

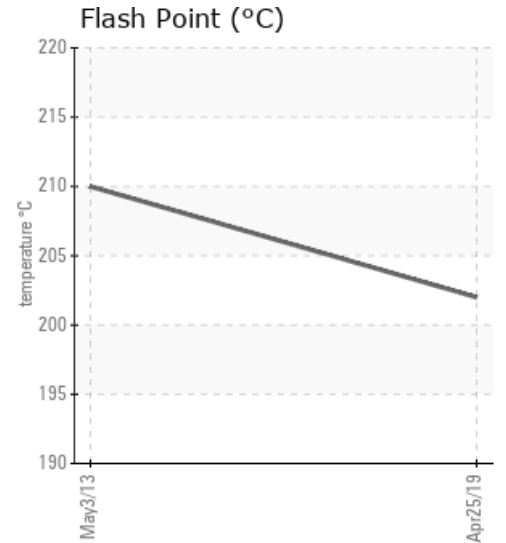
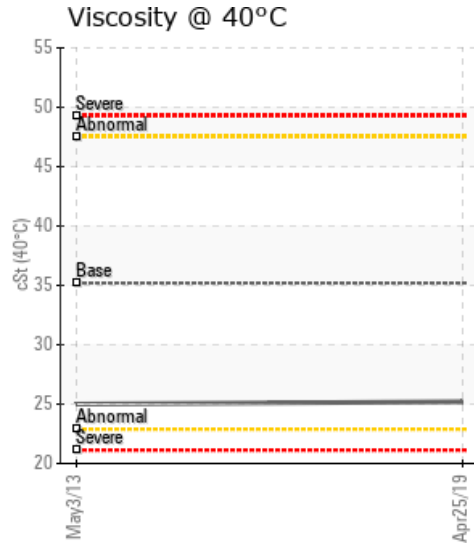
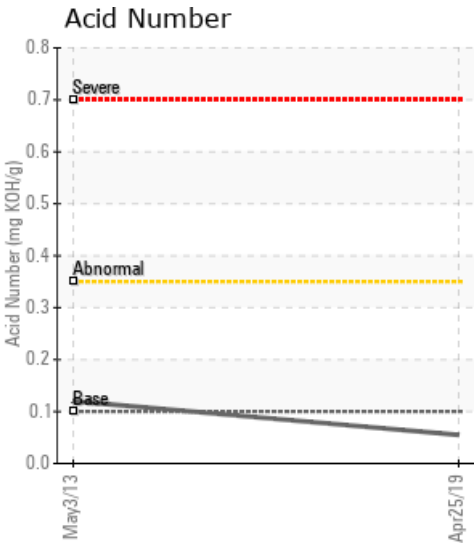
RFO #3 SPIN BANK 1 HOT OIL SYSTEM

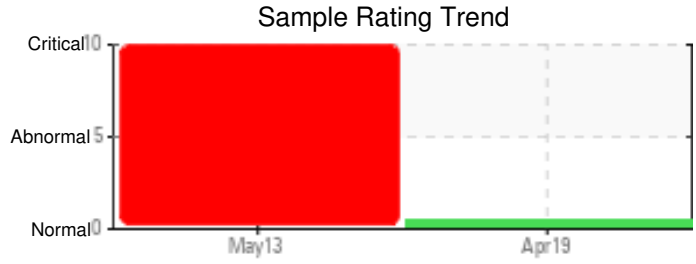
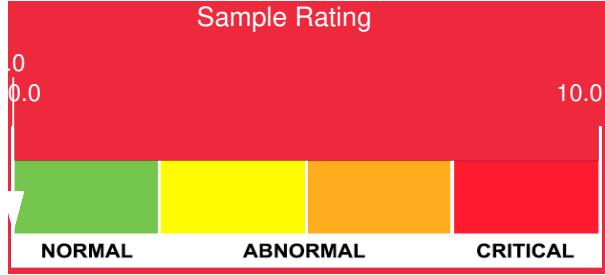
Customer: PTRHTF10057	System Information	Sample Information
PROPEX RINGGOLD PLANT 428 ROLLINS INDUSTRIAL BLVD RINGGOLD, GA 30736 USA Attn: STEWART DOMAINGUE Tel: (423)553-3843 E-Mail: stewart.domaingue@propexglobal.com	System Volume: 100 gal Bulk Operating Temp: 500F / 260C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO HTF Make:	Lab No: 02285036 Analyst: Jake Finn Sample Date: 04/25/19 Received Date: 05/14/19 Completed: 05/22/19

Recommendation: Oil is suitable for continued use, please re-submit sample in 1 year. Changing any system filters or kidney-loop filtering the fluid during any shutdown periods will remove any 'light debris' as seen by the lab. Please remember to include hours of use on oil and age of hot oil system when submitting samples for testing.

