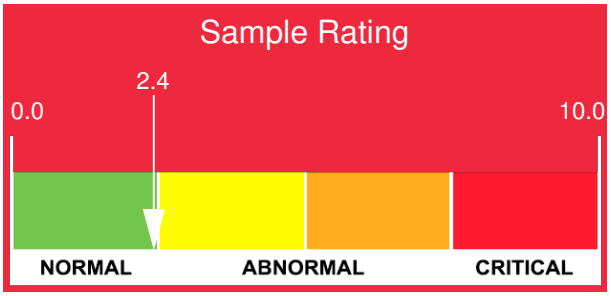
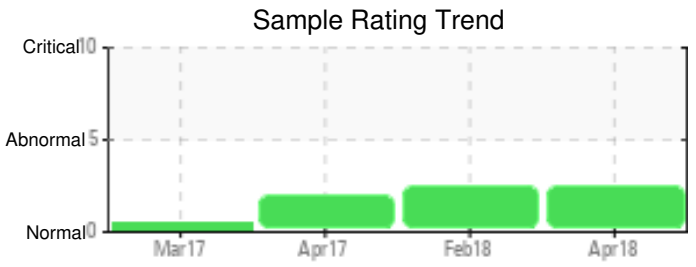




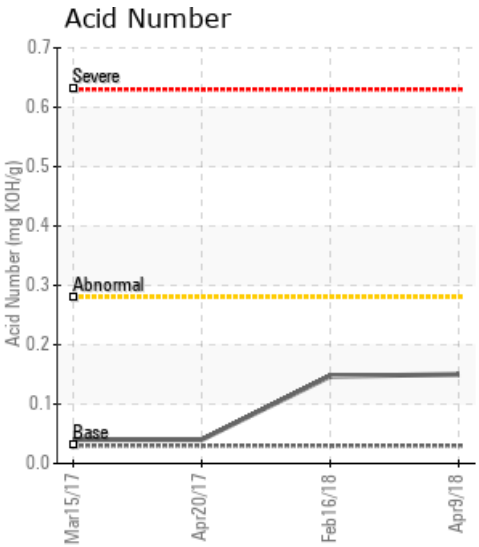
TFS H/O SYSTEM #2

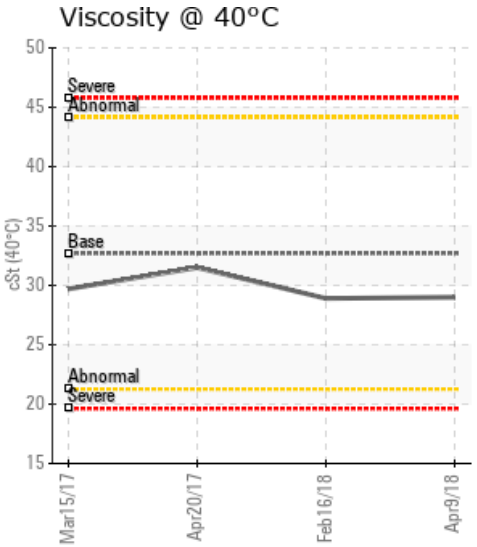
Customer: PTRHTF10176	System Information	Sample Information
CERTAINTEED ROOFING 100 CERTAINTEED DR JONESBURG, MO 63351 USA Attn: Randy Smith Tel: (636)791-3651 E-Mail: randy.smith@saint-gobain.com	System Volume: 3738 gal Bulk Operating Temp: 525F / 274C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: FSE	Lab No: 02211309 Analyst: Gaston Arseneault Sample Date: 04/09/18 Received Date: 04/20/18 Completed: 05/16/18 To discuss this report contact Gaston Arseneault at 973-986-6503

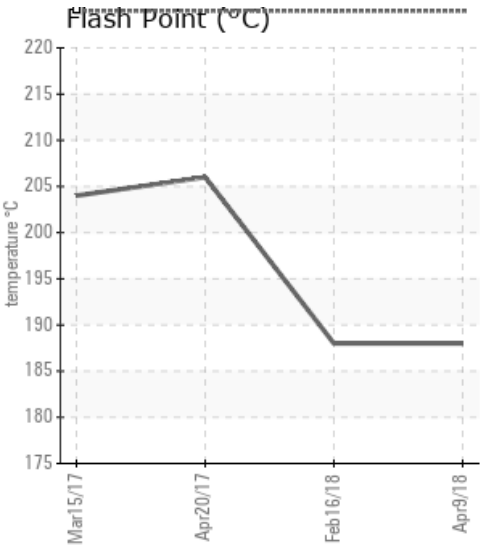
Recommendation: The results are almost identical to the satisfactory results from a couple months ago. No action needed at this time besides re-sampling in about 6-9 months time.

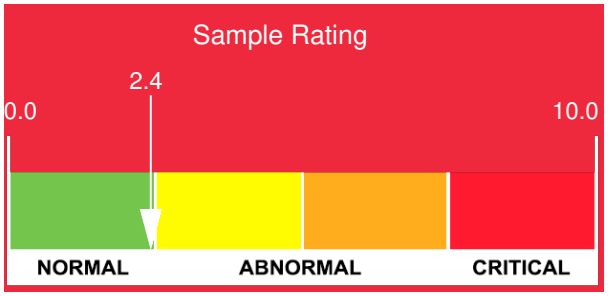
Comments: COC Flash Point is marginally low.

