

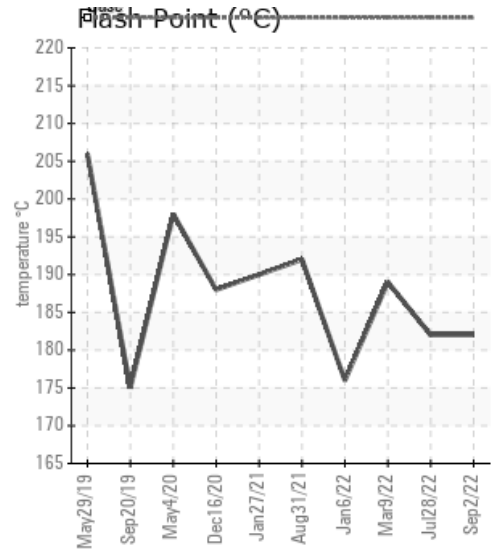
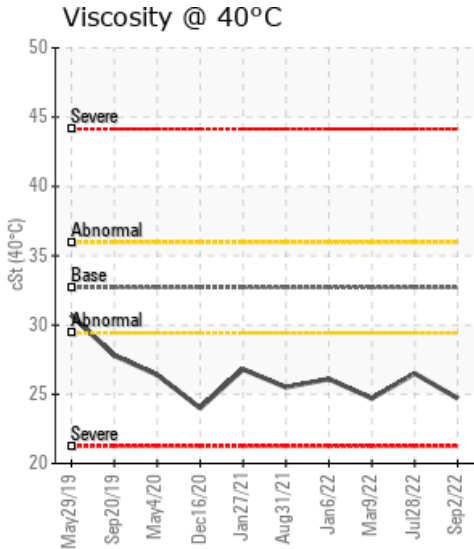
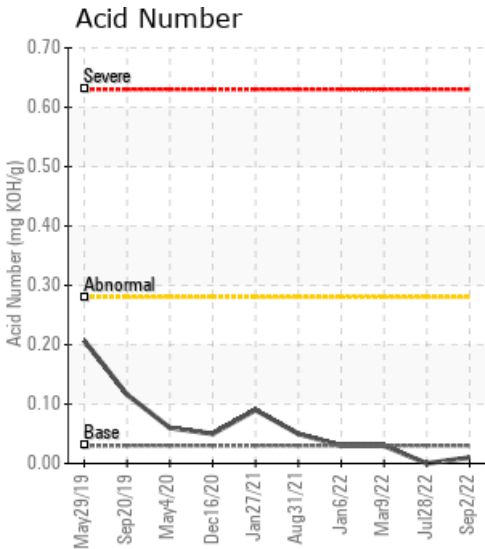
FILLER HEATER

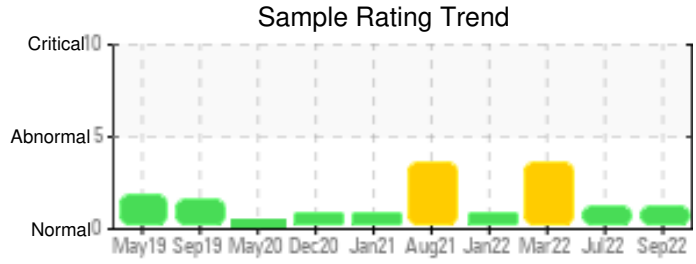
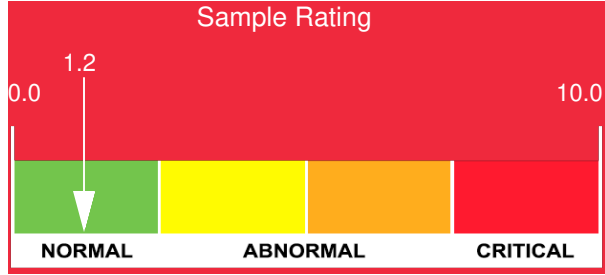
Customer: PTRHTF10068	System Information	Sample Information
Certainteed - Saint Gobain 1077 PLEASANT ST NORWOOD, MA 02062 USA Attn: Robert Jaruse Tel: E-Mail: robert.jaruse@saint-gobain.com	System Volume: 2200 gal Bulk Operating Temp: 550F / 288C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: PERFORMANCE HEATING	Lab No: 02509933 Analyst: Gregory Fernandez Sample Date: 09/02/22 Received Date: 09/09/22 Completed: 09/26/22 Gregory Fernandez gregory.fernandez@hfsinclair.com

Recommendation: The results from laboratory testing for this sample indicate that the sample is in generally good condition and suitable for continued service. Acid Number and GCD results are good, whereas Viscosity and Flash are slightly low, but certainly acceptable for continued use. Recommend to resample at next regular sample testing interval.

Comments: COC Flash Point is marginally low. Viscosity also slightly low for this ISO grade fluid.

