

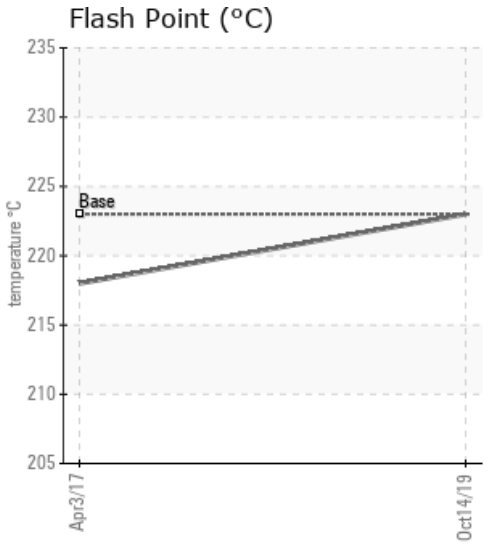
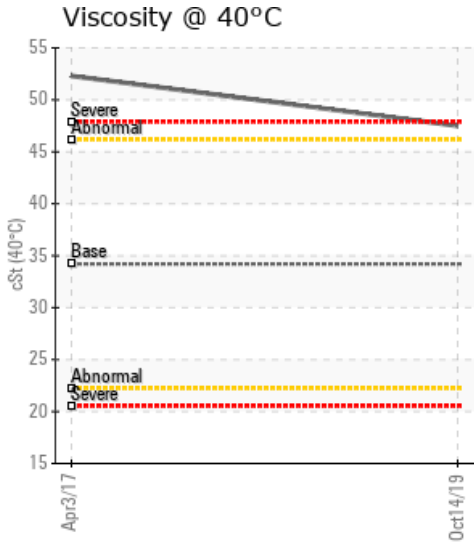
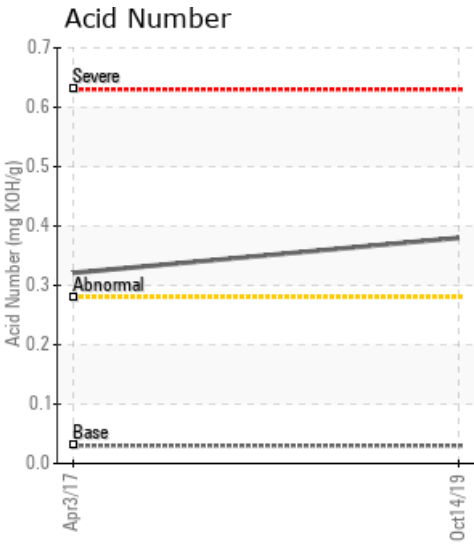
HEAT TECH

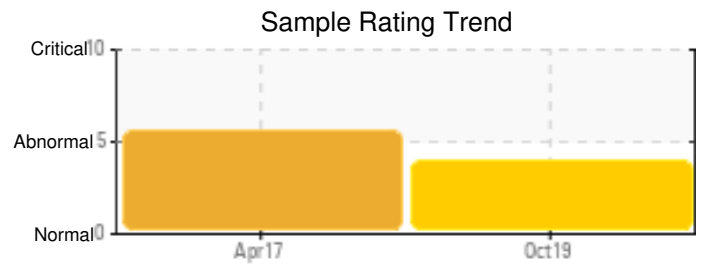
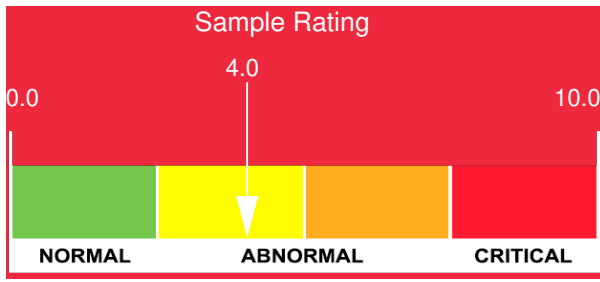
Customer: PTRHTF10186	System Information	Sample Information
Bitumar USA Inc 7982 Huey Road Douglasville, GA 30134 USA Attn: Mike Walsh Tel: E-Mail: mike.walsh@bitumar.com	System Volume: 0 gal Bulk Operating Temp: 380F / 193C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: HEAT TECH	Lab No: 02315202 Analyst: Manny Garcia Sample Date: 10/14/19 Received Date: 10/18/19 Completed: 10/27/19

Recommendation: Please consider changing out this heat transfer fluid charge and fill system with 'premium' virgin Petro-Therm as this fluid is NOT suitable for continued use.

