

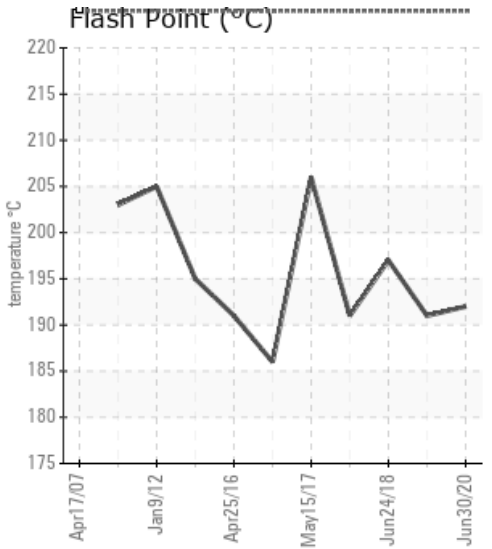
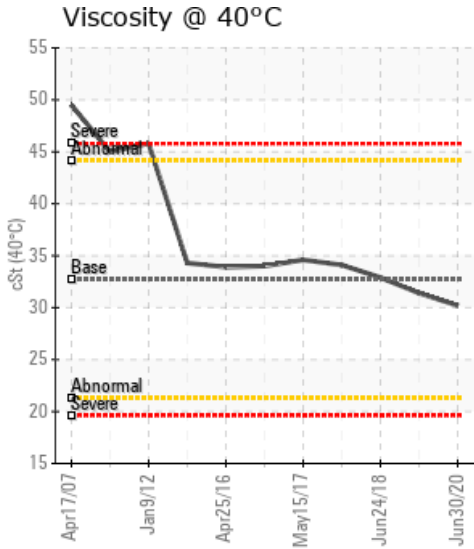
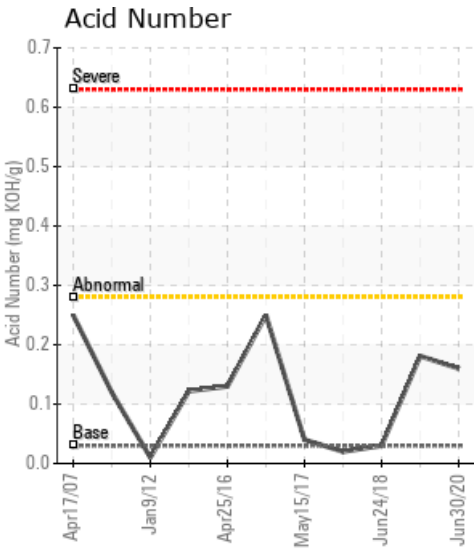
HOT OIL HEATER #3

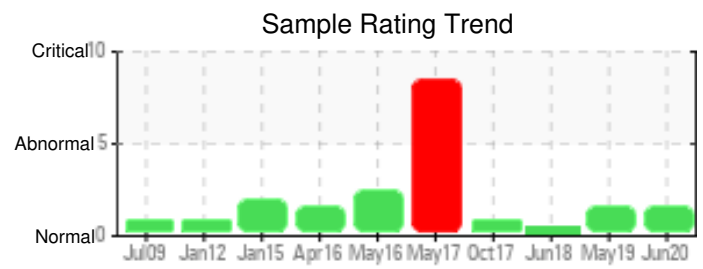
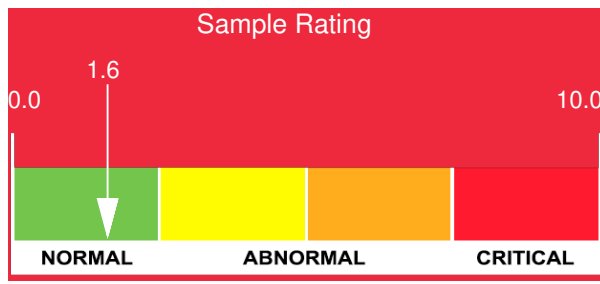
Customer: PTRHTF10070	System Information	Sample Information
CERTAINTEED - SAINT GOBAIN 6350 NW FRONT AVE PORTLAND, OR 97210 USA Attn: Larry Larson Tel: E-Mail: Larry.S.Larson@saint-gobain.com	System Volume: 1200 gal Bulk Operating Temp: 525F / 274C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make:	Lab No: 02366166 Analyst: Ron LeBlanc Sample Date: 06/30/20 Received Date: 07/22/20 Completed: 07/27/20 Ron LeBlanc Ronald.LeBlancSr@petrocanadalsp.com

