

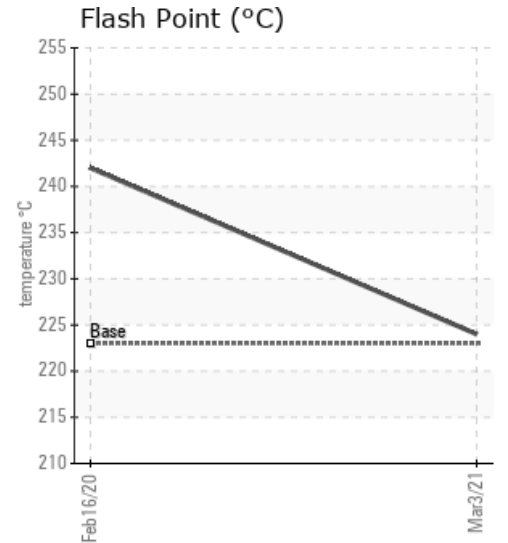
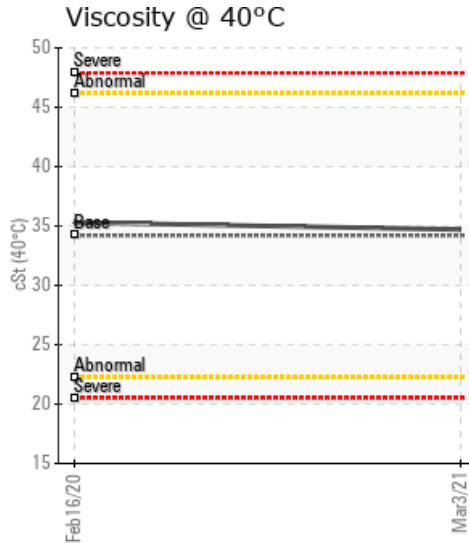
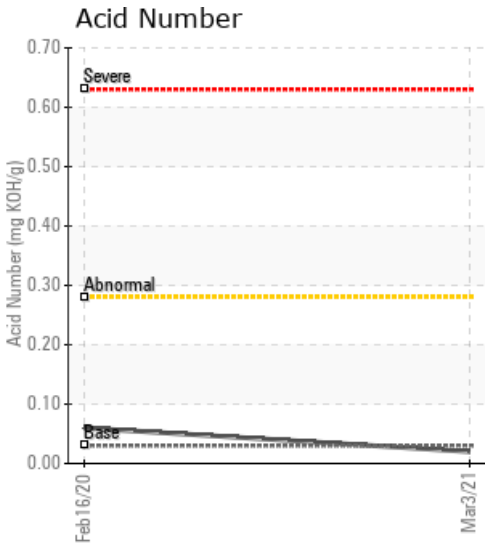
**[15-36-44-15W5] TOURMA LINE H55001**

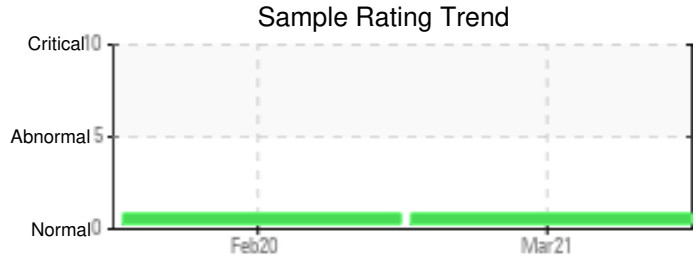
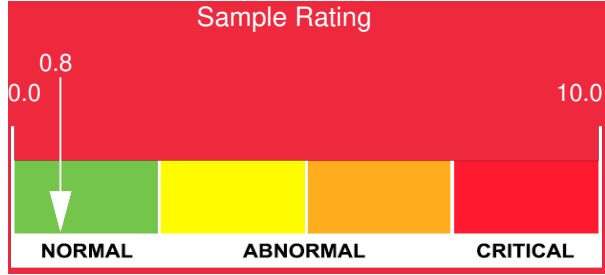
Customer: PTRHTF20039	System Information	Sample Information
BRENNTAG CANADA INC 3124-54TH AVENUE SE CALGARY, AB T2C 0A8 Canada Attn: Matthew Kryska Tel: E-Mail: mkryska@brenntag.ca	System Volume: 8000 ltr Bulk Operating Temp: 446F / 230C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make:	Lab No: 02410564 Analyst: Kevin McDermott Sample Date: 03/03/21 Received Date: 03/22/21 Completed: 03/24/21 Kevin McDermott kevin.mcdermott@hollyfrontier.com

