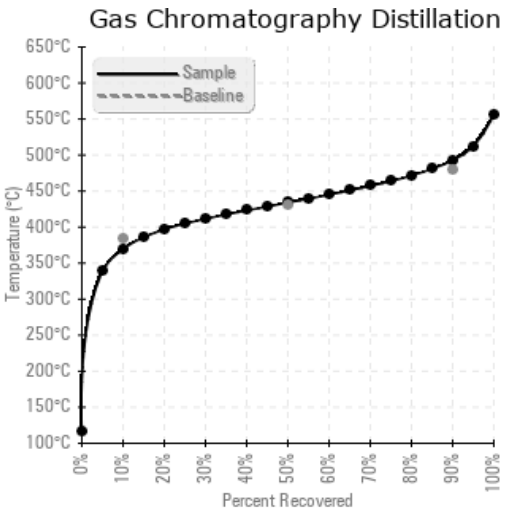


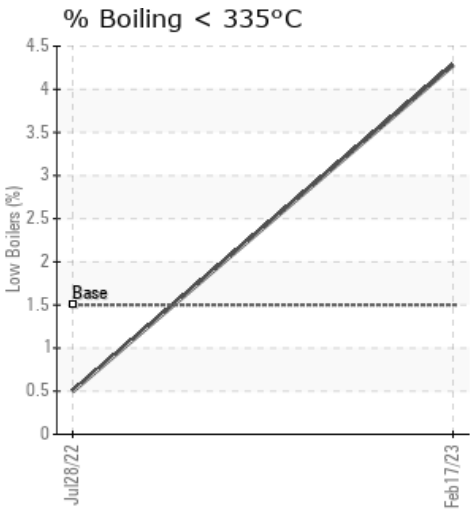


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
02/17/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
07/28/22	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	234	0
Baseline Data			0	0						0			0	0				0	0				230	

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







Historical Comments

07/28/22	The 90% distillation point is high, however, the fluid is suitable for further use. Resample in one year to monitor. (GCD) 90% Distillation Point is abnormally high.