

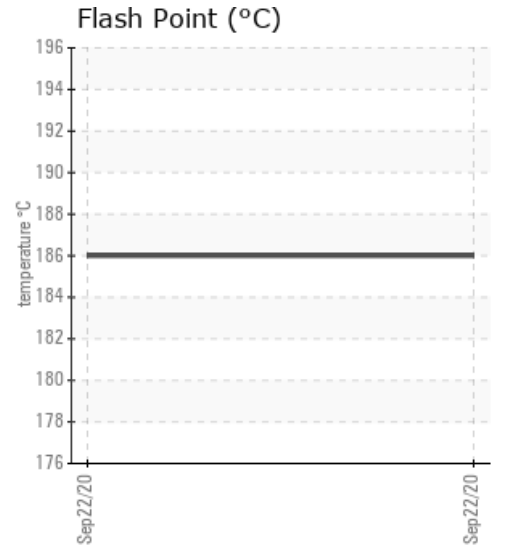
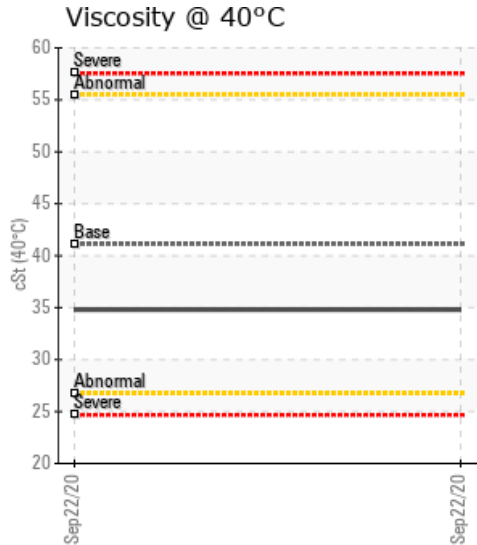
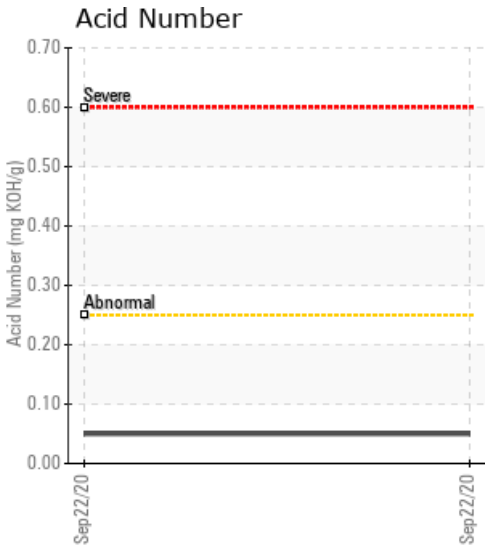
[14-32-37-3W5] BTG ENERGY

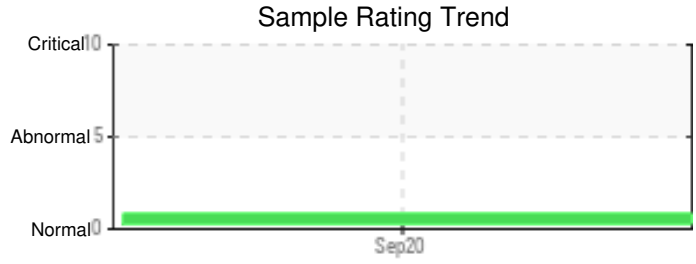
Customer: PTRHTF20243	System Information	Sample Information
CFR CHEMICALS 38451 RRZZ RED DEER, AB T4E 2N6 Canada Attn: Andrew Schacher Tel: (780)982-8478 E-Mail: aschacher@cfrchemicals.com	System Volume: 10000 ltr Bulk Operating Temp: 392F / 200C Heating Source: Blanket: Fluid: CHEVRON HEAT TRANSFER OIL 46 Make:	Lab No: 02380381 Analyst: Kevin McDermott Sample Date: 09/22/20 Received Date: 10/08/20 Completed: 10/27/20 Kevin McDermott kevin.mcdermott@petrocanadalsp.com

Recommendation: Fluid is generally in good condition, however there is an unusually high degree of low-boiler content and reduced viscosity as well as lower-than-normal flash point. These symptoms could be caused by thermal degradation (cracking) or possibly exchanger leaking hydrocarbon liquids into the fluid. These are concerning, but not yet severe. Suggest another sample in 3 months to see if conditions worsen.

Comments: (GCD) 10% Distillation Point is severely low. (GCD) % < 335°C is abnormally high. COC Flash Point is abnormally low.

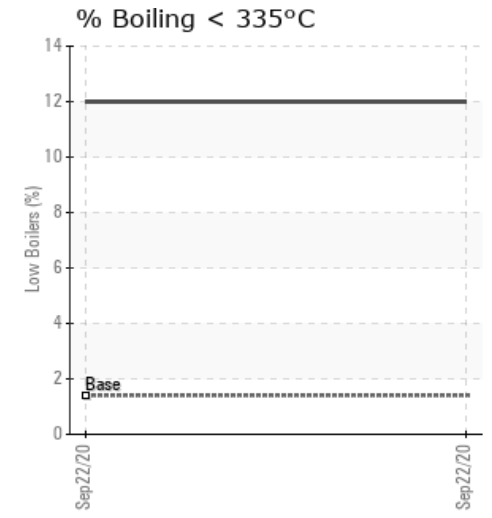
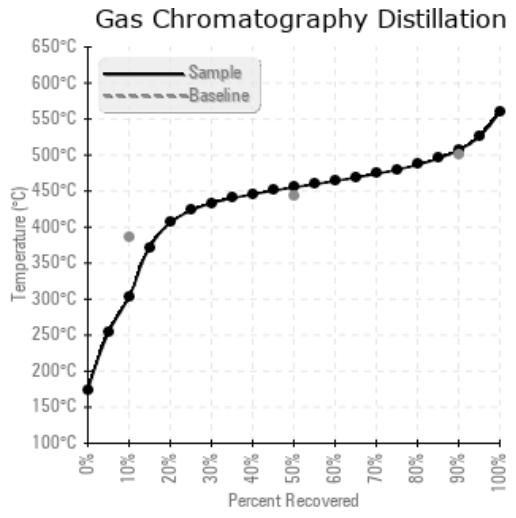
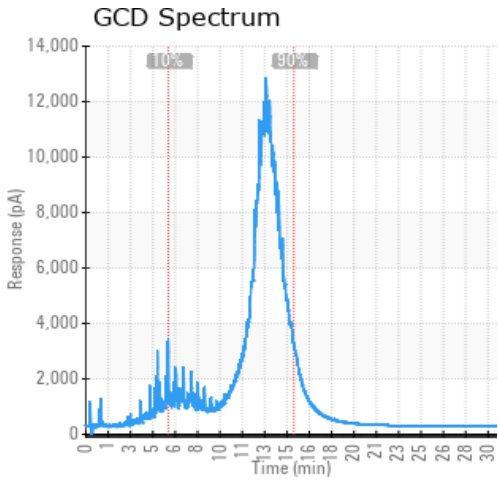
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
09/22/20	10/08/20	5y	Boiler	367 / 186	64.3	34.8	0.05	0.036	577 / 303	851 / 455	944 / 507	12.00
Baseline Data				464 / 240		41.1			727 / 386	828 / 442	932 / 500	1.4





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
09/22/20	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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