

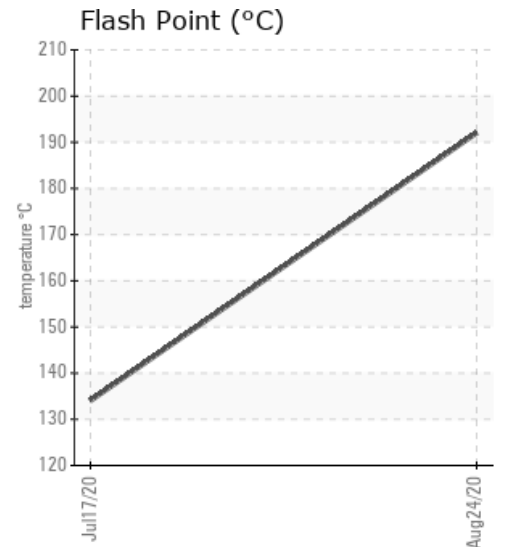
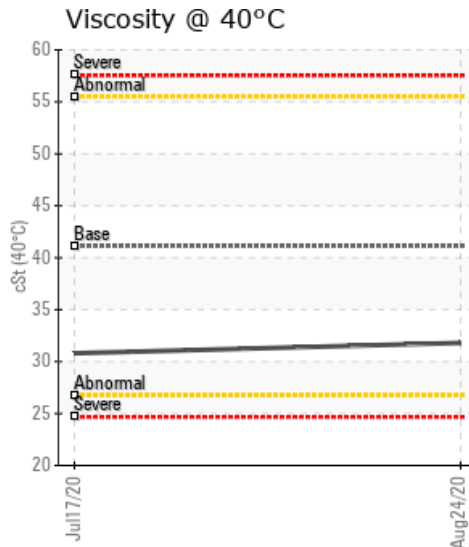
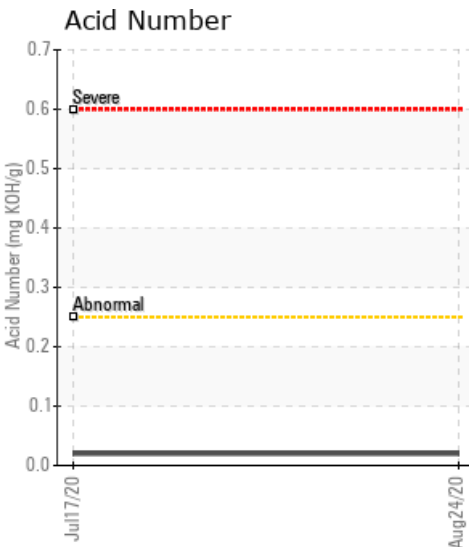
[LSD: 10-03-52-17W5] TOURMALINE WOLF LAKE

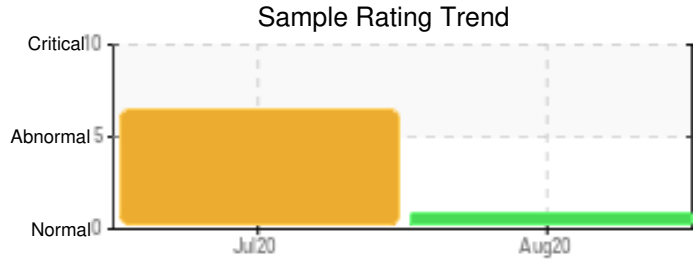
Customer: PTRHTF20039	System Information	Sample Information
BRENNTAG CANADA INC 3124-54TH AVENUE SE CALGARY, AB T2C 0A8 Canada Attn: Adam Duval Tel: E-Mail: aduval@brenntag.ca	System Volume: 5000 ltr Bulk Operating Temp: 455F / 235C Heating Source: Blanket: Fluid: CHEVRON HEAT TRANSFER OIL 46 Make:	Lab No: 02374995 Analyst: Terry Veenstra Sample Date: 08/24/20 Received Date: 09/10/20 Completed: 09/14/20 Terry Veenstra terry.veenstra@petrocanadalsp.com

Recommendation: COC Flash Point is low, likely from an accumulation of low boilers. As part of good system maintenance, system should be vented on regular intervals to eliminate low boilers. Resample in 6 months.

