

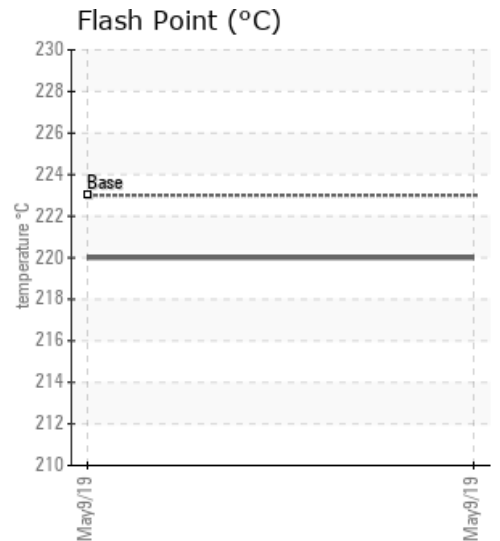
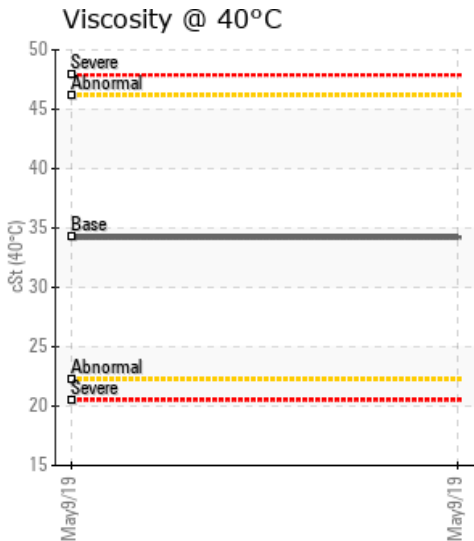
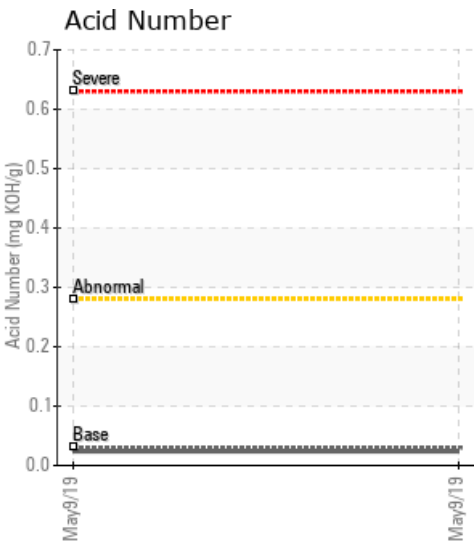
[11-26-78-17 W6M / Enbridge Dawson Creek] Hot Oil System

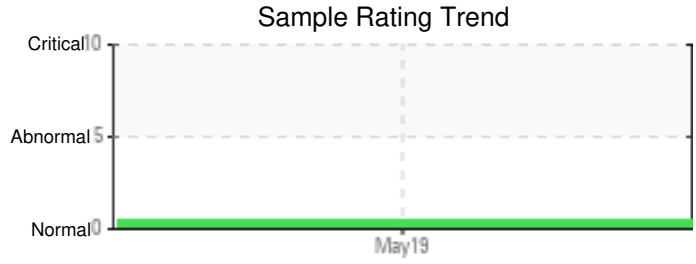
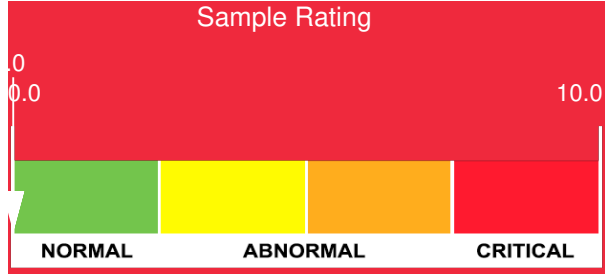
Customer: PTRHTF20039	System Information	Sample Information
BRENNTAG CANADA INC 3124-54TH AVENUE SE CALGARY, AB T2A 0A8 CANADA Attn: Toader Georgiana Tel: E-Mail: gtoader@brenntag.ca	System Volume: 5000 ltr Bulk Operating Temp: 351F / 177C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: Heatech	Lab No: 02287110 Analyst: Clinton Buhler Sample Date: 05/09/19 Received Date: 05/24/19 Completed: 06/17/19

Recommendation: sample results indicate that the fluid is suitable for continued service and after ~ 8 years of service, is in very good condition. At the time of analysis, the used fluid's Initial Boiling Point was ~ 327°C via GCD vs the typical new fluid value of ~316°C. Please note that this value will change as the fluid is exposed to thermal and oxidative degradation and contamination. Please re-sample in 12 months

Comments:

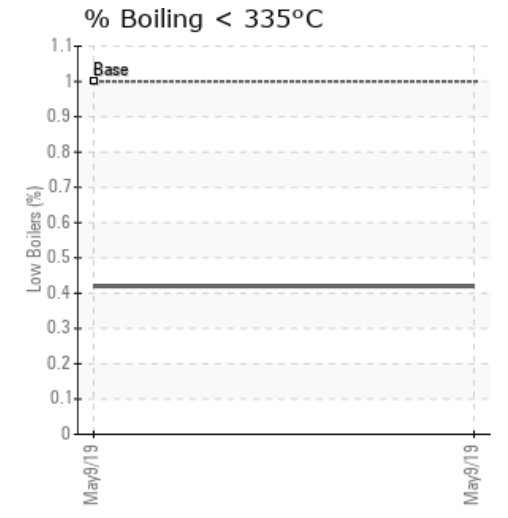
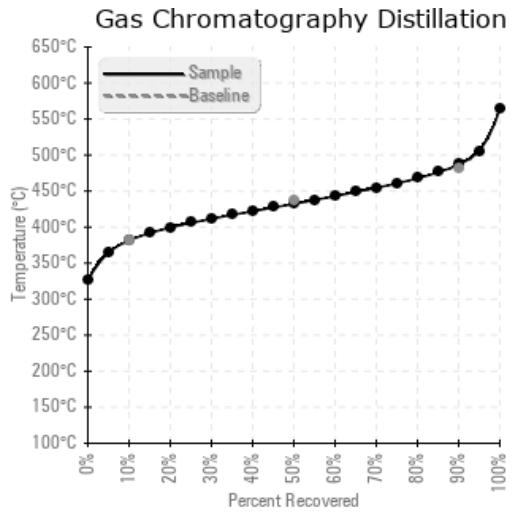
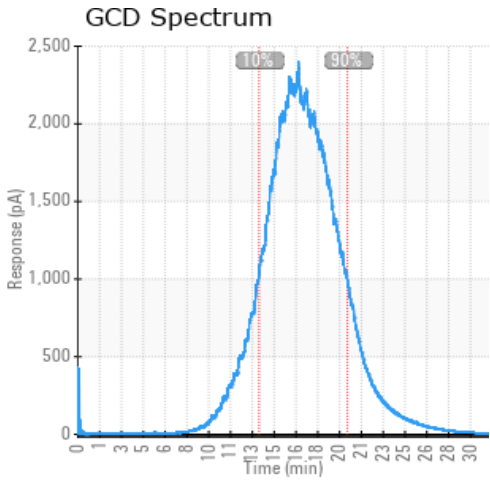
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/09/19	05/24/19	8y	SURGE TANK	428 / 220	0.00	34.2	0.024	0.052	718 / 381	810 / 432	908 / 487	0.42
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
05/09/19	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

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