Recommendation: Virtually no change to the oil since the last sample. Flash point remains strong, no moisture or asphalt contamination. No action needed at this time. Keep up the sampling program and normal PMs around the system components.

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

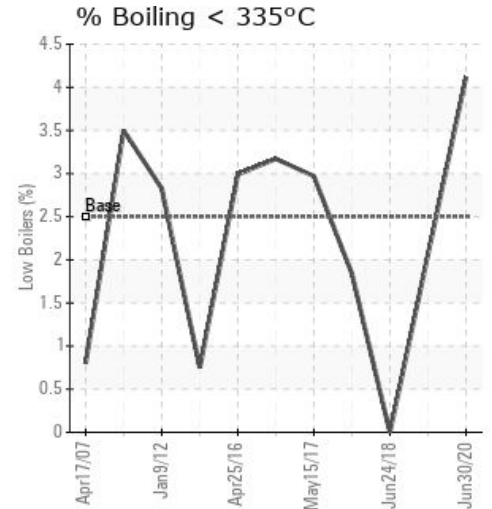
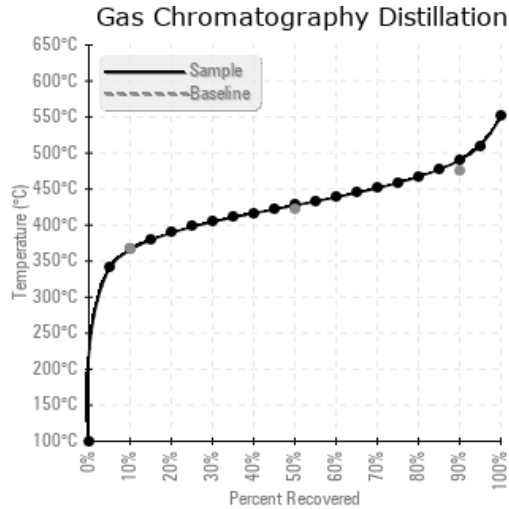
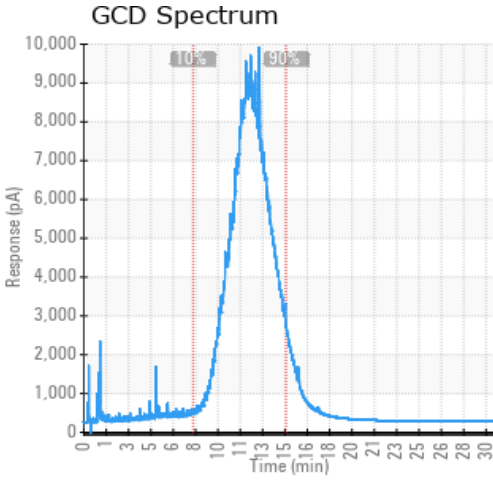
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
06/30/20	07/22/20	0m		378 / 192	15.7	30.2	0.16	0.169	690 / 366	801 / 427	914 / 490	4.12
05/28/19	06/10/19	0m		376 / 191	14.6	31.4	0.181	0.348	694 / 368	798 / 426	913 / 490	2.06
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
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
06/30/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
05/28/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0
06/24/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	19	0
10/15/17	6	0	0	0	0	0	0	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	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	18	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

05/28/19	The oil condition is fine. The acid number has risen a bit to 0.18 but it's still low. Normally this means the fluid is starting to oxidize. Just make sure the nitrogen blanket system on the expansion tank is operating well, because this is what prevents the oil from touching oxygen and oxidizing. (GCD) 90% Distillation Point is marginally high. COC Flash Point is marginally low.
06/24/18	Sample appears normal. Re-sample at regular interval.
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.