

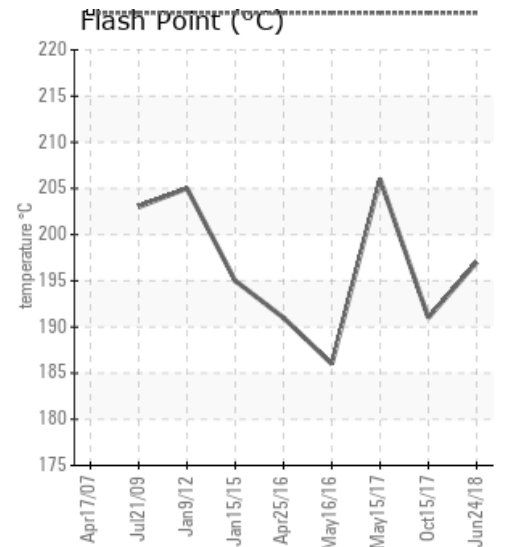
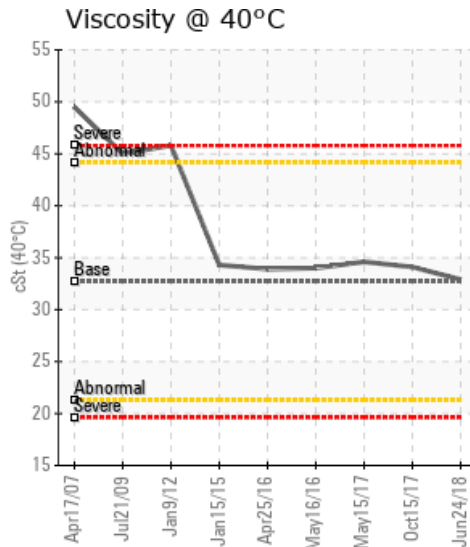
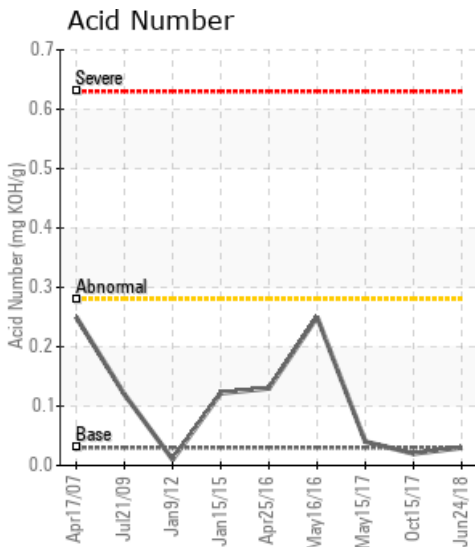
HOT OIL HEATER #3

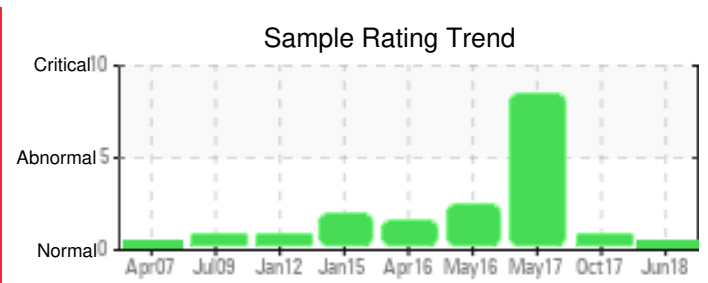
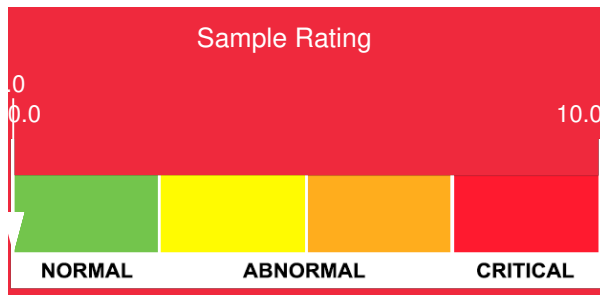
Customer: PTRHTF10070	System Information	Sample Information
CERTAINTEED - SAINT GOBAIN 6350 NW FRONT AVE PORTLAND, OR 97210 USA Attn: Larry Larson Tel: E-Mail: Larry.S.Larson@saint-gobain.com	System Volume: 1200 gal Bulk Operating Temp: 525F / 274C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make:	Lab No: 02227706 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: Sample appears normal. Re-sample at regular 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	%
06/24/18	07/12/18	0m	SAMPLE PORT	387 / 197	14.7	32.9	0.03	0.356	698 / 370	779 / 415	890 / 477	0.00
10/15/17	11/15/17	27m		376 / 191	17.2	34.1	0.02	0.120	692 / 367	791 / 422	896 / 480	1.84
05/15/17	05/29/17	22m	HOT OIL TREE BY TNK3	403 / 206	21197.1	34.6	0.04	0.619	694 / 368	808 / 431	932 / 500	2.97
05/16/16	05/20/16	1m	BY DIESEL TANK	367 / 186	12.7	34.0	0.25	0.094	695 / 368	807 / 431	913 / 489	3.17
04/25/16	05/02/16	1m	BY OLD RETURN	376 / 191	32.8	33.9	0.13	0.160	694 / 368	804 / 429	924 / 496	2.99
01/15/15	01/26/15	2m	ASHPALT HEAT #1	383 / 195	54.6	34.3	0.122	0.242	712 / 378	816 / 436	925 / 496	0.75
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