Recommendation: Fluid remains in very good condition. Suggest submitting samples annually to proactively monitor fluid condition.

Comments: (GCD) 90% Distillation Point is slightly elevated.

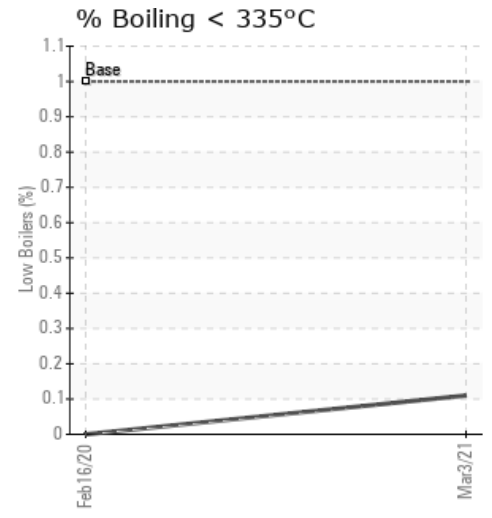
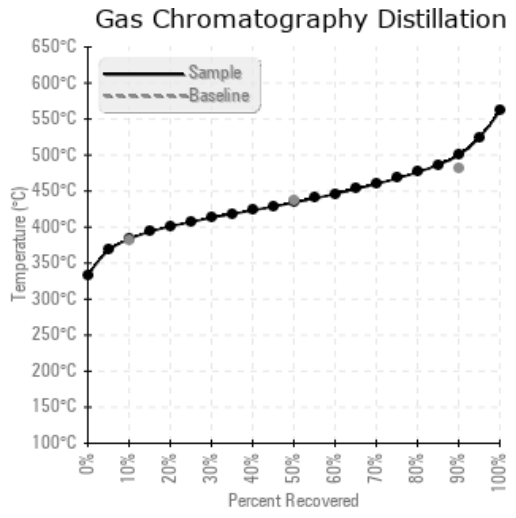
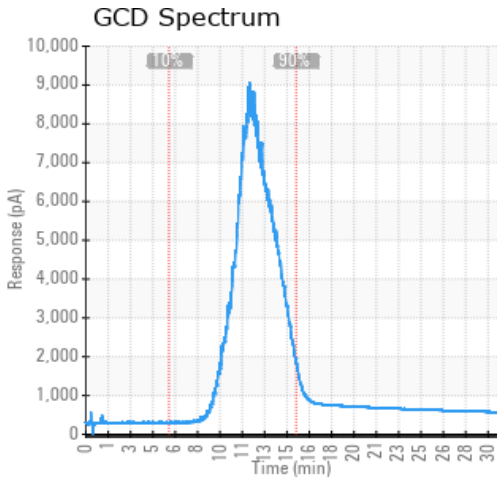
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/03/21	03/22/21	5.0y	differential flange	435 / 224	17.6	34.7	0.02	0.034	722 / 383	813 / 434	931 / 500	0.11
02/16/20	03/23/20	5.0y	RETURN LINE	468 / 242	6.9	35.3	0.060	0.072	747 / 397	822 / 439	924 / 495	0.00
<b>Baseline Data</b>				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00





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
03/03/21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02/16/20	0	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

02/16/20	Distillation (GCD) at 90% is marginally high indicating the presence of some heavier ends. Otherwise fluid looks to be in good shape. With no history we cannot do trend analysis. Resample in 6 months. Verify that the temperatures and volumes on all 3 systems are the same as reported. (GCD) 90% Distillation Point is marginally high.

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