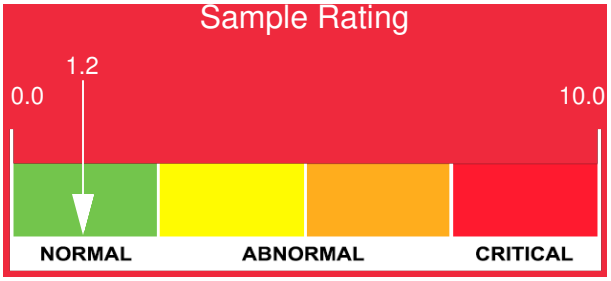
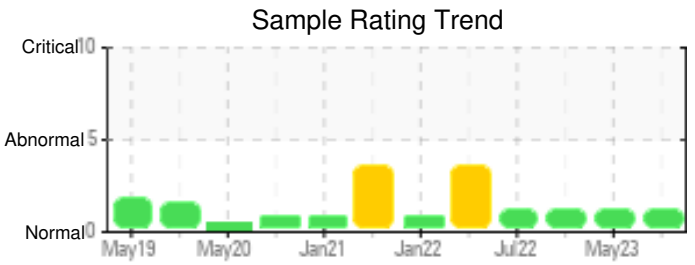




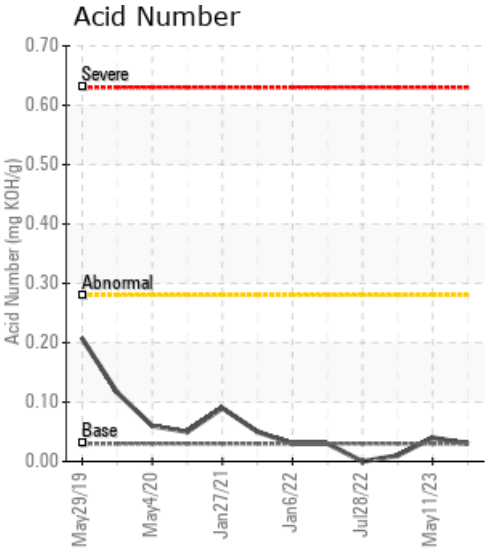
FILLER HEATER

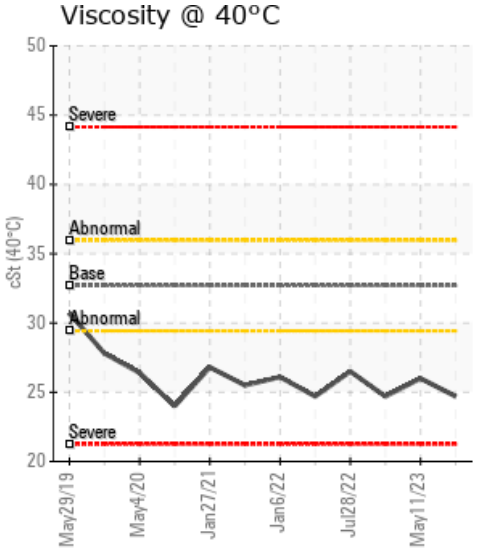
Customer: PTRHTF10068	System Information	Sample Information
Certainteed - Saint Gobain 1064 PLEASANT ST NORWOOD, MA 02062 US Attn: Robert Jaruse Tel: E-Mail: robert.jaruse@saint-gobain.com	System Volume: 2200 gal Bulk Operating Temp: 550F / 288C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: PERFORMANCE HEATING	Lab No: 02627757 Analyst: Greg Fernandez Sample Date: 03/27/24 Received Date: 04/09/24 Completed: 04/17/24 Greg Fernandez gregory.fernandez@hfsinclair.com

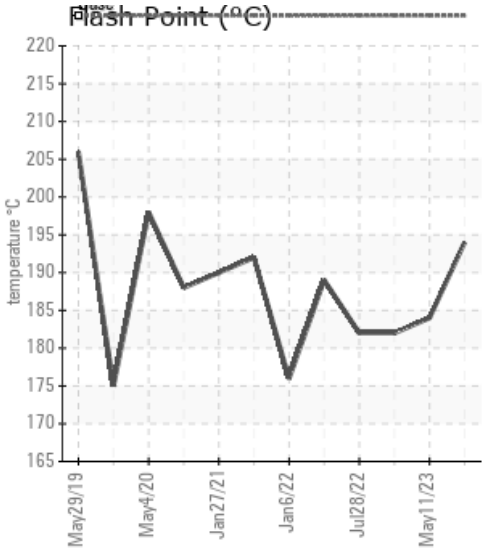
Recommendation: The sample fluid is in good overall condition with no abnormal degradation or contamination noted. Distillation points are also representative of a fluid that is suitable for continued service.