Comments: Pentane Insolubles levels are severely high. Acid Number (AN) is abnormally high. Visc @ 40°C is abnormally high. (GCD) 10% Distillation Point is marginally high.

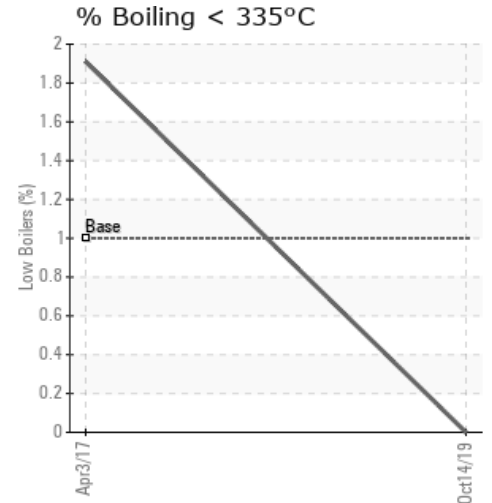
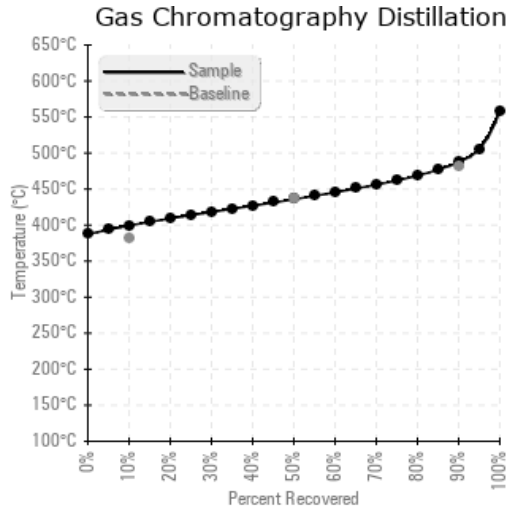
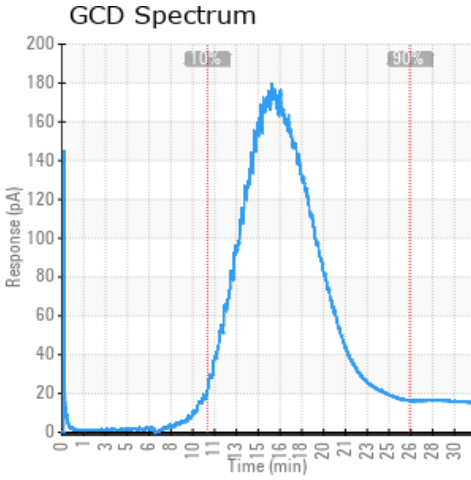
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
10/14/19	10/18/19	12m		433 / 223	37.1	47.5	0.380	1.45	751 / 399	816 / 436	909 / 487	0.00
04/03/17	04/24/17	10m	PUMP SUCTION	424 / 218	2870.4	52.3	0.321	0.646	727 / 386	855 / 457	961 / 516	1.91
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
10/14/19	31	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04/03/17	28	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	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

04/03/17	Please include the exact Petro-Canada Heat Transfer fluid name on next scheduled used fluid sample; Water should be boiling off at temperatures above 212°F; Check for water ingestion and mitigate; venting the system can assist in lowering the high 90% distillation curve; If system has any filters, please maintain regularly/change asap; If the fluid is 10 years old, may want to schedule system drain/flush/re-fill with high quality Petro Canada Calflo/Petrotherm product; Consult with Tech Service Advisor for proper recommendation. Wear Metals are low; VERY HIGH WATER CONTANT; Acid content is satisfactory; (GCD) 90% Distillation Point is abnormally high. Viscosity is satisfactory; COC Flash Point is in check; Pentane insoluble are high; Very light White metal visible in sample; Very light debris visible in sample;

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