

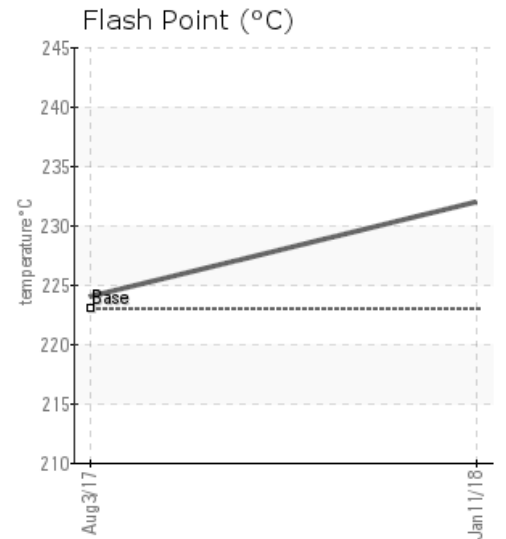
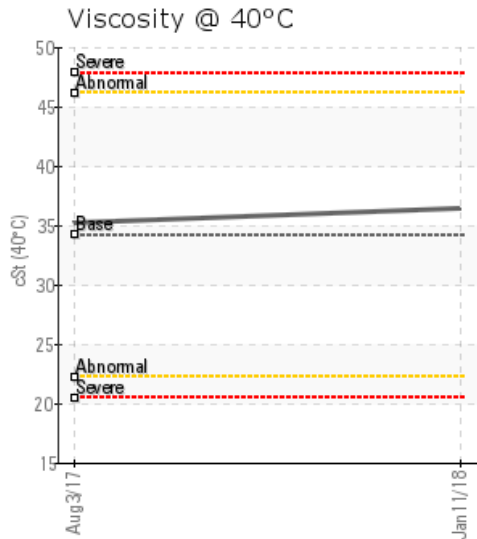
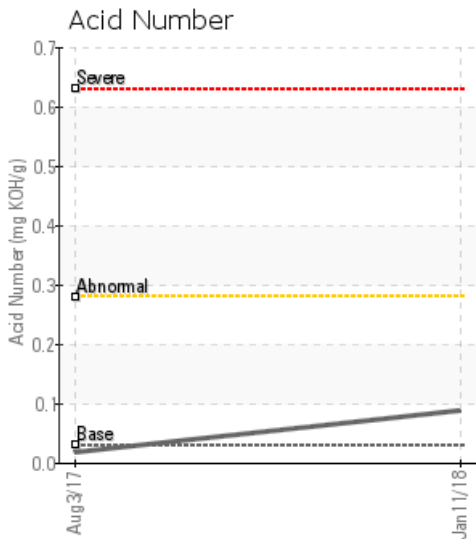
## [14-20-56-23W5] TOURMALINE WILDRIVER PLANT 1 REFRIG 2 DE-ETH

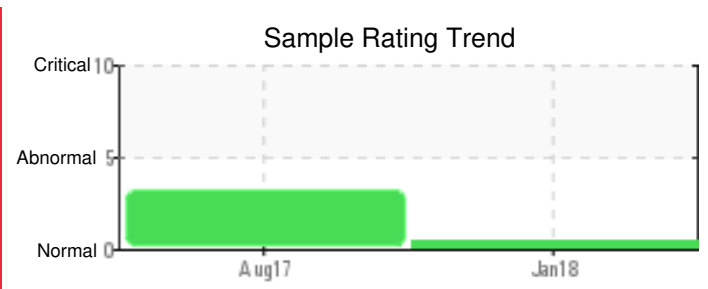
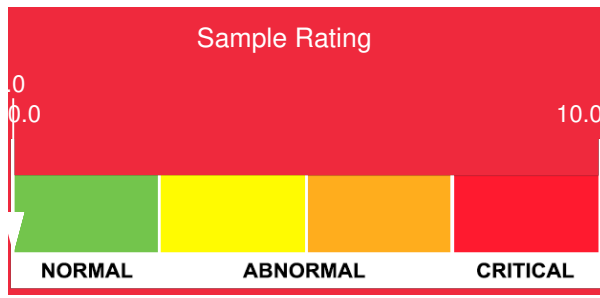
Customer: PTRHTF20046	System Information	Sample Information
QUADRA CHEMICALS 12925 146TH STREET EDMONTON, AB T5L 2H6 CANADA Attn: Ron Nordhagen Tel: (780)665-1291 E-Mail: ron_nordhagen@quadra.ca	System Volume: 0 ltr Bulk Operating Temp: 437F / 225C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make:	Lab No: 02193418 Analyst: Peter Harteveld Sample Date: 01/11/18 Received Date: 01/18/18 Completed: 01/22/18 To discuss this report contact Peter Harteveld at (780)967-4234

