

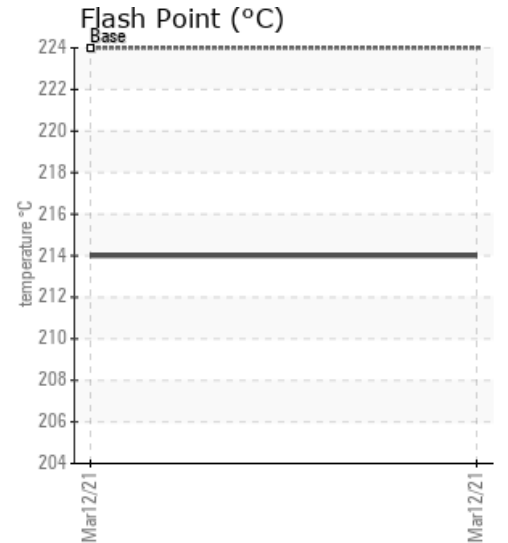
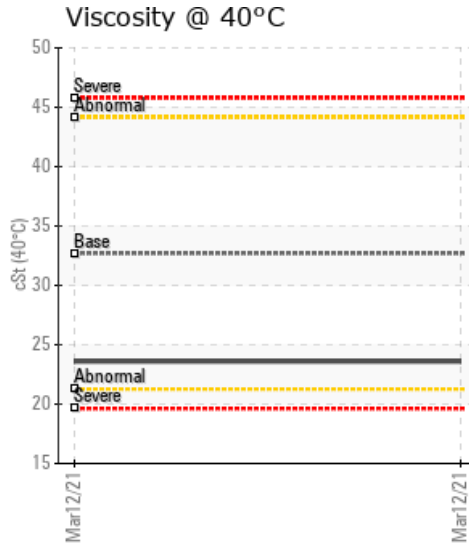
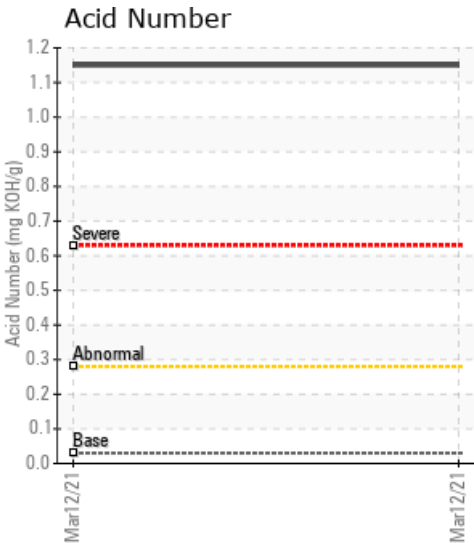
MONO LINE 1

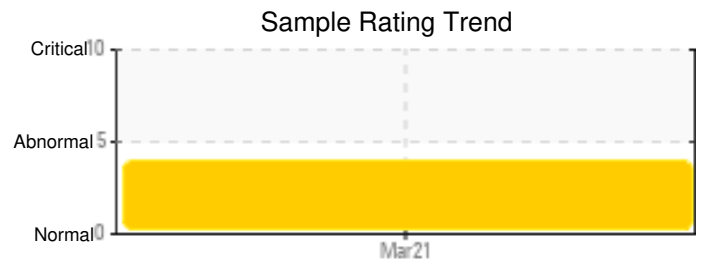
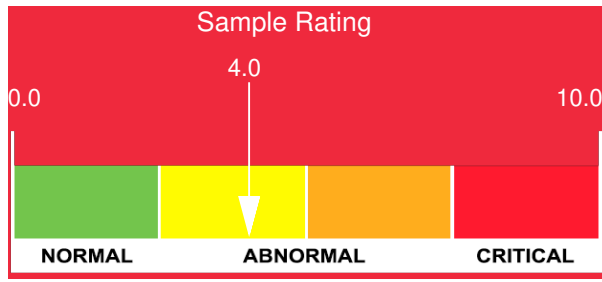
Customer: PTRHTF10161	System Information	Sample Information
Euclid Chemical 3361 North Hwy 27 Lafayette, GA 30728 USA Attn: David Chapman Tel: E-Mail: dchapman@euclidchemical.com	System Volume: 100 gal Bulk Operating Temp: 425F / 218C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make:	Lab No: 02410566 Analyst: Jake Finn Sample Date: 03/12/21 Received Date: 03/22/21 Completed: 04/13/21 Jake Finn jake.finn@hollyfrontier.com