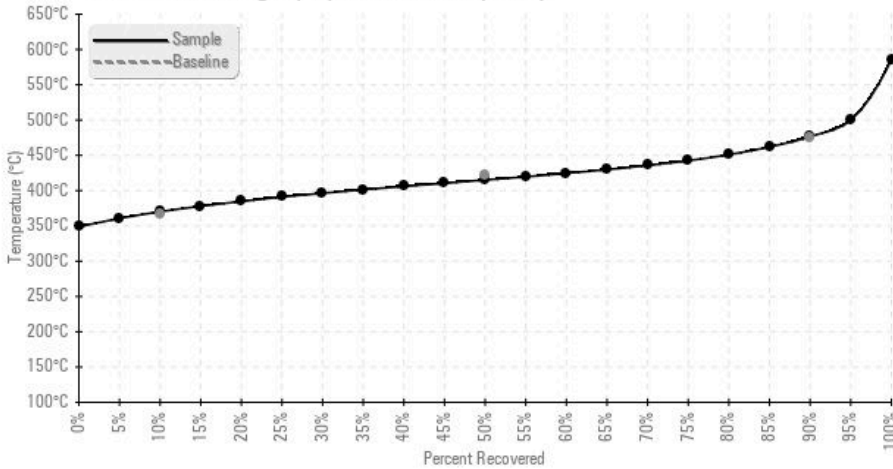




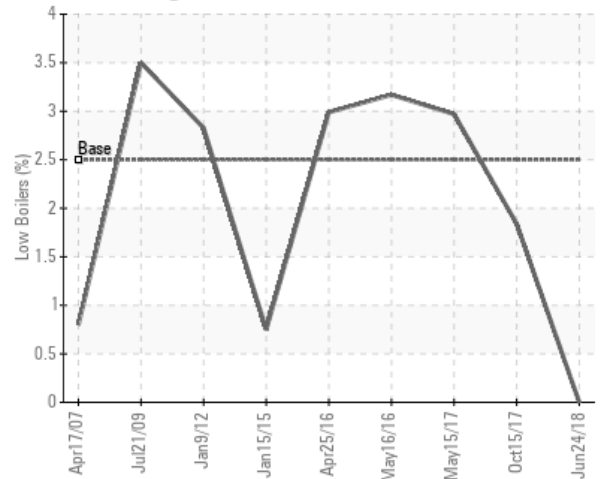
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
06/24/18	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	19	0
10/15/17	6	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	14	0
05/15/17	8	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	18	0
05/16/16	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0
04/25/16	13	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	16	0
01/15/15	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	12	0
Baseline Data			0	0						0			0	0					0				270	

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

Gas Chromatography Distillation (GCD)



% Boiling < 335°C



Historical Comments

10/15/17	The sample looks normal and in good condition. No actions needed at this time except normal monitoring and sampling. COC Flash Point is marginally low.
05/15/17	There is over 2% water in the sample and a high amount of solids. Everything else looks fine. We recommend to submit another sample just to make sure this is just an anomaly caused by not letting enough oil flow through the pipe and valve before collecting a representative sample. Water contamination levels are severely high. Water contamination levels are severely high. ppm Water contamination levels are severely high. Pentane Insolubles levels are severely high. (GCD) 90% Distillation Point is severely high.
05/16/16	The Acid Number rose a little bit but everything else is consistent with the last sampling. Please re-sample at next scheduled interval. (GCD) 90% Distillation Point is marginally 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. COC Flash Point is abnormally low. (GCD) 90% Distillation Point is abnormally low.
01/15/15	(GCD) 90% Distillation Point is severely high. Check heating system for proper operation. Consider adding a small amount of new oil to bring (GCD) 90% Distillation Point down. (GCD) 90% Distillation Point is severely high.