

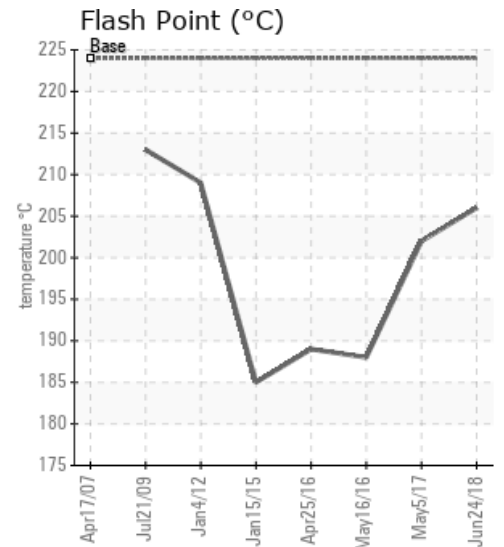
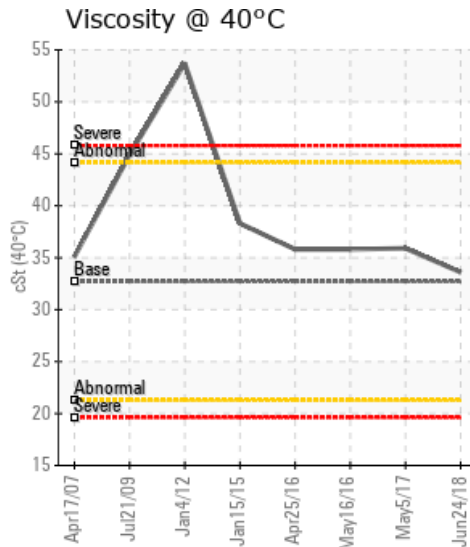
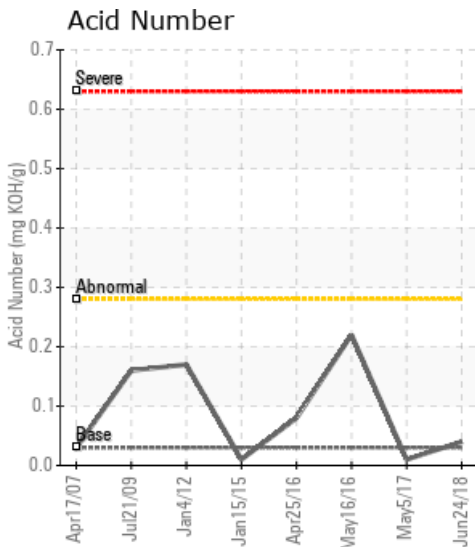
HOT OIL HEATER #1

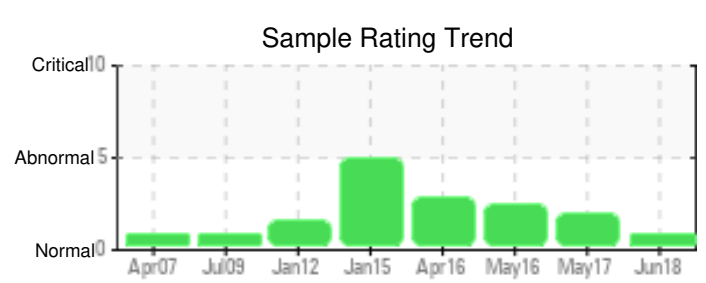
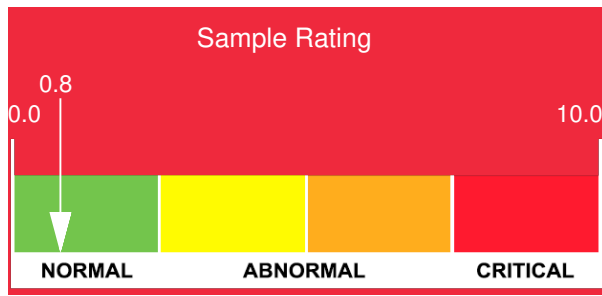
Customer: PTRHTF10070	System Information	Sample Information
CERTAINTEED - SAINT GOBAIN 6350 NW FRONT AVE PORTLAND, OR 97210 USA Attn: Larry Larson Tel: E-Mail: Larry.S.Larson@saint-gobain.com	System Volume: 600 ltr Bulk Operating Temp: 0F / -18C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make:	Lab No: 02227705 Analyst: Ron LeBlanc Sample Date: 06/24/18 Received Date: 07/12/18 Completed: 07/13/18 To discuss this report contact Ron LeBlanc at (541)678-7044

Recommendation: Pentane insoluble are elevated along with (GCD) 90% Distillation Point. Suggest purging oil from sample point and resample to confirm.

Comments: (GCD) 90% Distillation Point is marginally low.