Recommendation: Fluid shows no signs of wear or contamination, but acid number is severely high indicating the fluid has experienced significant thermal degradation and oxidation. Replacing the current fluid with fresh Calflo AF heat transfer fluid is recommended at this time to avoid corrosion within the system and ensure the fluid heat transfer properties remain in tact. Once system is charged with new fluid, feel free to submit a sample of new fluid to establish a new base line for future analysis.

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

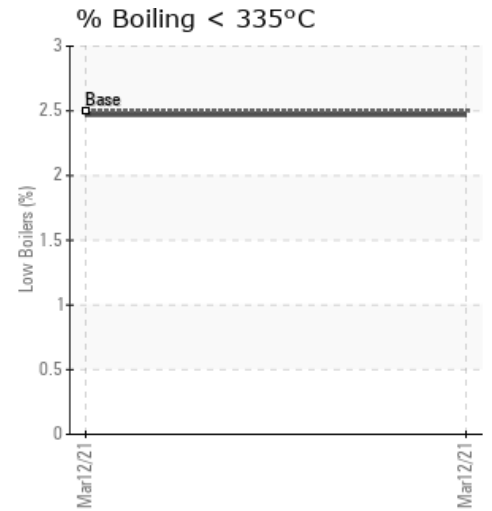
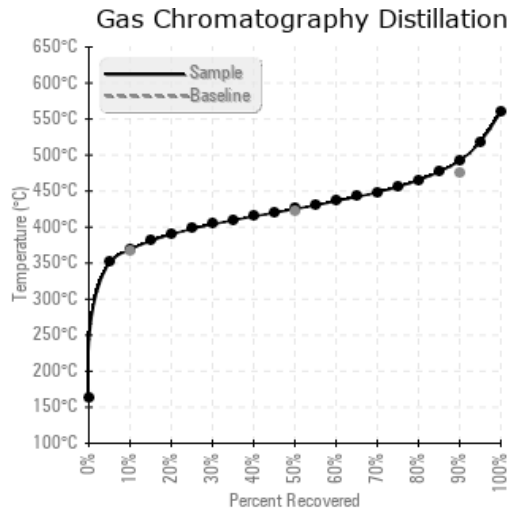
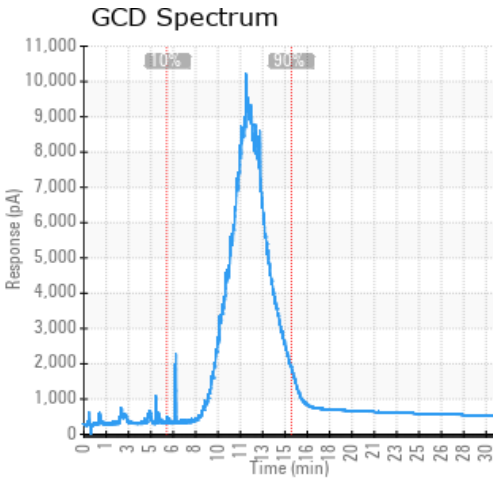
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/12/21	03/22/21	2.0m		417 / 214	57.5	23.6	1.15	0.084	696 / 369	797 / 425	918 / 492	2.47
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5





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	
03/12/21	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	0
Baseline Data			0	0						0			0	0					0					270	

Elemental analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]



Historical Comments

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