

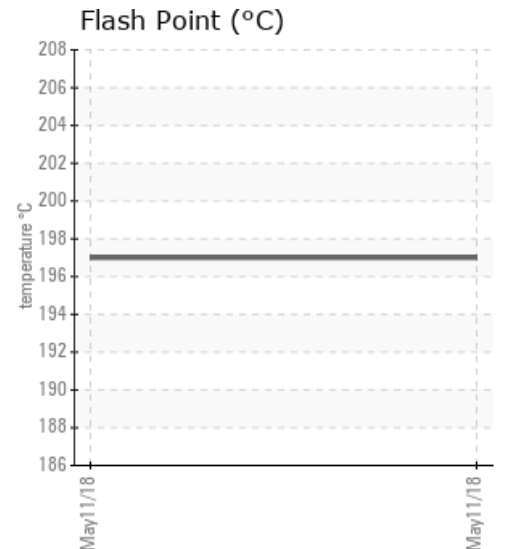
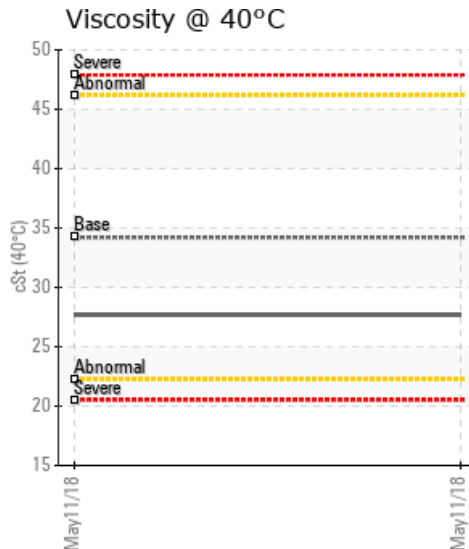
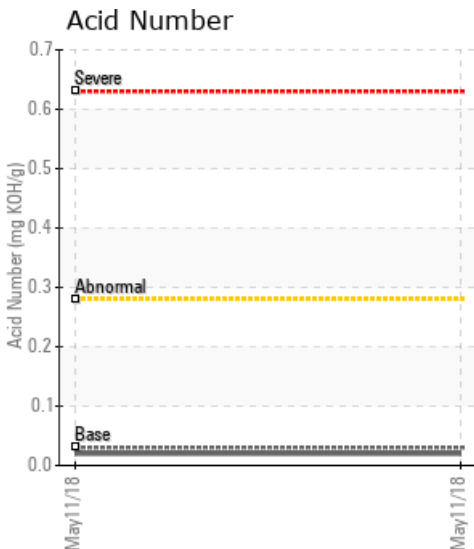
[PEYTO BRAZEAU PLANT / 100/6-12-44-13W5] H-1611 HEAT MEDIUM

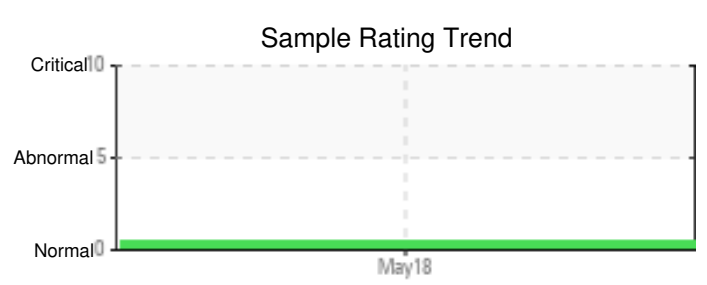
Customer: PTRHTF20124	System Information	Sample Information
PEYTO EXPLORATION 11-17-55-21W5 BOX 7198 EDSON, AB T7E 1V4 Canada Attn: Cory Pambrub Tel: (780)712-0217 E-Mail: cpambrun@peyto.com	System Volume: 0 ltr Bulk Operating Temp: 383F / 195C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: HEAT TECH	Lab No: 02216278 Analyst: Peter Hartevelde Sample Date: 05/11/18 Received Date: 05/15/18 Completed: 05/17/18 To discuss this report contact Peter Hartevelde at (780)967-4234

Recommendation: The fluid is in good condition and suitable for further use. Viscosity and Flash Point are slightly low. % boil-off below 335C is slightly high. These parameters in combination with decreased 10%- and 50% GCD temperatures indicate thermal degradation of the fluid and/or ingress of blanket gas. At this moment it is not a problem but it is recommended to start venting-off low boiler vapors to atmosphere to bring the fluid back to a condition closer to the condition of fresh fluid. Venting should be part of regular maintenance. Please re-sample in 6 months.

Comments:

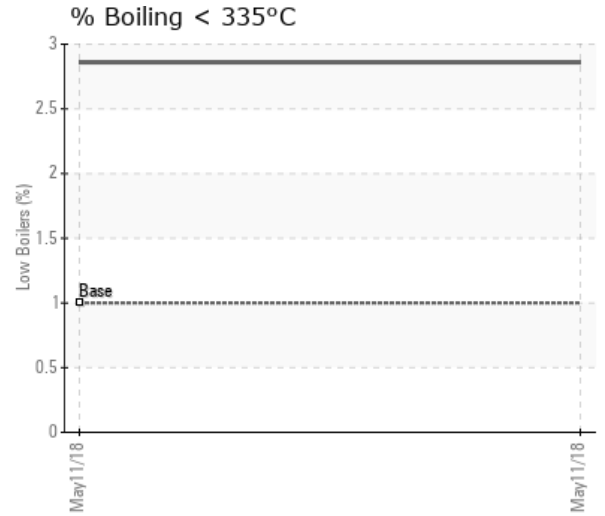
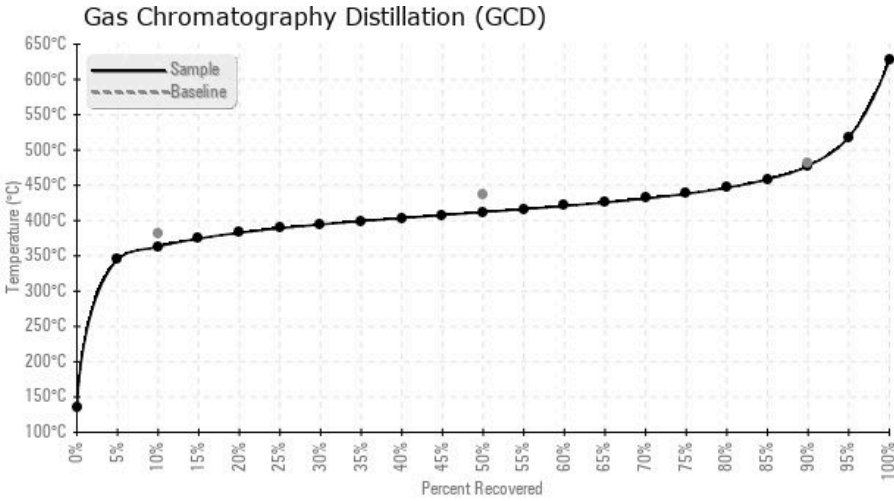
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/11/18	05/15/18	2y	100/6-12-44-13W5	387 / 197	0.00	27.7	0.02	0.041	685 / 363	774 / 412	892 / 478	2.86
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
05/11/18	2	0	0	0	0	0	0	3	0	0	1	4	0	4	0	0	1	0	0	0	3	0	1	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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