

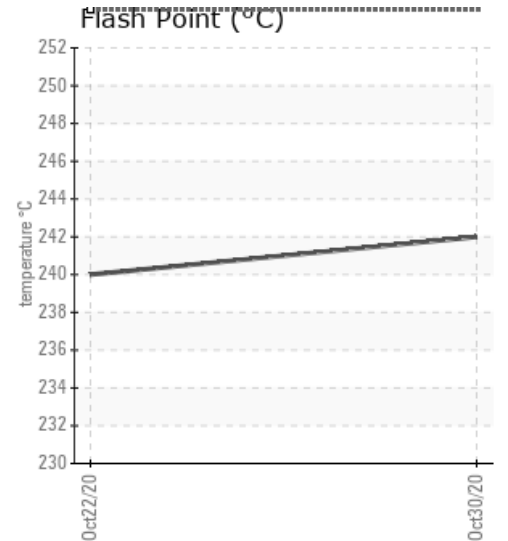
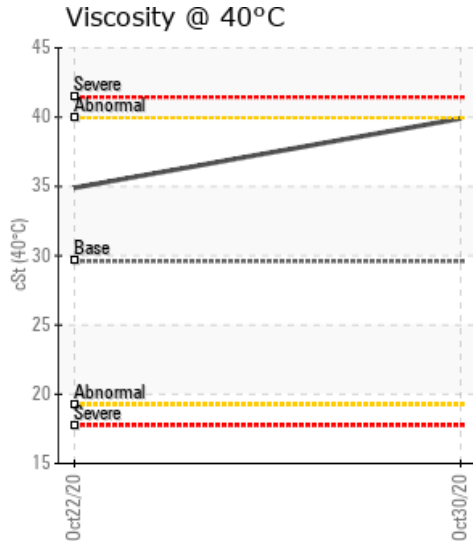
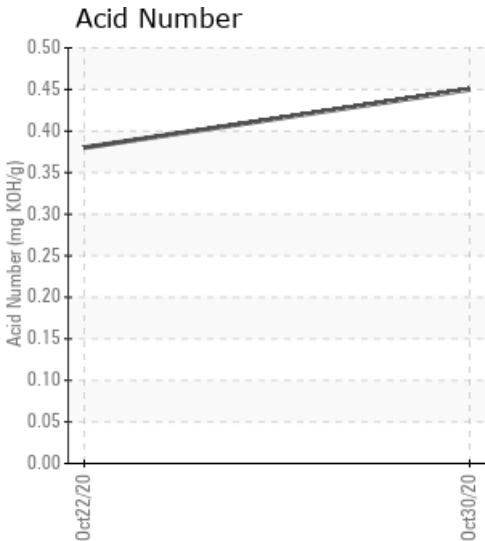
## BECK PACK SYSTEMS

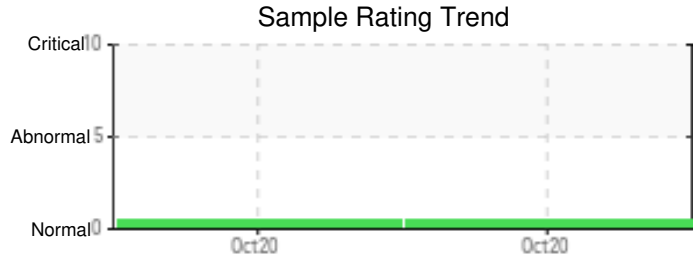
Customer: PTRHTF30161	System Information	Sample Information
BECK PACK SYSTEMS 7700 300TH AVE SE PRESTON, WA 98050 Canada Attn: Tyrail Minor Tel: (425)240-0891 E-Mail: tyrailm@beckpacksystems.com	System Volume: 110 gal Bulk Operating Temp: 338F / 170C Heating Source: Blanket: Fluid: SUMMIT FG-100 ISO 32 Make: TERMO TRADING	Lab No: 02387356 Analyst: Ron LeBlanc Sample Date: 10/30/20 Received Date: 11/13/20 Completed: 11/17/20 Ron LeBlanc Ronald.LeBlancSr@petrocanadalsp.com

Recommendation: 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.

Comments:

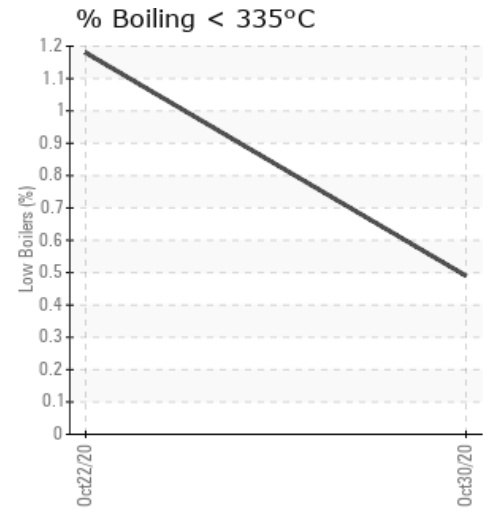
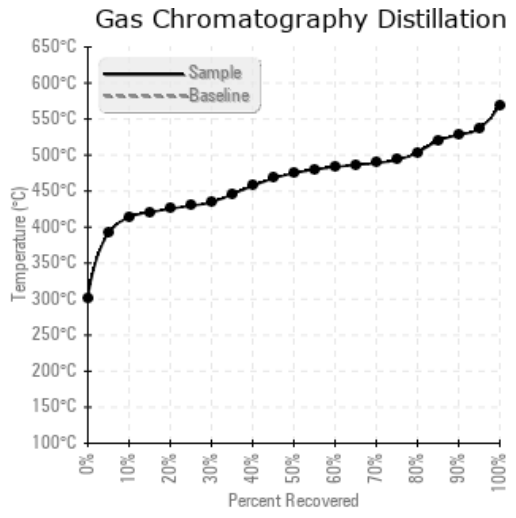
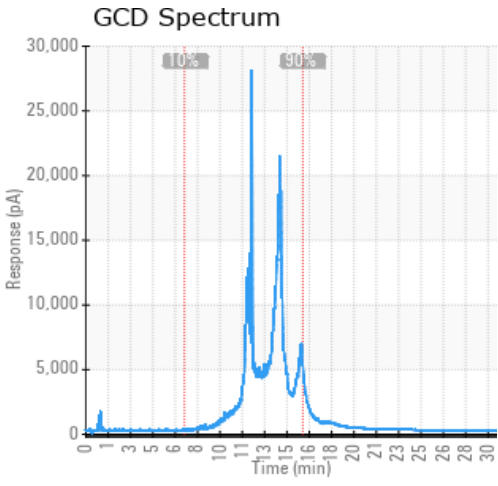
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
10/30/20	11/13/20	3m	bottom of system	468 / 242	18.5	39.9	0.45	0.088	778 / 414	887 / 475	982 / 528	0.49
10/22/20	11/05/20	3m	In loop	464 / 240	50.3	34.9	0.38	0.110	762 / 406	870 / 466	978 / 526	1.18
Baseline Data				489 / 254		29.6						





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
10/30/20	4	0	0	0	0	0	0	0	0	0	2	0	2	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	

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



### Historical Comments

10/22/20	

Petro-Canada makes no representation or warranty of any kind, either express or implied, as to the accuracy or completeness of the analysis and assumes no responsibility and shall have no liability whatsoever with respect to such analysis, or a party's use of it. Petro-Canada is a division of HollyFrontier Corporation.