

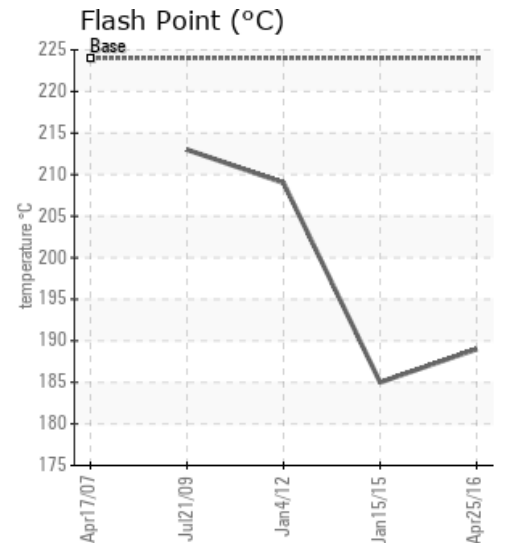
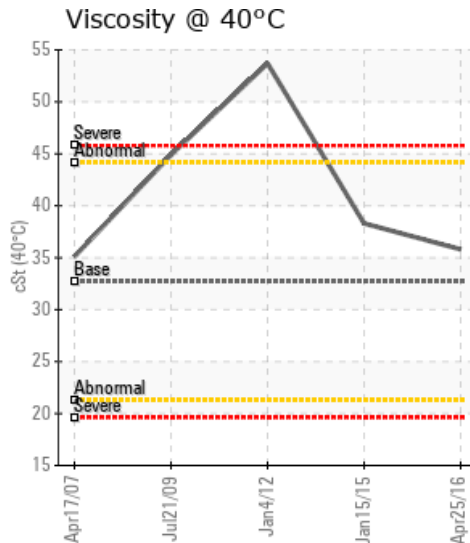
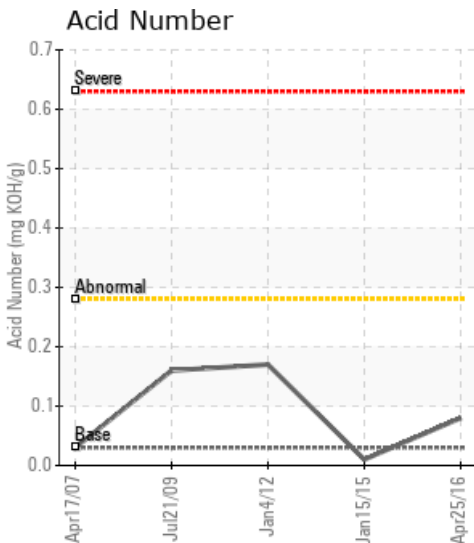
HOT OIL HEATER #1

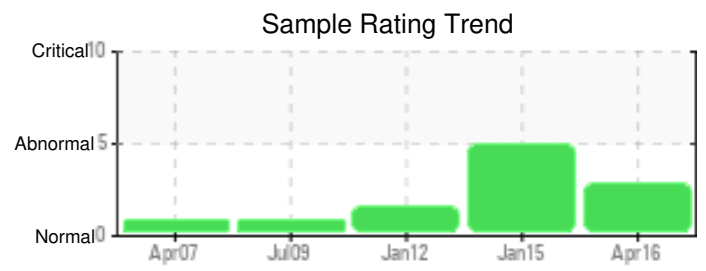
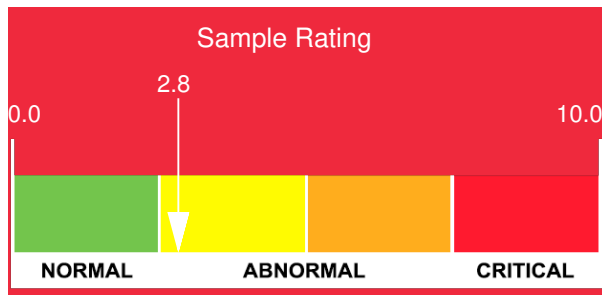
Customer: PTRHTF10070	System Information	Sample Information
CERTAINTEED - SAINT GOBAIN 6350 NW FRONT AVE PORTLAND, OR 97210 USA Attn: Larry Larson Tel: E-Mail: Larry.S.Larson@saint-gobain.com	System Volume: 600 ltr Bulk Operating Temp: 0F / -18C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make:	Lab No: 02069145 Analyst: Bill Quesnel CLS, OMA II, MLA-III, LLA-I Sample Date: 04/25/16 Received Date: 05/02/16 Completed: 05/27/16 To discuss this report contact Bill

Recommendation: *** 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.

