

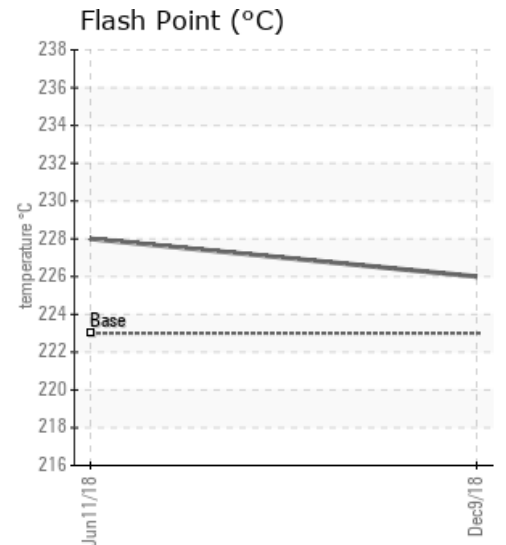
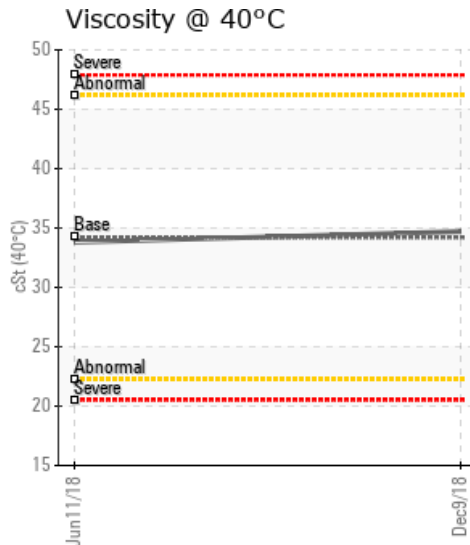
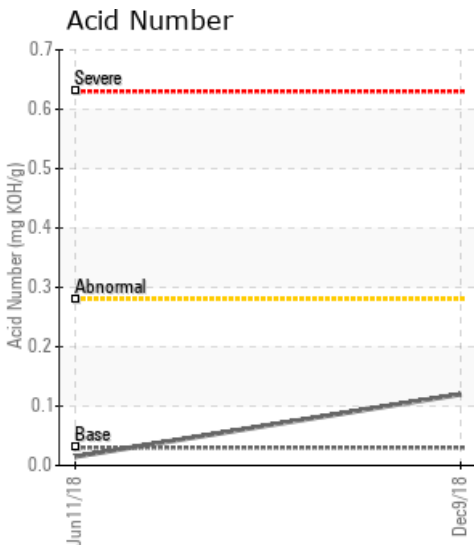
[PUMP SUCTION 16-03-65-18WSU] ATHABASCA

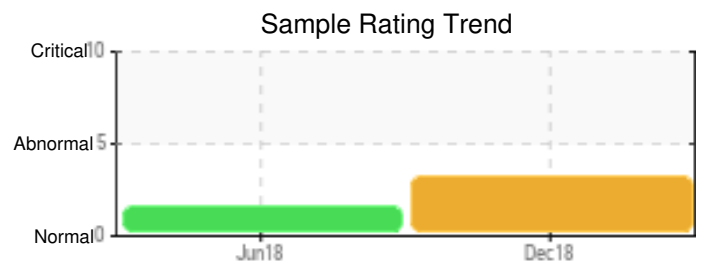
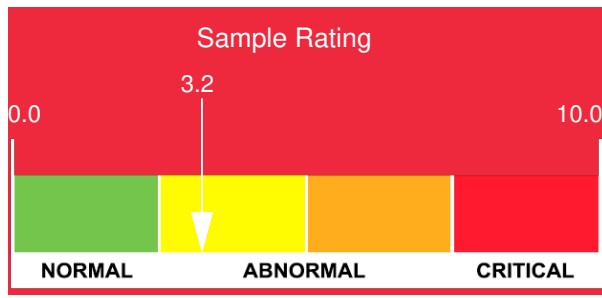
Customer: PTRHTF20046	System Information	Sample Information
QUADRA CHEMICALS 12925 146TH STREET EDMONTON, AB T5L 2H6 CANADA Attn: Quadra Samples Tel: E-Mail: quadra_samples@quadra.ca	System Volume: 0 gal Bulk Operating Temp: Not Specified Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make:	Lab No: 02257511 Analyst: Peter Hartevelde Sample Date: 12/09/18 Received Date: 12/14/18 Completed: 12/18/18

Recommendation: The water content of the fluid is high. Please boil-off the water. Aside from the water, the fluid is in good condition and suitable for further use. Re-sample in 6 months. When sending in a sample it is important to list information such as system volume and operating temperature of the fluid.

