

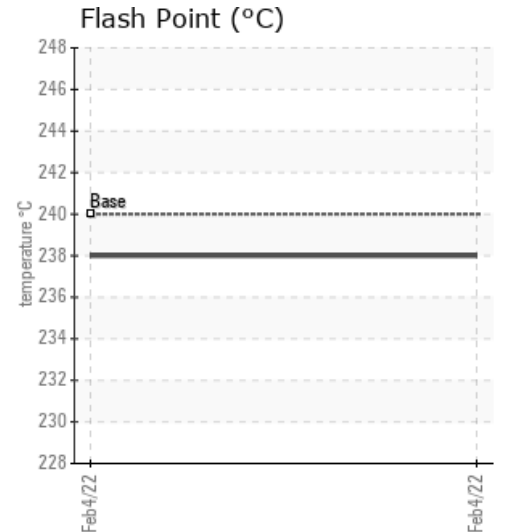
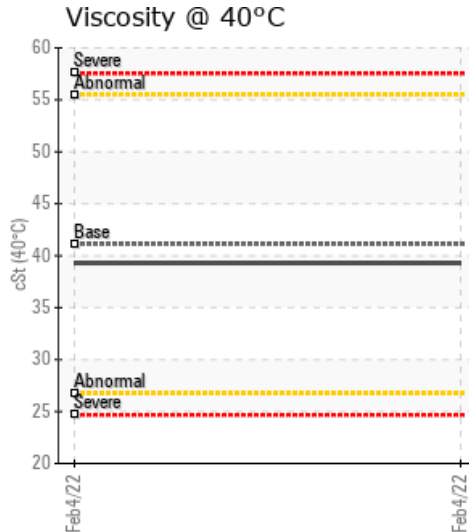
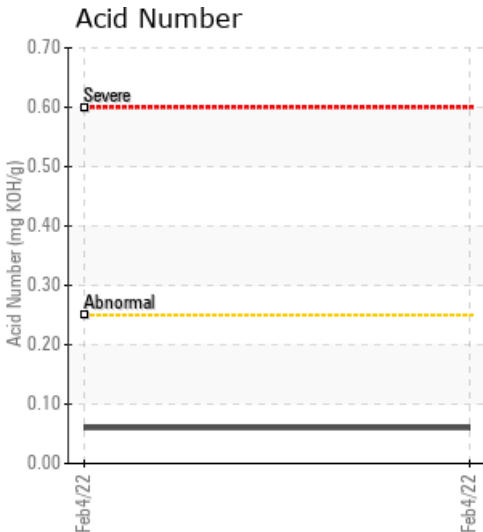
C-38-C/94-H-4

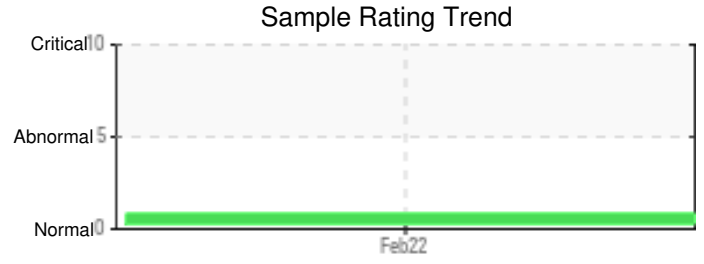
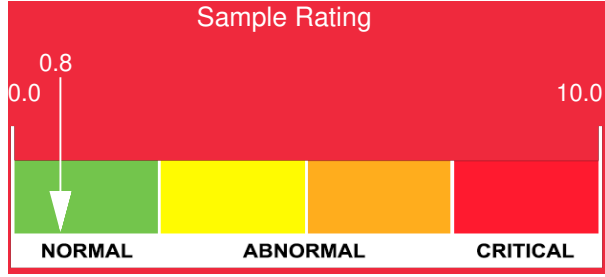
Customer: PTRHTF20216	System Information	Sample Information
TOURMALINE OIL 103, 6911-100 AVE FORT ST. JOHN, BC V1J 1T8 Canada Attn: Brian Plontke Tel: (780)524-9780 E-Mail: brian.plontke@tourmalineoil.com	System Volume: 105000 ltr Bulk Operating Temp: 410F / 210C Heating Source: Blanket: Fluid: CHEVRON HEAT TRANSFER OIL 46 Make: HEAT TECK	Lab No: 02471430 Analyst: Clinton Buhler Sample Date: 02/04/22 Received Date: 02/10/22 Completed: 02/16/22 Clinton Buhler Clinton.Buhler@hollyfrontier.com

Recommendation: Note: This system is a combination of chevron heat transfer oil 46 and Petro-Therm. Expected mix is 72 m3 of chevron and 33 m3 of Petro-Therm. Sample results indicate the fluid is in suitable condition for continued service. Please re-sample in 12 months

Comments: (GCD) 10% Distillation Point is marginally high.

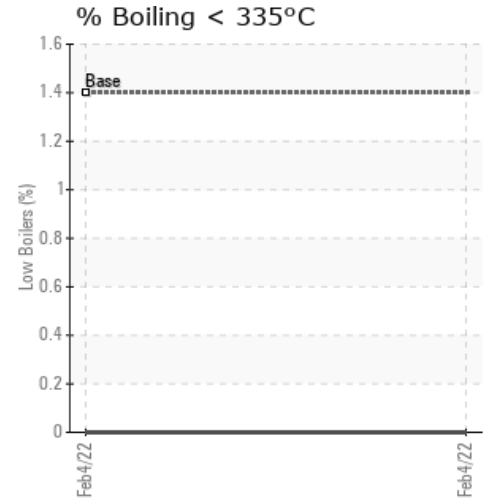
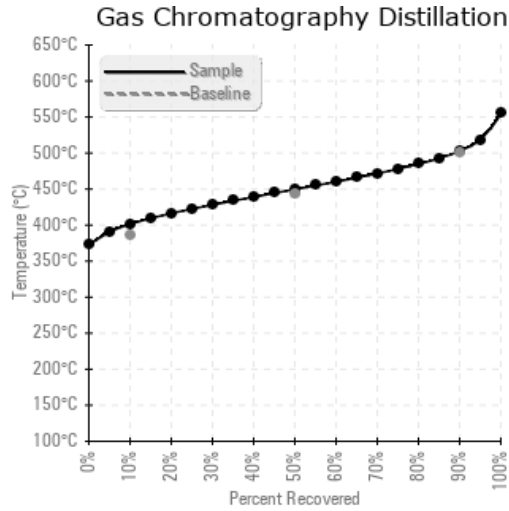
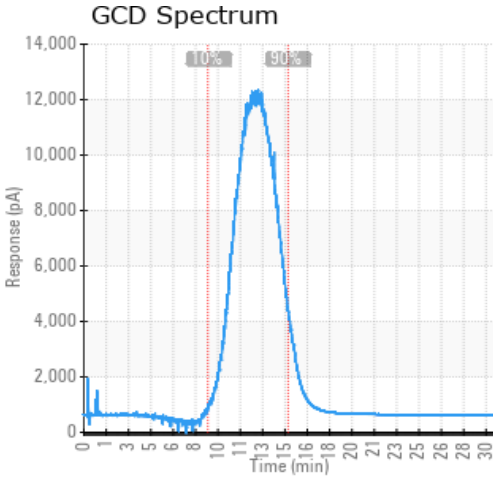
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
02/04/22	02/10/22	8.0y	SLIP STREAM FILTER	460 / 238	205.9	39.3	0.06	0.077	754 / 401	841 / 450	937 / 503	0.00
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
02/04/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	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

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