

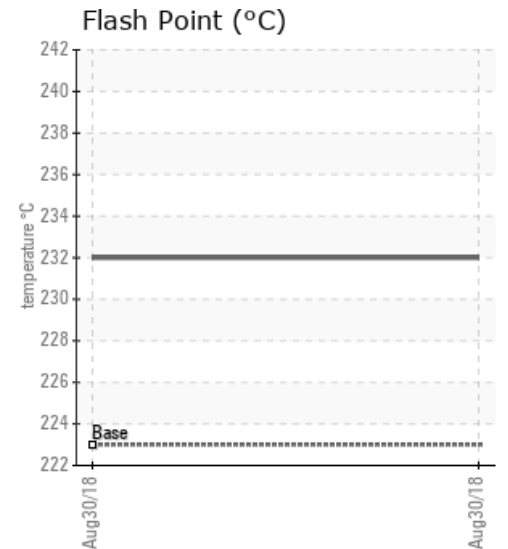
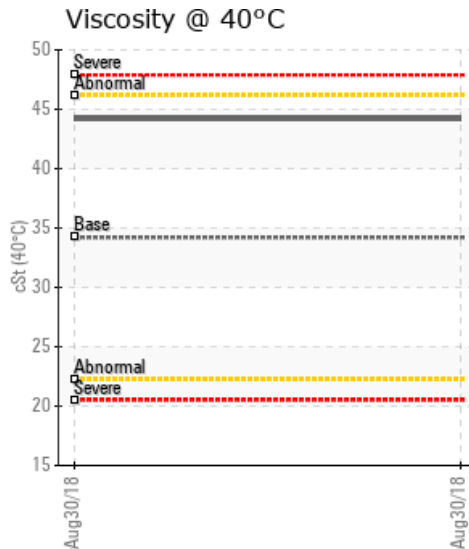
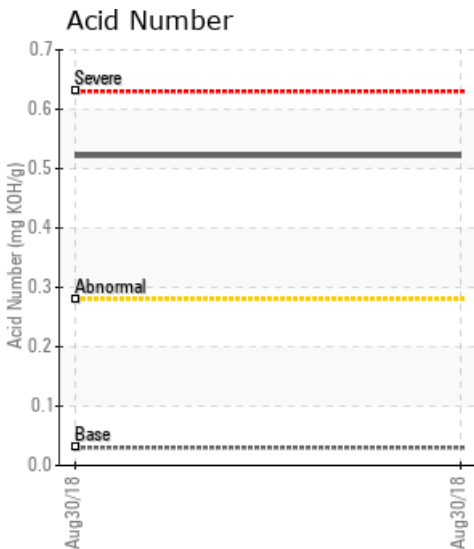
CROWLEY-SHEPPARD

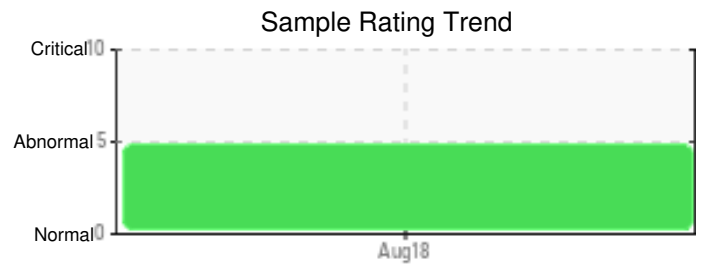
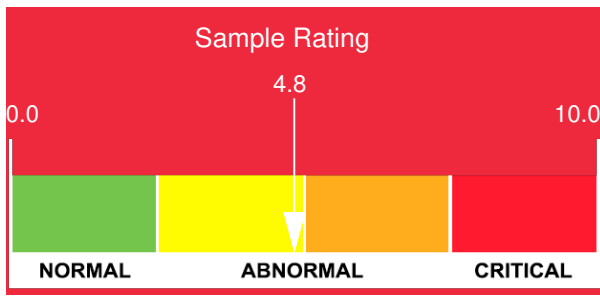
Customer: PTRHTF10203	System Information	Sample Information
LEAHY-WOLF COMPANY 1724 W ARMITAGE COURT SUITE A ADDISON, IL 60101 USA Attn: TERRY LONG Tel: E-Mail: terrylong@leahywolf.com	System Volume: 600 gal Bulk Operating Temp: Not Specified Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make:	Lab No: 02239069 Analyst: Yvette Trzcinski Sample Date: 08/30/18 Received Date: 09/13/18 Completed: 09/20/18 To discuss this report contact Yvette Trzcinski at (262)933-0718

