

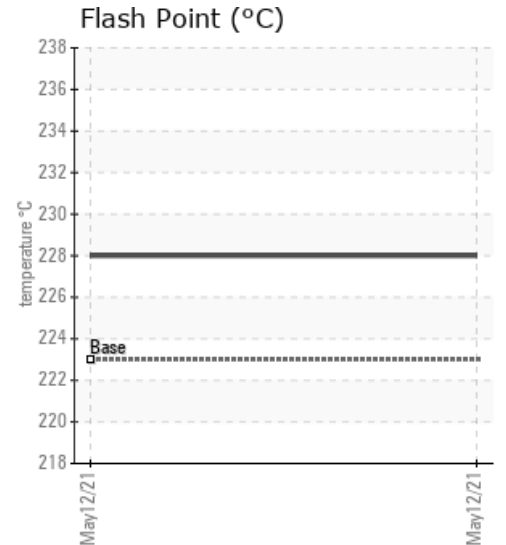
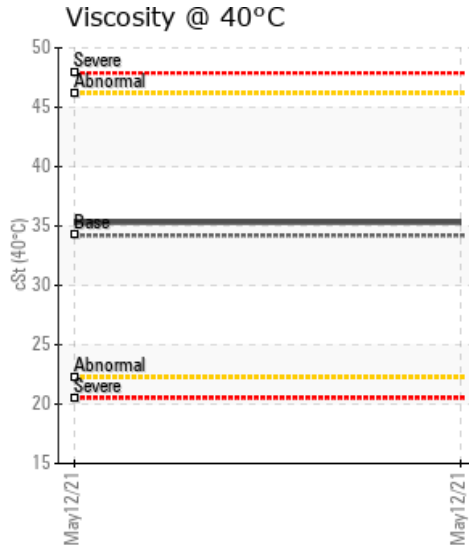
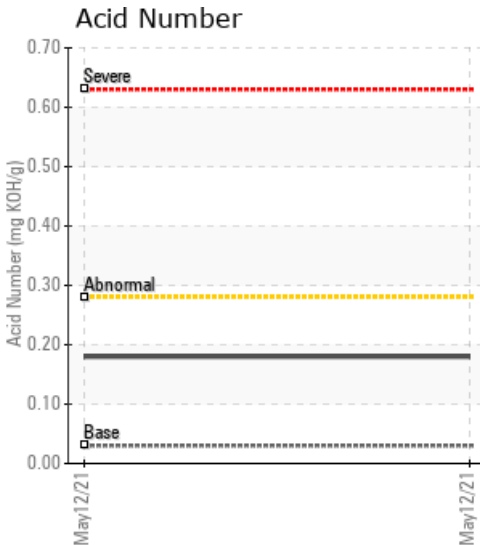
[PLATEAU] ENERGY PLANT FURNACE

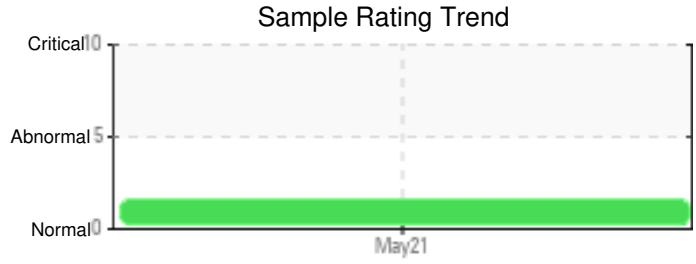
Customer: PTRHTF20249	System Information	Sample Information
Canfor - Plateau 1399 Bearhead Rd. Vanderhoof, BC V0J 3A2 Canada Attn: Hans Pedersen Tel: (250)567-8376 E-Mail: Hans.Pedersen@canfor.com	System Volume: 190000 ltr Bulk Operating Temp: 455F / 235C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: DELTECH	Lab No: 02422891 Analyst: Ray Rolston Sample Date: 05/12/21 Received Date: 05/21/21 Completed: 05/28/21 Ray Rolston Ray.Rolston@hollyfrontier.com

Recommendation: Water content of sample was low at 20.7 ppm. Acid Number (AN) at 0.18 mg KOH/g is low which is good. COC Flash Point and GCD Distillation is good, although Initial Boiling Point (IBP) is a little low at 285 C indicating that some light fractions are present. Pentane Insolubles (solids) content is elevated at 0.564; the warning limit is 0.50%. Recommend investigating whether the heat transfer fluid can be filtered to remove this sediment. Re-sample in 6 months to monitor the fluid's condition.

Comments: Pentane Insolubles levels are severely high.

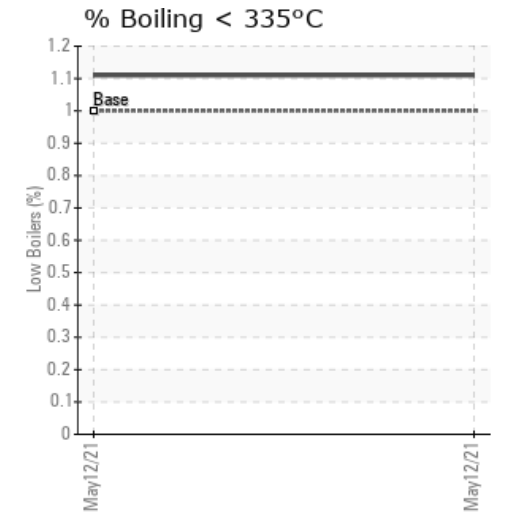
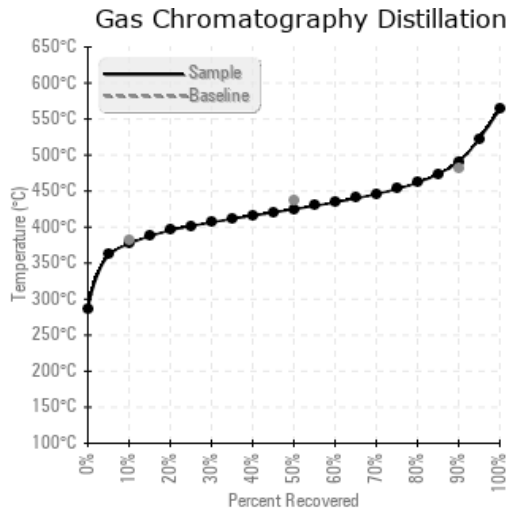
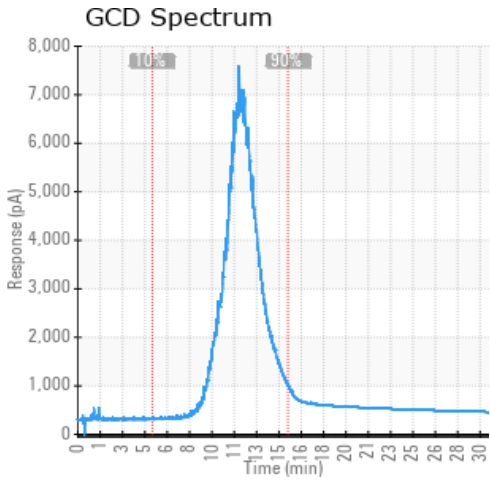
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/12/21	05/21/21	11.0y	Primary Pipe	442 / 228	20.7	35.3	0.18	0.564	710 / 377	797 / 425	915 / 491	1.11
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
05/12/21	8	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	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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