

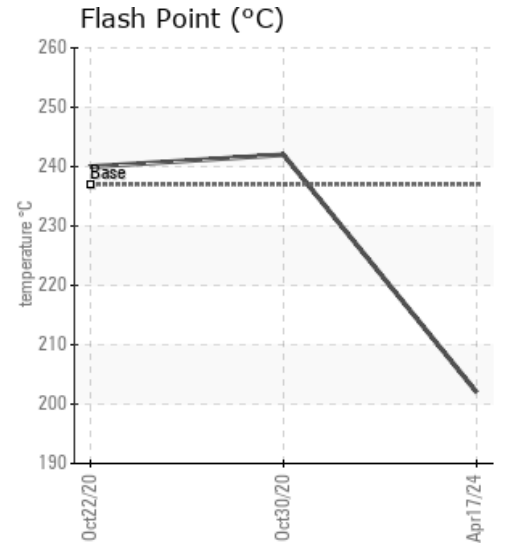
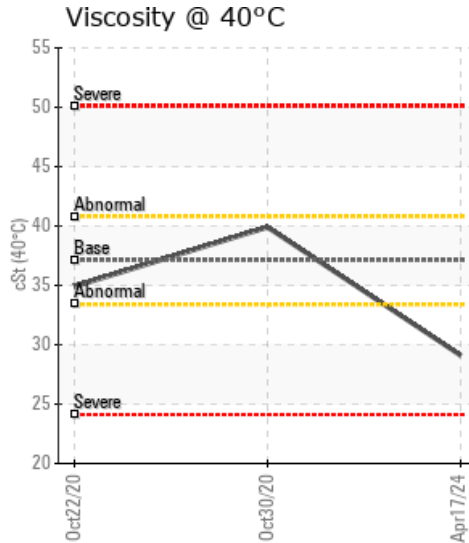
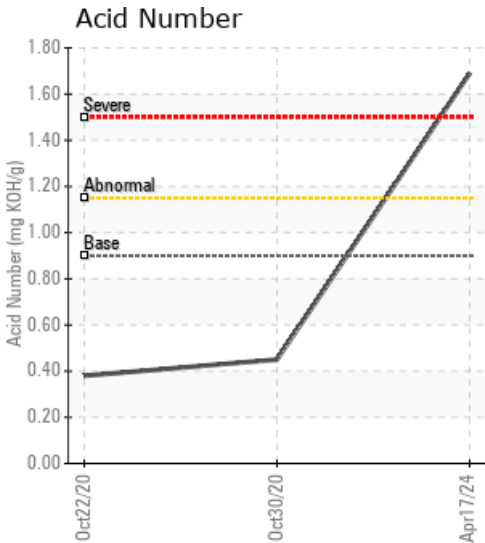
BECK PACK SYSTEMS

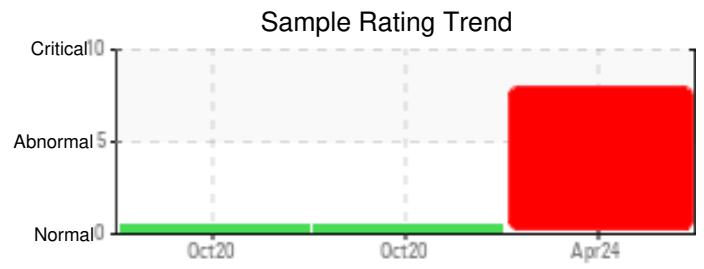
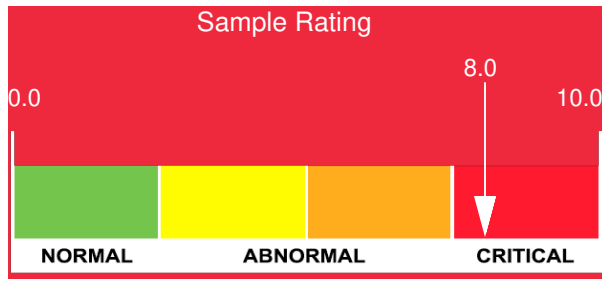
Customer: PTRHTF30161	System Information	Sample Information
BECK PACK SYSTEMS 7700 300TH AVE SE PRESTON, WA 98050 CA Attn: Tyrail Minor Tel: (425)240-0891 E-Mail: tyrailm@beckpacksystems.com	System Volume: 110 gal Bulk Operating Temp: 338F / 170C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: TERMO TRADING	Lab No: 02631429 Analyst: Ron LeBlanc Sample Date: 04/17/24 Received Date: 04/25/24 Completed: 04/30/24 Ron LeBlanc Ronald.LeBlancSr@HFSinclair.com

Recommendation: This sample indicates a possible mix of another fluid. The sulfur spikes are unusual. The distillation points are all off specification. The viscosity is severely low. Check for mixing of another product.

