

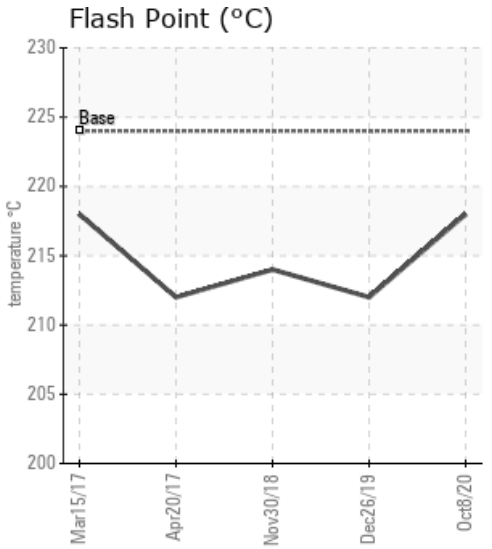
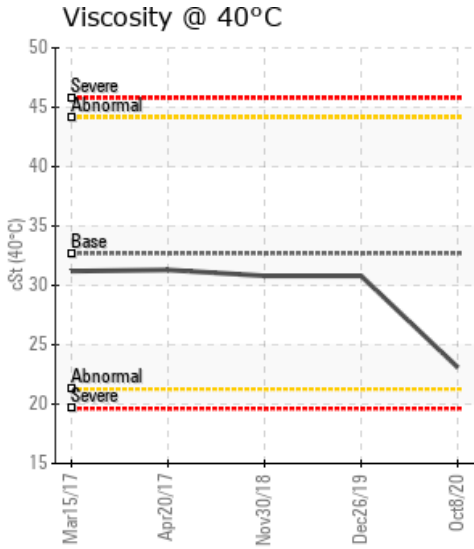
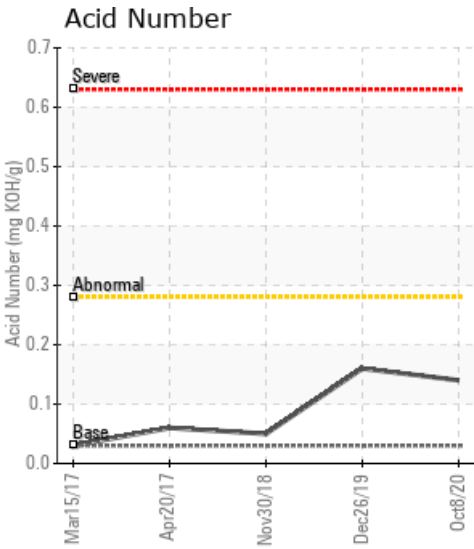
TFS H/O SYSTEM #3

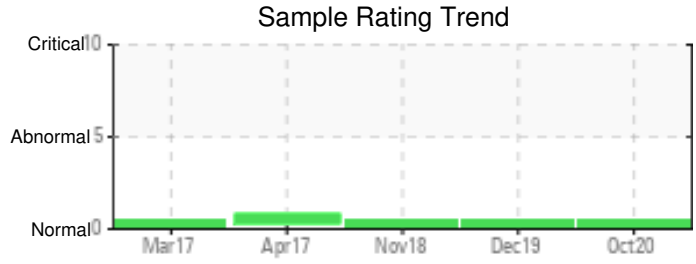
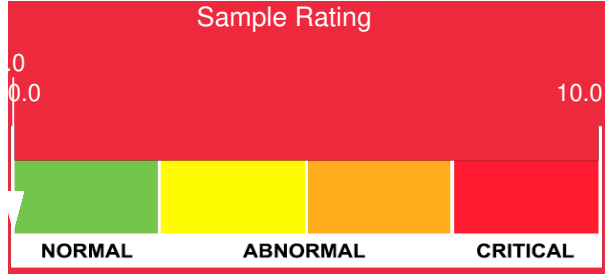
Customer: PTRHTF10176	System Information	Sample Information
CERTAINEED ROOFING 100 CERTAINEED DR JONESBURG, MO 63351 USA Attn: Jeff Montgomery Tel: (952)261-9532 E-Mail: jeffrey.d.montgomery@saint-gobain.com	System Volume: 5406 gal Bulk Operating Temp: 468F / 242C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: FSE	Lab No: 02381471 Analyst: Joe Goecke Sample Date: 10/08/20 Received Date: 10/15/20 Completed: 10/27/20 Joe Goecke joe.goecke@petrocanadalsp.com

Recommendation: Viscosity is lower than expected. All other parameters look very good. continue to use and resample at next scheduled interval.

