

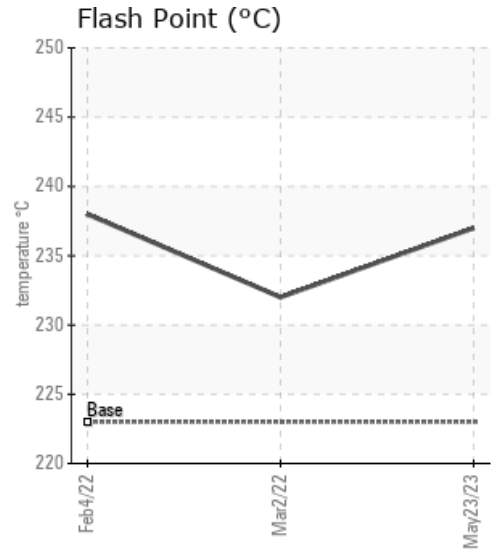
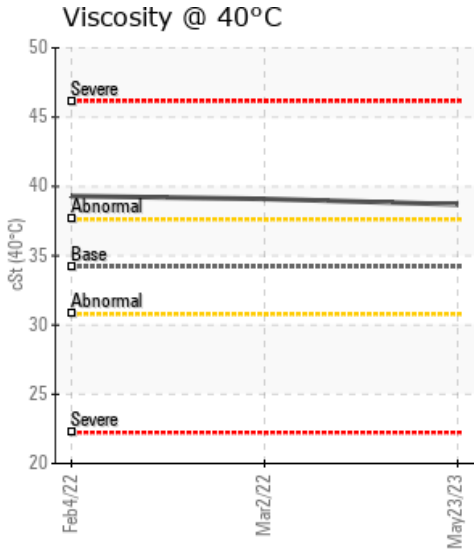
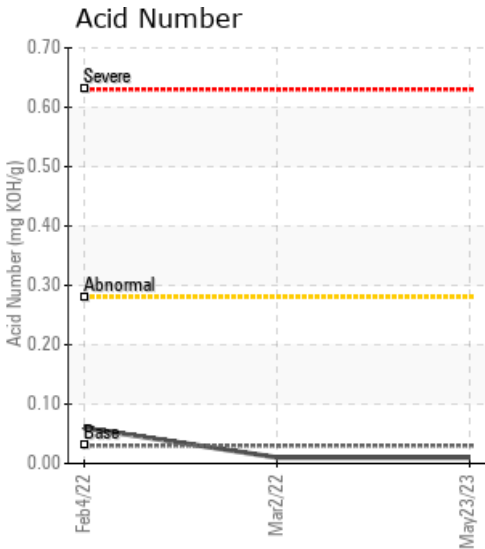
C-38-C/94-H-4

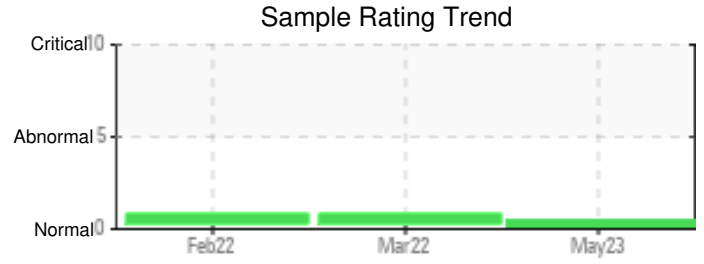
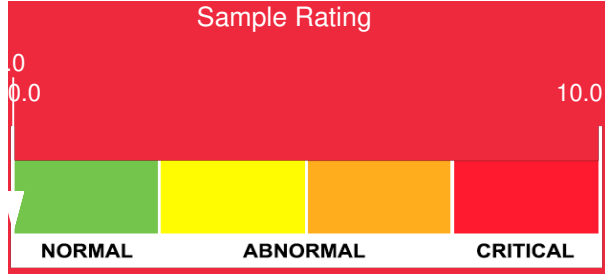
Customer: PTRHTF20216	System Information	Sample Information
TOURMALINE OIL 103, 6911-100 AVE FORT ST. JOHN, BC V1J 1T8 CA Attn: Brian Plontke Tel: (780)524-9780 E-Mail: Brian.plontke@tourmalineoil.com	System Volume: 105000 ltr Bulk Operating Temp: 410F / 210C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: HEAT TECK	Lab No: 02563975 Analyst: Clinton Buhler Sample Date: 05/23/23 Received Date: 06/13/23 Completed: 06/20/23 Clinton Buhler Clinton.Buhler@HFSinclair.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 38 m3 of Petro-Therm. Sample results indicate the fluid is in suitable condition for continued service. Please re-sample in 12 months