Comments: Acid Number (AN) is severely high. Visc @ 40°C is abnormally low. (GCD) % < 335°C is marginally high. (GCD) 90% Distillation Point is marginally high. COC Flash Point is marginally low. (GCD) 10% Distillation Point is marginally low.

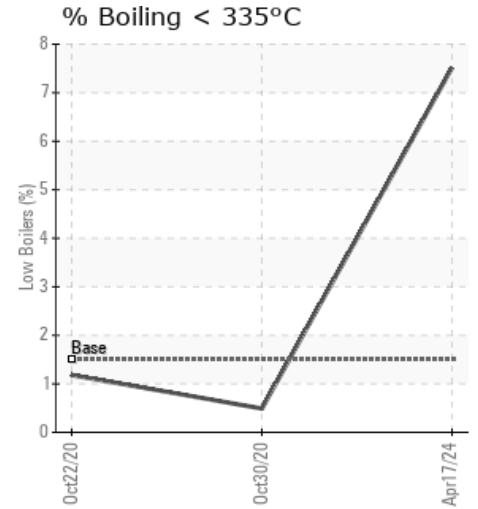
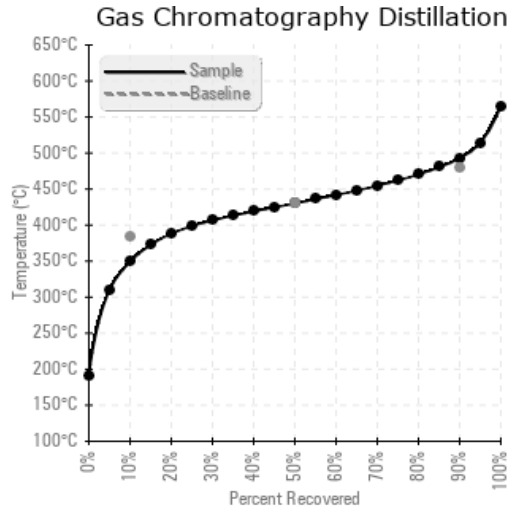
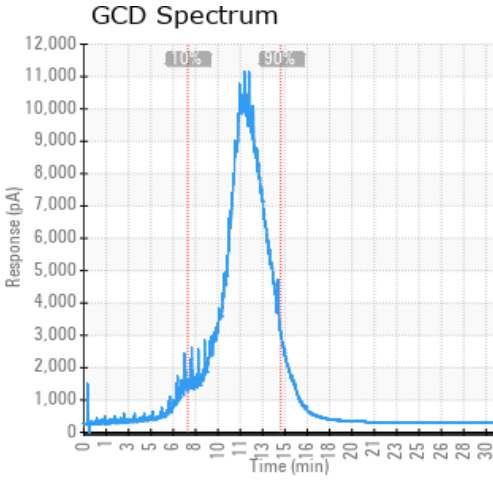
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/17/24	04/25/24	60.0m	bleed valve	396 / 202	34	29.1	1.69	0.091	660 / 349	806 / 430	919 / 493	7.52
10/30/20	11/13/20	3.0m	bottom of system	468 / 242	18.5	39.9	0.45	0.088	778 / 414	887 / 475	982 / 528	0.49
10/22/20	11/05/20	3.0m	In loop	464 / 240	50.3	34.9	0.38	0.110	762 / 406	870 / 466	978 / 526	1.18
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5





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	
04/17/24	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	2	
10/30/20	4	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	8	0
10/22/20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	
Baseline Data			0	0						0			0	0				0	0				230		

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



Historical Comments	
10/30/20	The sample appears to be a mixture of fluids. The sulfur went up from 231 ppm to 1605 ppm. Initial boiling point went up from 175.2 to 301.6. Suggest cleaning the system, drain, flush and refill with Purity FG Cleaning Fluid.
10/22/20	Sample Appears normal. Resample in 3 months.

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