Comments: Water contamination levels are severely high. Water contamination levels are severely high.. ppm Water contamination levels are severely high.

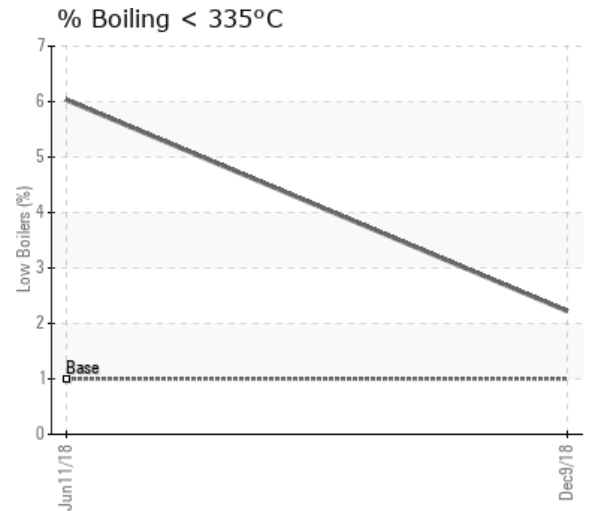
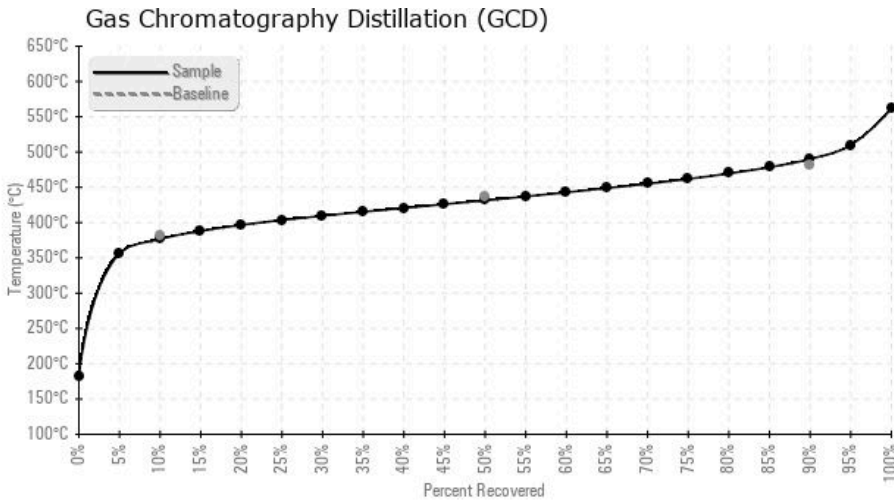
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/09/18	12/14/18	5y		439 / 226	1032.4	34.7	0.12	0.088	710 / 377	809 / 431	914 / 490	2.22
06/11/18	06/14/18	2y	16-03-65-18WSM	442 / 228	595.3	33.8	0.015	0.066	665 / 352	782 / 417	899 / 482	6.03
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
12/09/18	22	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
06/11/18	0	0	0	0	0	0	0	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

06/11/18	The water content of the fluid is elevated. It is recommended to boil off the water. The fluid shows indications of thermal degradation. % low boiler vapor (<335C.) is high and 10% GCD temperature low. The fluid is suitable for further use. Water contamination levels are marginally high. Water contamination levels are marginally high.. ppm Water contamination levels are marginally high. (GCD) % < 335°C is abnormally high. (GCD) 10% Distillation Point is abnormally low. (GCD) 90% Distillation Point is abnormally low.
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