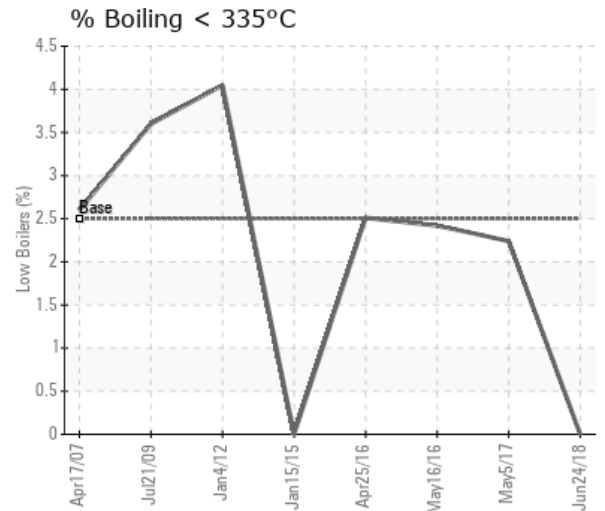
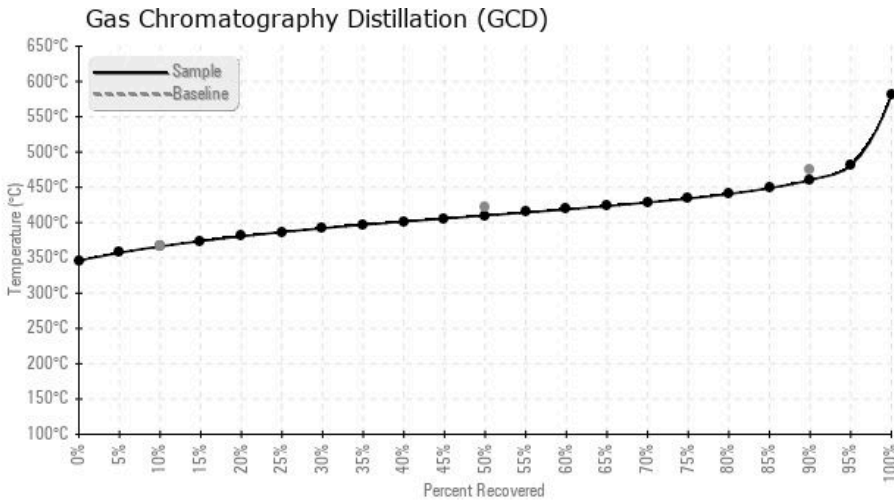
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
06/24/18	07/12/18	0m	SAMPLE PORT	403 / 206	10.6	33.6	0.04	0.307	691 / 366	770 / 410	861 / 461	0.00
05/05/17	05/29/17	22m	COATER	396 / 202	22.0	35.9	0.01	0.238	698 / 370	812 / 434	933 / 501	2.24
05/16/16	05/20/16	1m	BY DIESEL TANK	370 / 188	16.4	35.8	0.22	0.117	694 / 368	805 / 430	920 / 493	2.42
04/25/16	05/02/16	1m	BY FLUX TANK	372 / 189	16.0	35.8	0.08	0.162	698 / 370	813 / 434	940 / 505	2.51
01/15/15	01/26/15	2m	HOT ASHPAL HEAT 1	365 / 185	76.1	38.3	0.01	0.360	721 / 383	832 / 445	931 / 500	0.00
01/04/12	01/17/12		NA	408 / 209	46	53.7	0.17	0.401	709 / 376	836 / 447	932 / 500	4.047
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	
06/24/18	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	38	0	
05/05/17	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	36	0
05/16/16	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
04/25/16	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	30	0
01/15/15	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	26	0
01/04/12	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	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	
05/05/17	Everything looks normal and consistent with previous results. Contamination or oil degradation is not a concern, flash point is strong. re-sample at next scheduled interval. (GCD) 90% Distillation Point is severely high.
05/16/16	This was a re-sample and the results indicate it's very similar to the last sample. Everything seems normal and suggest to re-sample at the normal 1yr interval. (GCD) 90% Distillation Point is abnormally high. COC Flash Point is marginally low.
04/25/16	*** NOTE Fluid changed to Petro-Canada CALFLO AF as per customer instruction. *** Understand new samples were taken and sent for testing. Report will be issued when those samples are completed. (GCD) 90% Distillation Point is severely high. COC Flash Point is marginally low.
01/15/15	(GCD) 90% Distillation Point is severely high. Visc @ 40°C is abnormally high. (GCD) 10% Distillation Point is marginally high. (GCD) 50% Distillation Point is marginally high. COC Flash Point is marginally low. Viscosity has increased. Check heating temperature and system operating temp to confirm proper operation. Resample in 200 hrs to check system condition. (GCD) 90% Distillation Point is severely high. Visc @ 40°C is abnormally high. (GCD) 10% Distillation Point is marginally high. (GCD) 50% Distillation Point is marginally high. COC Flash Point is marginally low.
01/04/12	Similar to System #3, the oil has a certain amount of solids in it. The Total Acid Number is getting up there (0.17 currently), which means the oils going through oxidation process. Topping up with our Calflo AF as per Joe Quaranta's directive will help retard the fluid oxidation by providing a fresh boost of anti-oxidants. Re-sample once per year.