

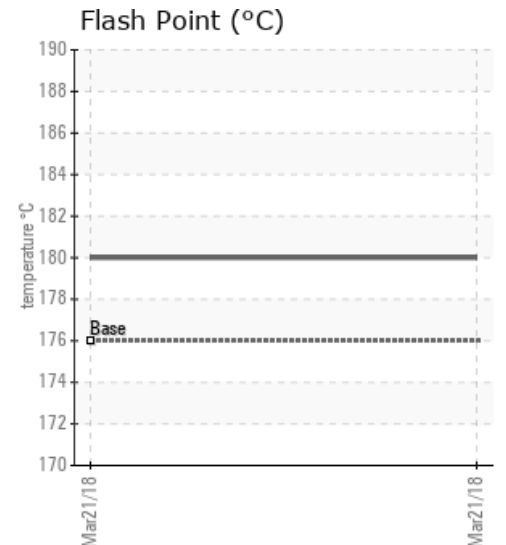
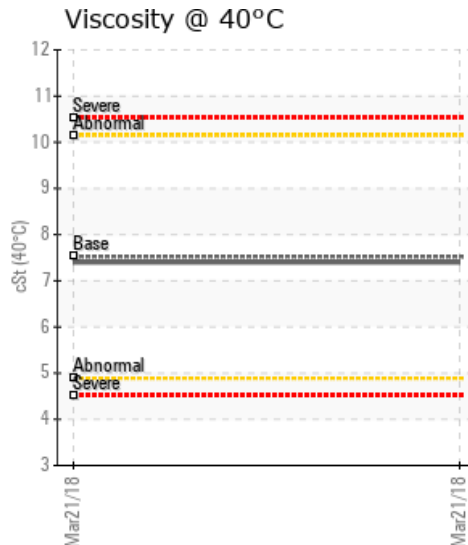
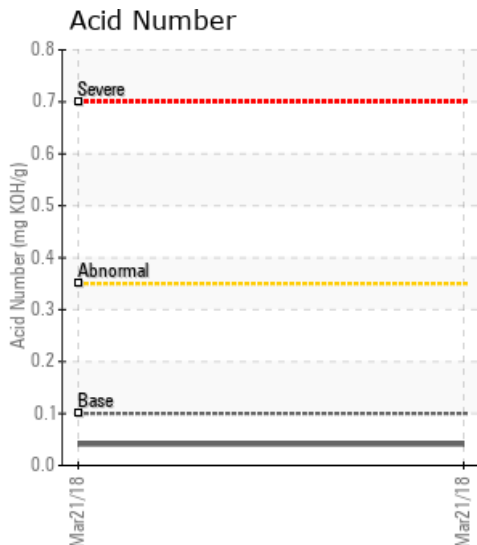
PILOT PLANT

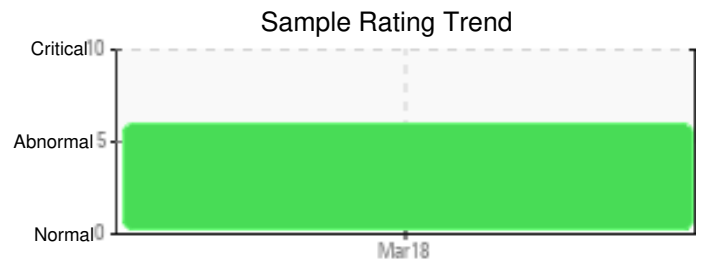
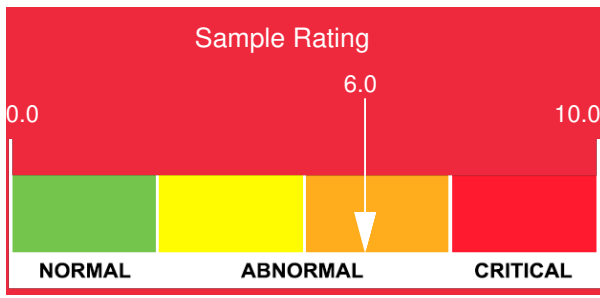
Customer: PTRHTF30113	System Information	Sample Information
WOODLAND BIOFUELS 1086 MODELAND RD SARNIA, ON N7S 6L2 Canada Attn: Jim Power Tel: (519)337-5398 E-Mail: jpower@woodlandbiofuels.com	System Volume: 100 ltr Bulk Operating Temp: 392F / 200C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO LT Make: CCI THERMAL TECH	Lab No: 02205770 Analyst: Lynn Billings Sample Date: 03/21/18 Received Date: 03/22/18 Completed: 03/26/18 To discuss this report contact Lynn Billings at (289)523-0262