Comments:

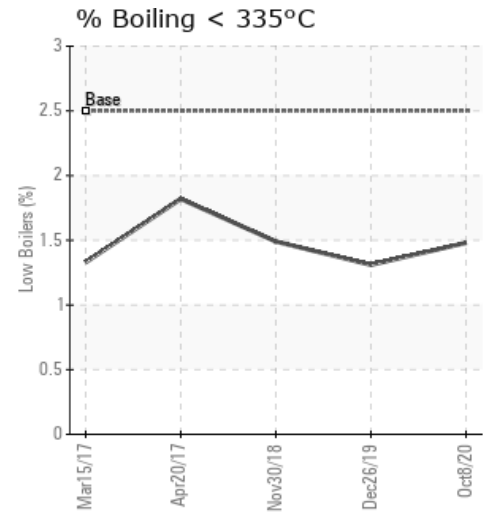
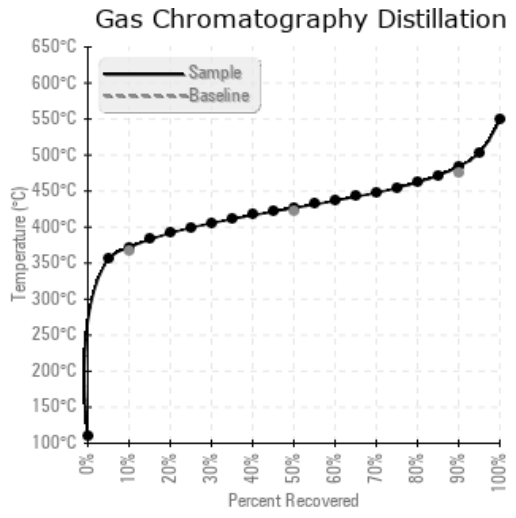
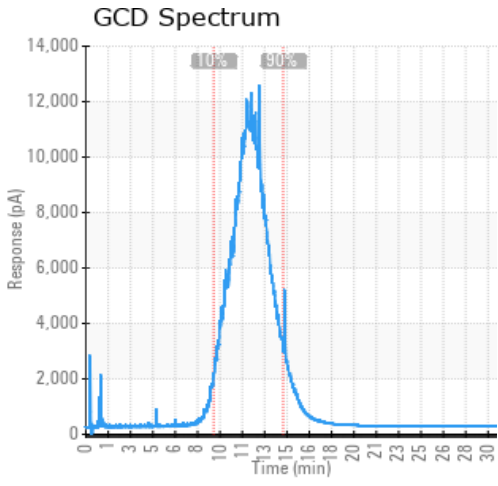
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
10/08/20	10/15/20	4y		424 / 218	10.2	23.1	0.14	0.063	701 / 372	800 / 427	903 / 484	1.48
12/26/19	09/17/20	11y	To Exit	414 / 212	9.3	30.8	0.16	0.053	702 / 372	800 / 426	902 / 483	1.31
11/30/18	12/18/18	0y		417 / 214	16.8	30.8	0.05	0.055	694 / 368	794 / 423	898 / 481	1.49
04/20/17	05/01/17	17y	STRAINER MAIN PUMP	414 / 212	107.4	31.3	0.06	0.103	694 / 368	798 / 426	912 / 489	1.82
03/15/17	04/05/17	16y	STRAINER NR MAIN PMP	424 / 218	7.0	31.2	0.03	0.047	696 / 369	796 / 424	893 / 479	1.33
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	
10/08/20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	193	0	
12/26/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	198	0
11/30/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	189	0
04/20/17	7	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	187	0
03/15/17	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	224	0
Baseline Data			0	0						0			0	0					0					270	

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



Historical Comments

12/26/19	Sample was received 10 months after taken. All parameters look good and in spec for the fluid. Continue to use and monitor as normal. Timely submission of samples provides more useful data.
11/30/18	The oil condition is normal and within acceptable parameters. No actions needed at this time based on the results. Re-sample at next scheduled interval.
04/20/17	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). No action needed and we suggest to re-sample yearly. (GCD) 90% Distillation Point is marginally 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). No action needed and we suggest to re-sample yearly.

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