Recommendation: It is important for getting value out of the analysis to list system volume and fluid service life. The diagnosis of analysis results takes these parameters into consideration. This has been requested several times in the past. The open spaces on the analysis request form are there for a reason. Perhaps we should do a training to familiarize the operating personnel with the basics. The fluid is in excellent condition and suitable for further use. Please re-sample in 6 months.

Comments:

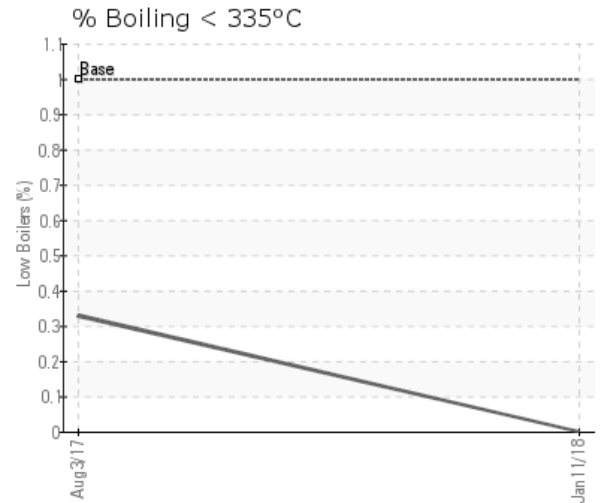
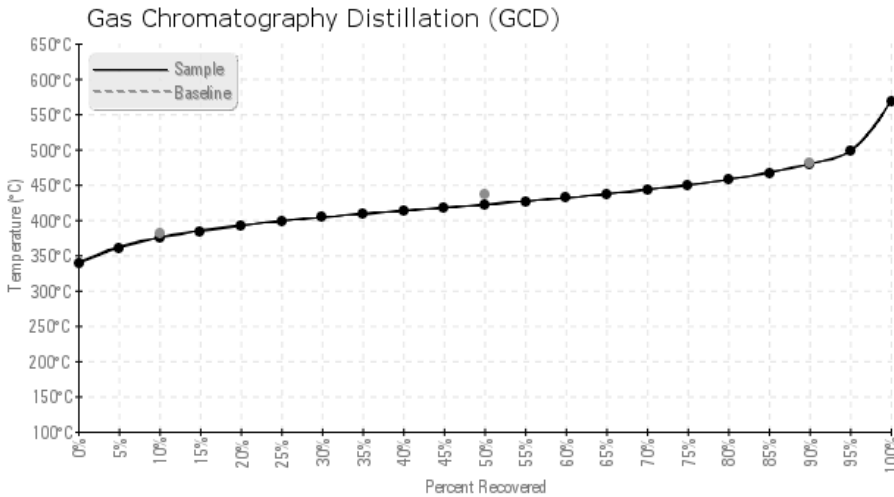
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/11/18	01/18/18	0y		450 / 232	3.7	36.4	0.088	0.047	706 / 375	791 / 422	895 / 480	0.00
08/03/17	08/03/17	0y		435 / 224	483.6	35.2	0.018	0.019	722 / 383	811 / 433	908 / 487	0.33
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
01/11/18	6	0	0	0	0	0	0	0	0	0	8	0	0	0	1	0	0	0	0	0	0	0	0	0
08/03/17	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

08/03/17	The fluid is in good condition and suitable for further use but the water content (484 ppm.) is too high. It is recommended to boil-off the water by venting to atmosphere. When sending in the next sample it is important to list the system volume and fluid service life on the sample label. Please re-sample in 6 months. ppm Water contamination levels are marginally high. Water contamination levels are marginally high.
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