Comments: (GCD) 90% Distillation Point is severely high. COC Flash Point is marginally low.

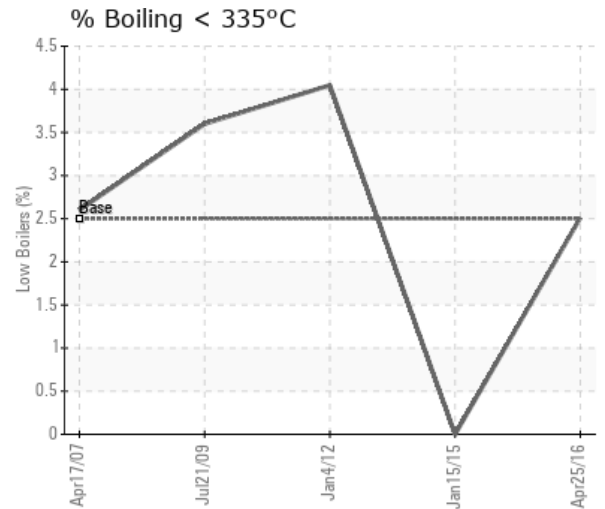
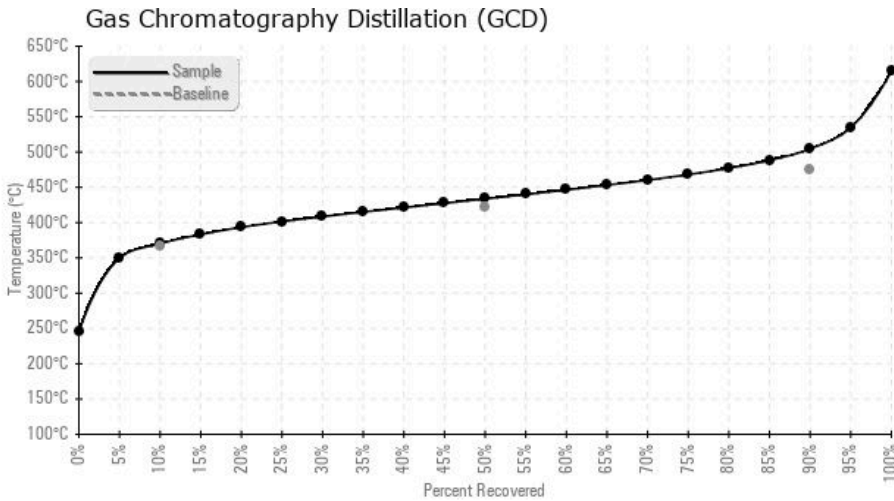
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC) °F/°C	Water (KF) ppm	Viscosity (40°C) cSt	Acid Number mg/KOH/g	Solids %wt	GCD 10% °F/°C	GCD 50% °F/°C	GCD 90% °F/°C	GCD % < 335°C %
	mm/dd/yy											
04/25/16	05/02/16	1m	BY FLUX TANK	372 / 189	16.0	35.8	0.08	0.162	698 / 370	813 / 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
07/21/09	07/21/09			415 / 213	31	44.9	0.16	0.28	694 / 368		966 / 519	3.6
04/17/07	04/17/07				223	35.1	0.03					2.6
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
04/25/16	1	0	0	0	0	0	1	0	0	0	0	1	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	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
07/21/09	0	0	0	0	0	0	0	0	0	0	15	2		0	0		0		0	0	0	0	0	0
04/17/07																								
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	
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. Resample once per year.
07/21/09	
04/17/07	

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