Comments: Light debris is noted in lab comments.

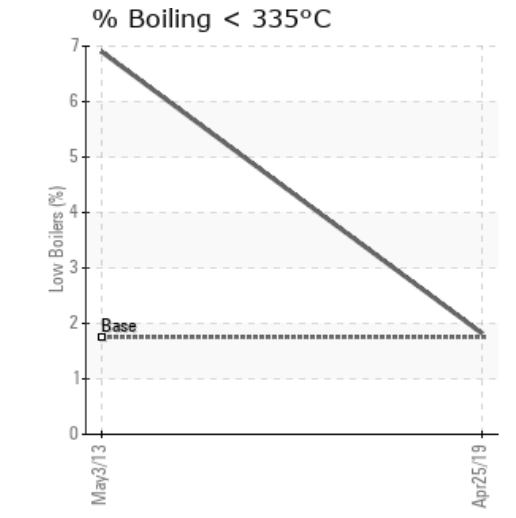
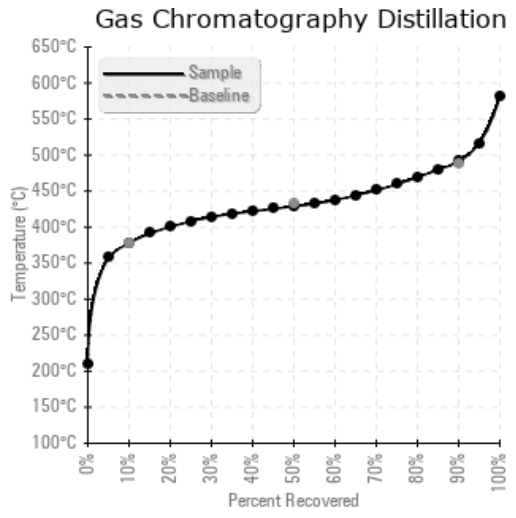
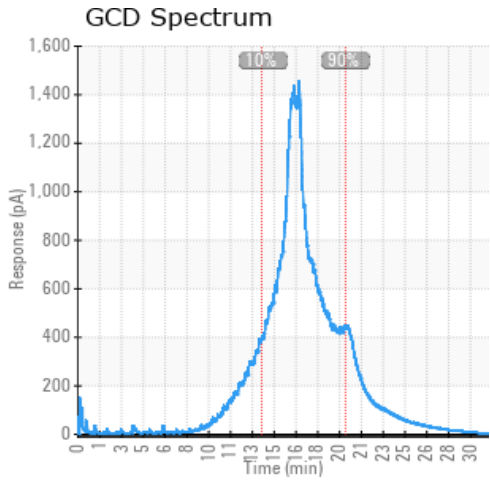
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/25/19	05/14/19	0y		396 / 202	60.6	25.2	0.055	0.048	712 / 378	804 / 429	916 / 491	1.82
05/03/13	05/15/13	0y		410 / 210	462.5	25.0	0.12	0.091	651 / 344	757 / 403	923 / 495	6.90
Baseline Data				448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75





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
04/25/19	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0
05/03/13	73	0	0	0	0	0	2	0	0	0	3	3	0	0	0	0	0	0	0	0	2	0	73	2
Baseline Data			0	0						0			0	0					0				280	

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



Historical Comments

05/03/13	The oil itself show some thermal stress but the flash point is still high so it's not very alarming. However, the water amount is a bit high and particles collected are also high. We suspect perhaps the sample port was not properly flushed before collecting the sample. Next time make sure to let 1 gallon of oil flow through the sample valve/pipe before drawing the sample. If you feel the sample was a true representation of the oil in the entire system then it appears the system needs a complete and thorough cleaning, flushing and refill. Visual white metal is severe. Water contamination levels are marginally high. Visual emulsified water is marginal. ppm Water contamination levels are marginally high. (GCD) 10% Distillation Point is marginally low.
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