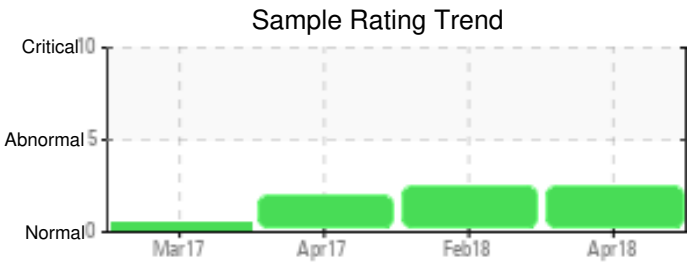
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/09/18	04/20/18	17m		370 / 188	26.7	29.0	0.150	0.077	674 / 356	780 / 416	884 / 473	3.95
02/16/18	03/07/18	28m		370 / 188	15.1	28.9	0.147	0.072	691 / 366	781 / 416	888 / 475	0.00
04/20/17	05/01/17	17m	STRAINER MAIN PUMP	403 / 206	106.9	31.5	0.04	0.127	693 / 367	801 / 427	926 / 497	2.51
03/15/17	04/05/17	16m	STRAINER NR MAIN PMP	399 / 204	23.2	29.7	0.04	0.075	693 / 367	797 / 425	896 / 480	2.23
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5





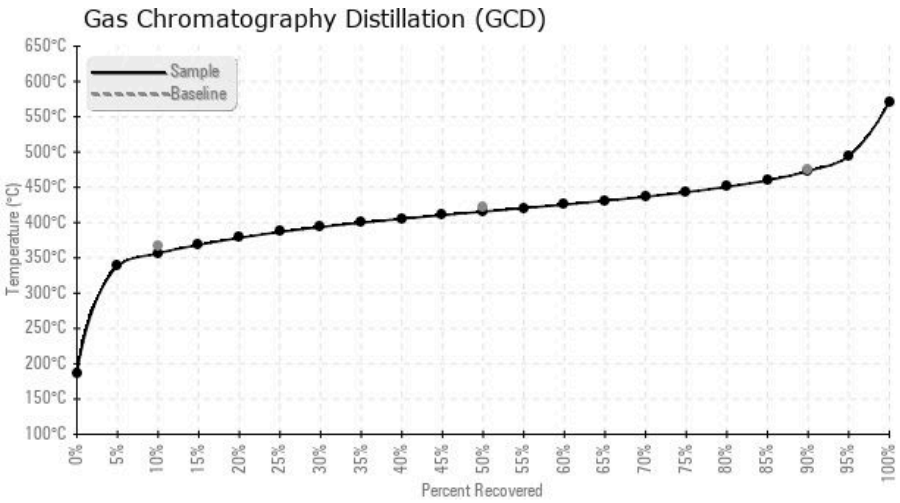


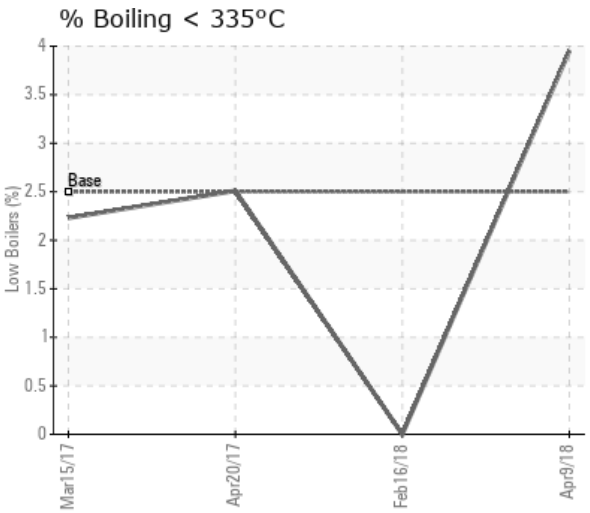




Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
04/09/18	94	0	0	0	0	0	1	1	0	0	1	3	0	0	0	0	1	0	0	0	1	0	179	5
02/16/18	74	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	1	0	0	0	1	0	177	4
04/20/17	74	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	210	3
03/15/17	83	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	234	3
Baseline Data			0	0						0			0	0					0				270	

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





Historical Comments	
02/16/18	The viscosity dropped 10% in 9 months. it is still within normal limits but the drop is also felt in the drop in flash point. We suggest to perform a venting of the fluid to release the light ends and replace the volume lost by adding fresh fluid. This will help keep the flash point strong and properties normal. COC Flash Point is marginally low.
04/20/17	The fluid looks good in terms of the results. Viscosity is normal, flash point is strong, contamination isextremely low, no Vanadium (tracker of asphalt in the fluid). No action needed and we suggest to re-sample yearly. (GCD) 90% Distillation Point is severely high.
03/15/17	The fluid looks good in terms of the results. Viscosity is normal, flash point is strong, contamination is extremely low, no Vanadium (tracker of asphalt in the fluid). There is a very small amount of low boilers but the effect is minimal. No action needed and we suggest to re-sample yearly.