Comments:

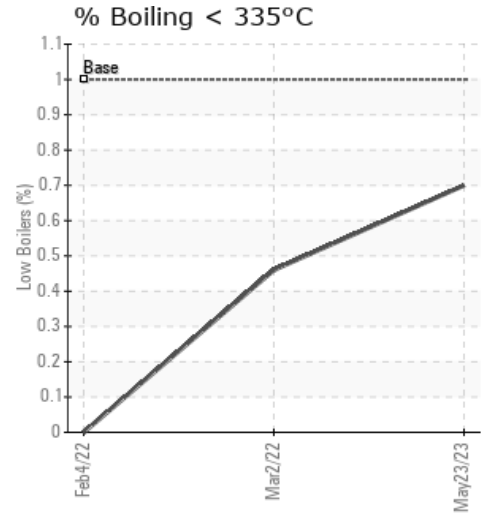
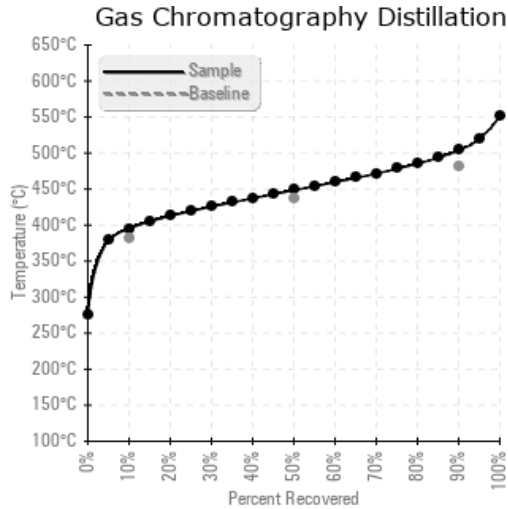
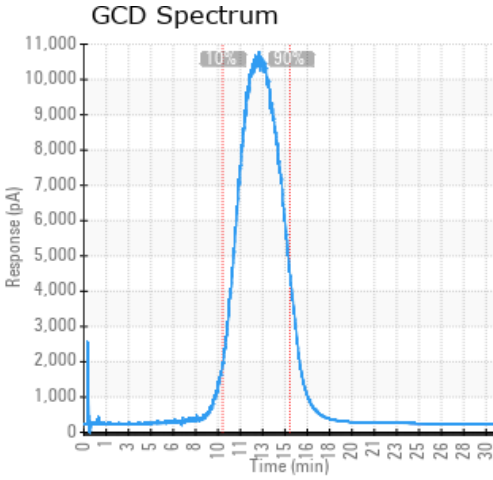
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/23/23	06/13/23	7.0y	H802 filter housing	459 / 237	85.3	38.7	0.01	0.035	743 / 395	839 / 448	939 / 504	0.70
03/02/22	03/10/22	8.0y	filter pot of H807	450 / 232	202.1	39.1	0.01	0.053	745 / 396	838 / 448	935 / 502	0.46
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				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
05/23/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/02/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
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

03/02/22	Sample results indicate the fluid is in suitable condition for continued service. Please re-sample in 12 months (GCD) 10% Distillation Point is marginally high.
02/04/22	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 (GCD) 10% Distillation Point is marginally high.

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