Recommendation: There appears to be a significant amount of water in your HTF system. (approximately 1102 ppm as well as some emulsified water - 0.2%) The GCD graph shows two peaks which indicates contamination of another product. This is why the 50% and 90% distillation values appear to be off.

Comments: Water contamination levels are severely high. (GCD) 90% Distillation Point is severely high. (GCD) 50% Distillation Point is marginally high.

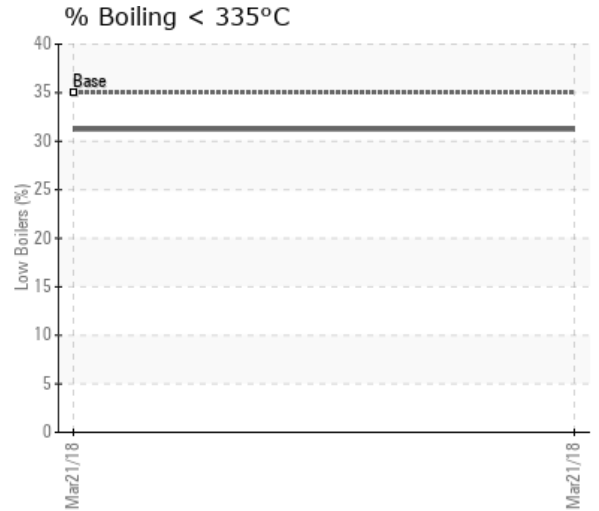
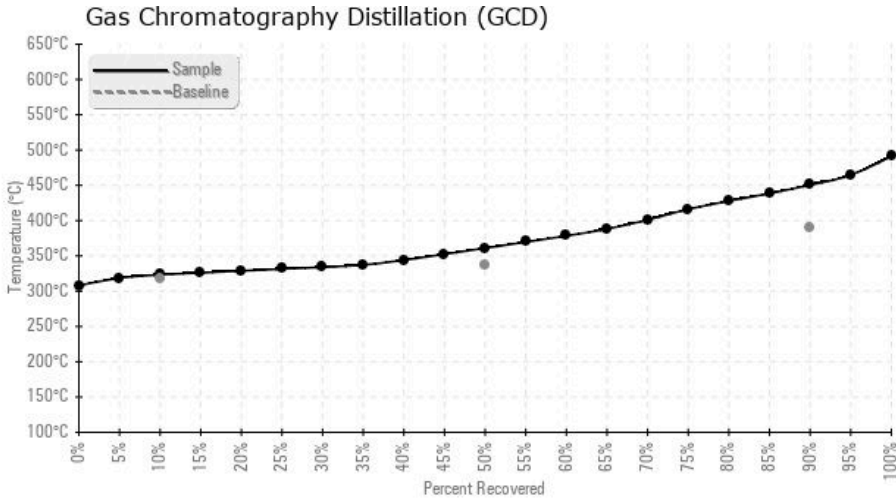
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/21/18	03/22/18	100h		356 / 180	1102.1	7.4	0.041	0.105	614 / 323	682 / 361	843 / 451	31.23
Baseline Data				349 / 176		7.52	0.1		604 / 318	640 / 338	734 / 390	35.0





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
03/21/18	2	0	0	0	1	0	0	11	0	0	8	1	0	0	0	0	0	0	2	0	11	0	212	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	