Comments: COC Flash Point is abnormally low.

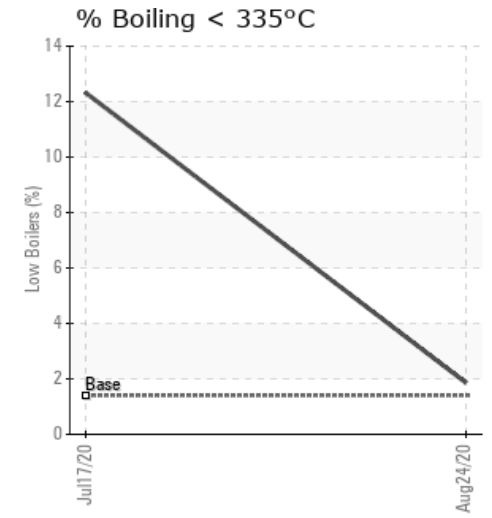
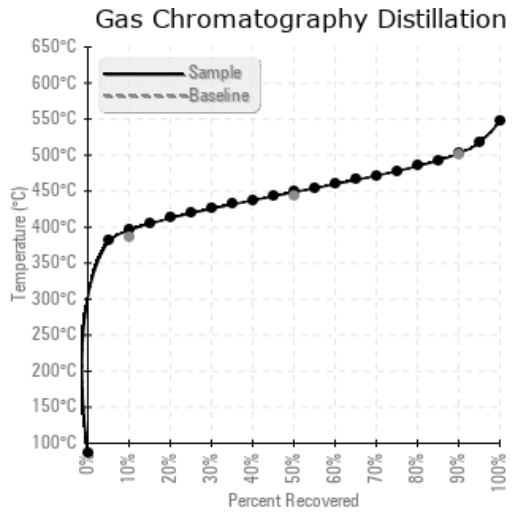
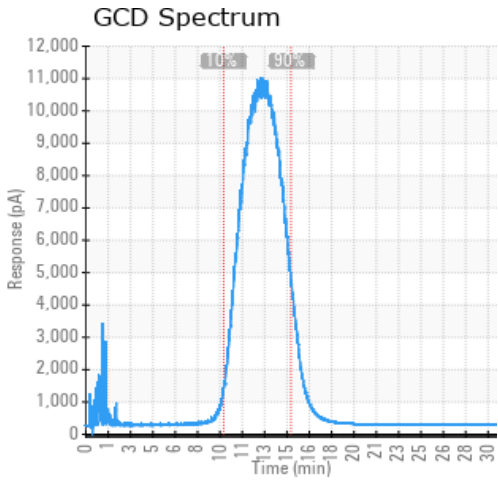
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/24/20	09/10/20	13d	Inlet piping	378 / 192	45.8	31.8	0.02	0.072	744 / 395	839 / 449	936 / 502	1.86
07/17/20	07/30/20	40000d	CL-2007-0667-01	273 / 134	5.7	30.8	0.02	0.030	251 / 121	783 / 417	919 / 493	12.32
Baseline Data				464 / 240		41.1			727 / 386	828 / 442	932 / 500	1.4





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
08/24/20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	1	0	0	0
07/17/20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Baseline Data			0	0						0			0	0					0				0	

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



Historical Comments

07/17/20	GCD @ 10% is low indicating the presence of low boilers. AS per our email from you the gas blanket is in place with approximately 200-220 Kpa N2. As part of good system maintenance, regularly vent off the system to eliminate low boilers from the system. This should also restore your flash point of the fluid. Resample in 6 months. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. (GCD) % < 335°C is abnormally high. (GCD) 90% Distillation Point is marginally high.
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