Recommendation: The fluid shows signs of oxidation and the potential to have heavy fouling sludge and corrosion in the system affecting the efficiency of the heat transfer system. The total acid number and the simulated distillation are all showing critically high levels at 90% and marginally high values at 50% and 10%

Comments: (GCD) 90% Distillation Point is severely high. Acid Number (AN) is abnormally high. (GCD) 10% Distillation Point is marginally high. (GCD) 50% Distillation Point is marginally high.

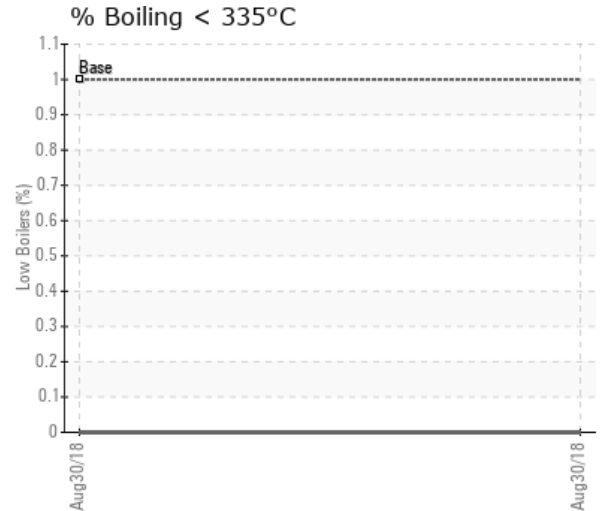
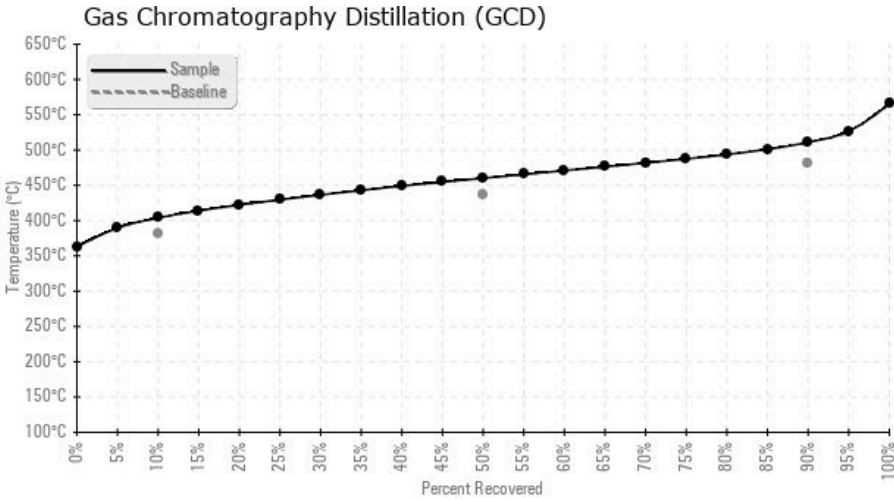
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/30/18	09/13/18	5y	EXPANSION TANK	450 / 232	46.7	44.2	0.522	0.216	759 / 404	860 / 460	952 / 511	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
08/30/18	5	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	13	11
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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