Comments: The only items that merit further monitoring are the marginally low Flash Point, and an abnormally low viscosity. Although the fluid is suitable for continued service, if the viscosity continues to drop, it may be worth considering draining off some fluid and topping off with fresh Calflo AF to raise the viscosity back to an acceptable value.

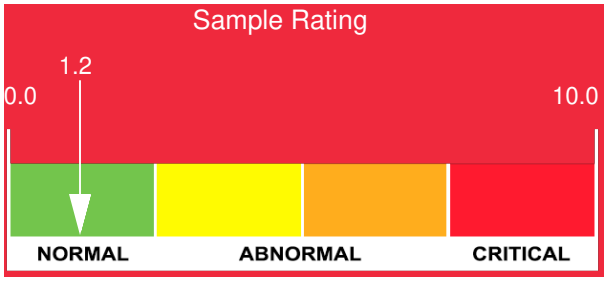
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/27/24	04/09/24	0.0m	duplex pump	381 / 194	7	24.7	0.03	0.032	665 / 352	791 / 422	904 / 485	6.98
05/11/23	05/24/23	2.5m		363 / 184	23.1	26.0	0.04	0.048	667 / 353	792 / 422	901 / 483	6.44
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
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

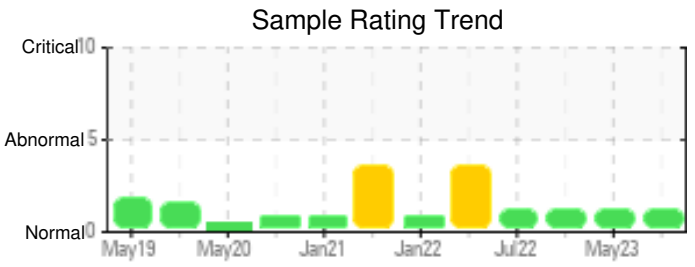






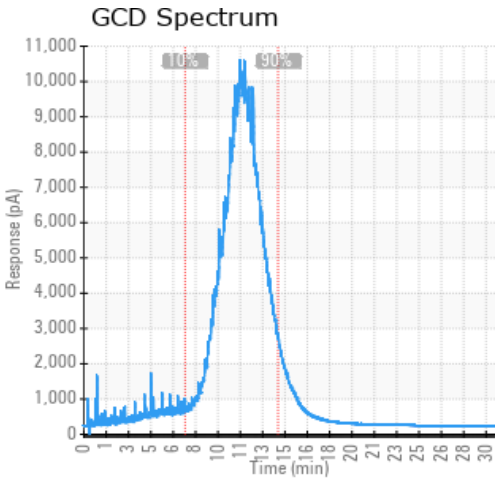
PETRO-CANADA LUBRICANTS

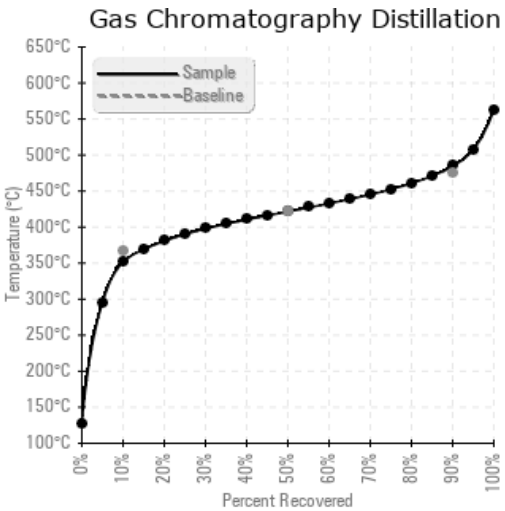


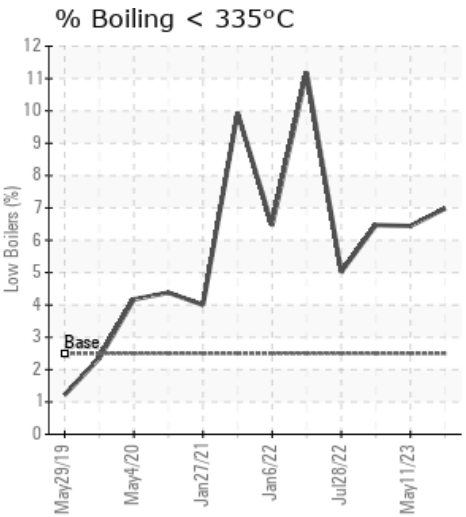


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
03/27/24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0
05/11/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
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
Baseline Data			0	0						0			0	0					0				270	

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







Historical Comments

05/11/23	The sample reports in good overall condition with no low boilers, debris, water, or insolubles. Visc @ 40°C is slightly low but actually higher than the previously reported value. COC Flash Point is also marginally low and also slightly improved over the previously reported value. The fluid is suitable for continued service.
09/02/22	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. COC Flash Point is marginally low. Viscosity also slightly low for this ISO grade fluid.
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.

