

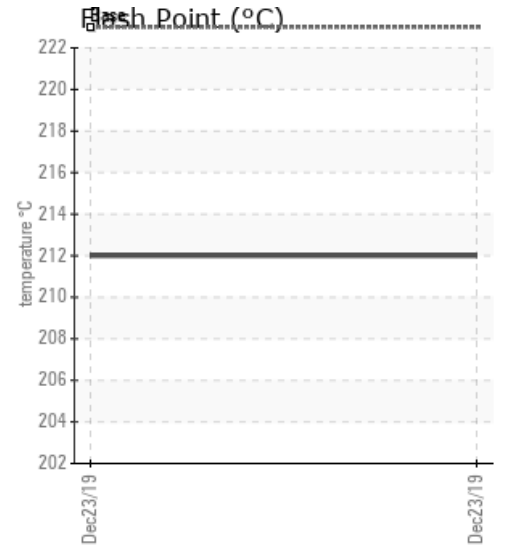
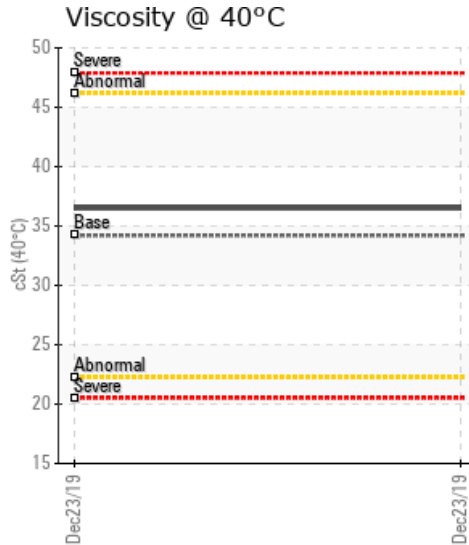
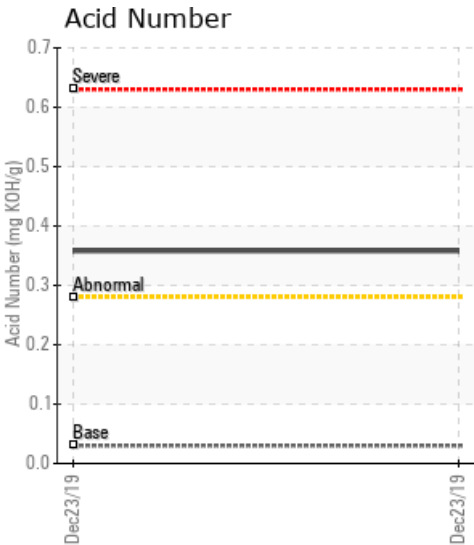
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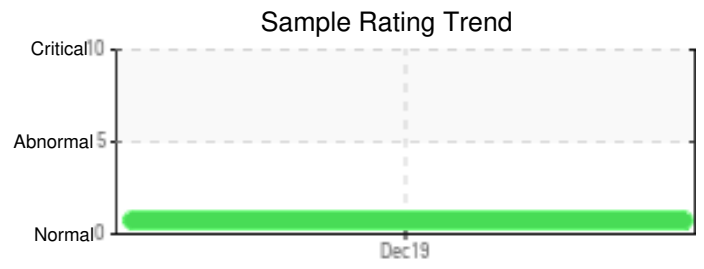
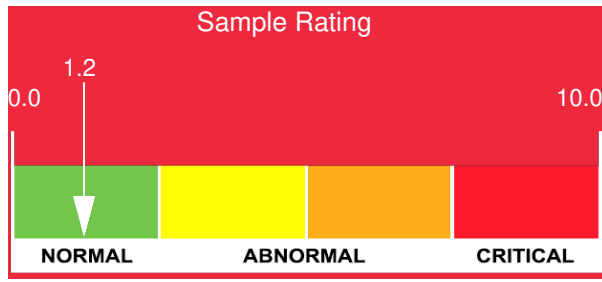
Customer: PTRHTF10203	System Information	Sample Information
LEAHY-WOLF COMPANY 1724 W ARMITAGE COURT SUITE A ADDISON, IL 60101 USA Attn: TERRY LONG Tel: E-Mail: terrylong@leahywolf.com	System Volume: 3000 gal Bulk Operating Temp: 400F / 204C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: GEI	Lab No: 02329485 Analyst: Yvette Trzcinski Sample Date: 12/23/19 Received Date: 01/02/20 Completed: 01/03/20

**Recommendation:** The Acid number is high for a system this size which is an indicator that there is fluid oxidation occurring which leads to acid formation and fluid degradation. That degradation creates the potential for fouling and build up in the system, causing issues with system performance and efficiency. Recommend evaluating the system performance to understand extent of fouling and potential re sample of the fluid

**Comments:** Acid Number (AN) is abnormally high.

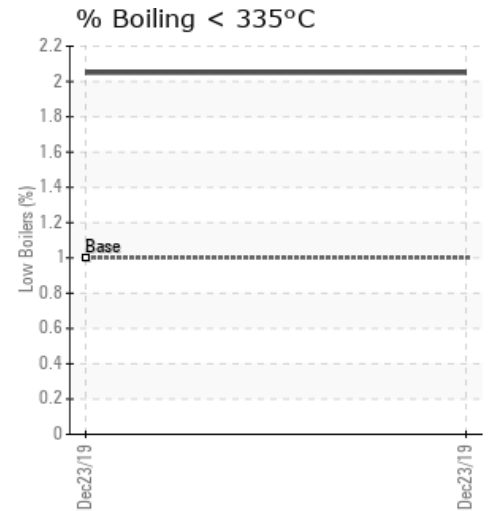
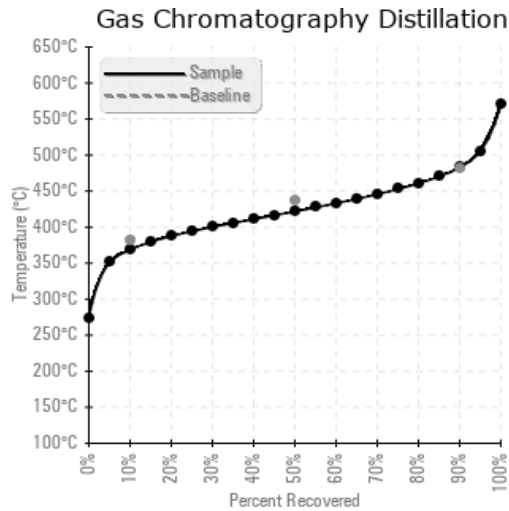
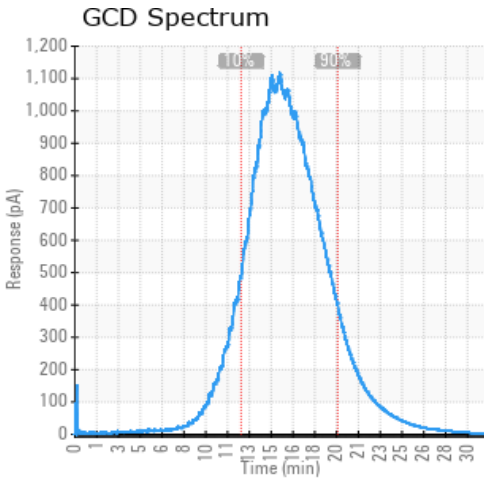
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/23/19	01/02/20	15y		414 / 212	11.4	36.5	0.358	0.219	695 / 368	791 / 422	901 / 483	2.05
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
12/23/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	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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