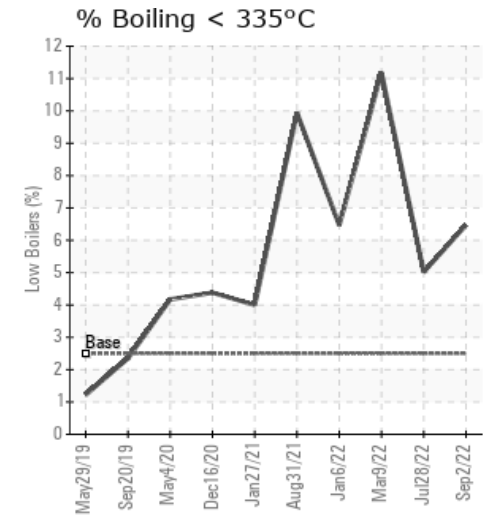
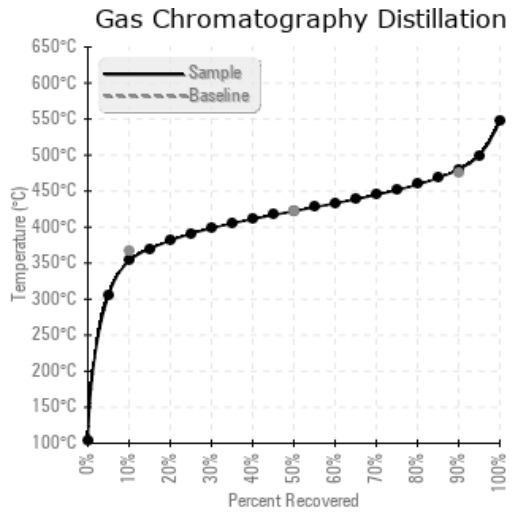
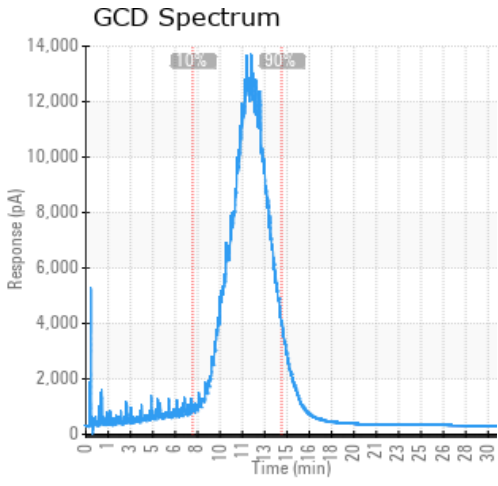
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
09/02/22	09/09/22	0.0m	DUPLEX DUMP	360 / 182	20.6	24.7	0.01	0.049	668 / 354	792 / 422	896 / 480	6.47
07/28/22	08/04/22	0.0m	duplex pump	360 / 182	23.6	26.5	0.00	0.288	679 / 359	794 / 423	899 / 481	5.02
03/09/22	03/25/22	36.0m	duplex pump	372 / 189	9.3	24.7	0.03	0.024	613 / 323	762 / 406	900 / 482	11.18
01/06/22	01/18/22	36.0m	duplex pump	349 / 176	14.5	26.1	0.03	0.044	667 / 353	789 / 421	901 / 483	6.47
08/31/21	09/10/21	0.0m	duplex pump	378 / 192	13.9	25.5	0.05	0.028	630 / 332	763 / 406	893 / 478	9.94
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
09/02/22	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
07/28/22	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
03/09/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0
01/06/22	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0
08/31/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	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	
07/28/22	Overall sample condition looks good and appears to have some improvement over the previous sample. Low boilers have dropped per GCD %<335C and perhaps indicate that the system has been vented since the previous sample. Pentane Insolubles have also increased significantly since the last sample. This could be related to a maintenance event, perhaps venting of the system. Continue operating the system as normal until the next sample interval. Visc @ 40°C is abnormally low. COC Flash Point is marginally low.
03/09/22	While the flash point remains consistent there is rise in low boilers above 10% and the viscosity has dropped to a 22 grade. I recommend planning to vent the system soon to improve these conditions. (GCD) 10% Distillation Point is abnormally low. (GCD) % < 335°C is marginally high. COC Flash Point is marginally low.
01/06/22	Flash point is trending lower at 176C. Viscosity is holding steady and light ends have dropped from previous sample but still over 5%. Oil is suitable for continued use and resample at next scheduled interval. COC Flash Point is abnormally low.
08/31/21	low boilers approaching 10%. Consider venting system to reduce impact on viscosity and flashpoint. resample at scheduled interval. (GCD) % < 335°C is marginally high. (GCD) 10% Distillation Point is marginally low. COC Flash Point is marginally low.

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