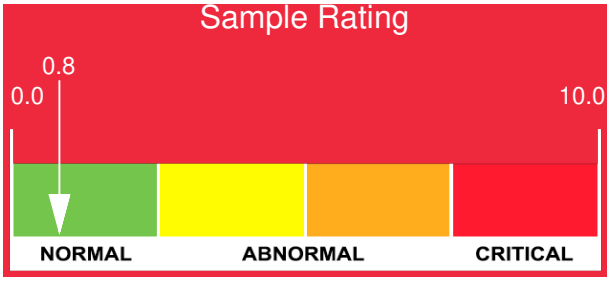
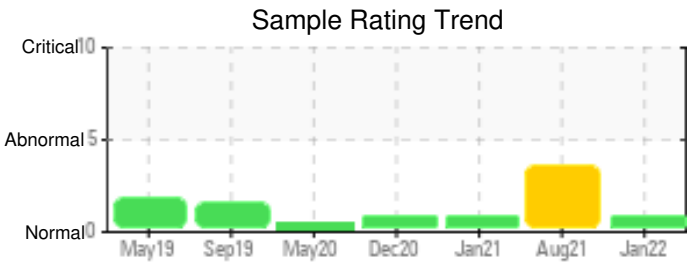




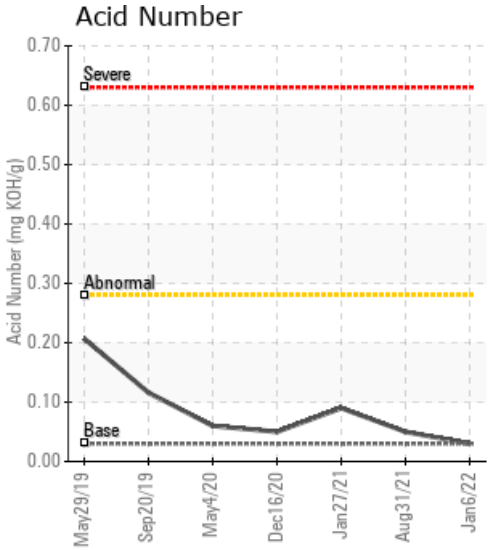
FILLER HEATER

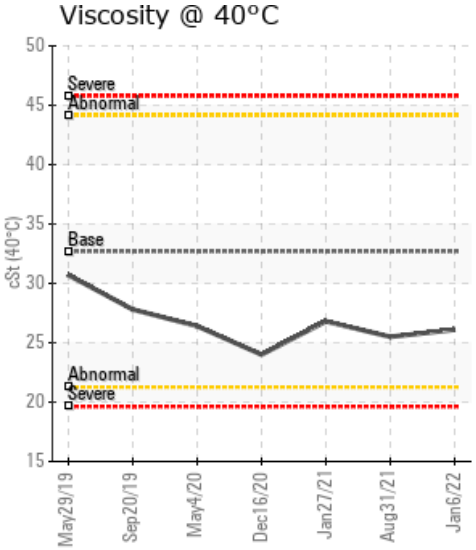
Customer: PTRHTF10068	System Information	Sample Information
Certainteed - Saint Gobain 1077 PLEASANT ST NORWOOD, MA 02062 USA Attn: Carol Turgeon Tel: (781)278-0463 E-Mail: carol.turgeon@saint-gobain.com	System Volume: 2200 gal Bulk Operating Temp: 550F / 288C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: PERFORMANCE HEATING	Lab No: 02466655 Analyst: Joe Goecke Sample Date: 01/06/22 Received Date: 01/18/22 Completed: 01/24/22 Joe Goecke Joe.goecke@hollyfrontier.com

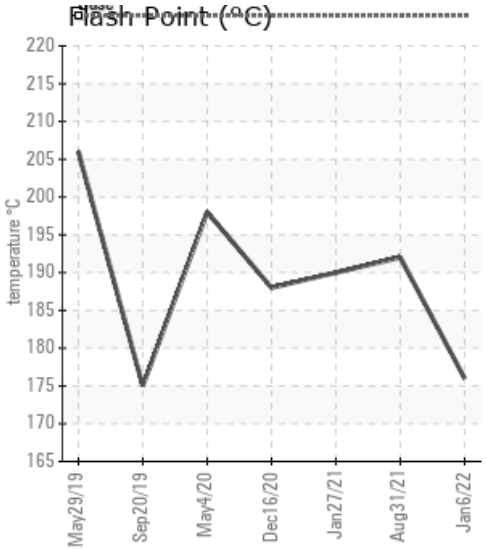
Recommendation: Flash point is trending lower at 176C. Viscosity is holding steady and light ends have dropped from previous sample but still over 5%. Oil is suitable for continued use and resample at next scheduled interval.

Comments: COC Flash Point is abnormally low.

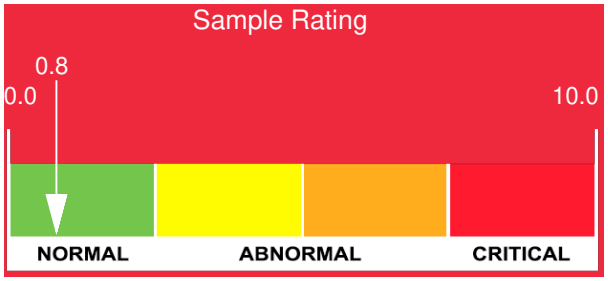
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/06/22	01/18/22	36.0m	duplex pump	349 / 176	14.5	26.1	0.03	0.044	667 / 353	789 / 421	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
01/27/21	02/02/21	33.0m	Duplex pump	374 / 190	3.5	26.8	0.09	0.052	686 / 363	794 / 424	903 / 484	4.00
12/16/20	01/20/21	19.0m	DUPLEX PUMP	370 / 188	8.1	24.0	0.05	0.066	684 / 362	794 / 423	903 / 484	4.38
05/04/20	05/13/20	12.0m	DUPLEX	388 / 198	19.2	26.4	0.06	0.093	685 / 363	794 / 423	903 / 484	4.17
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

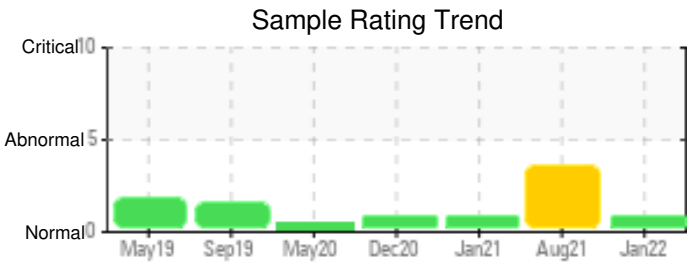






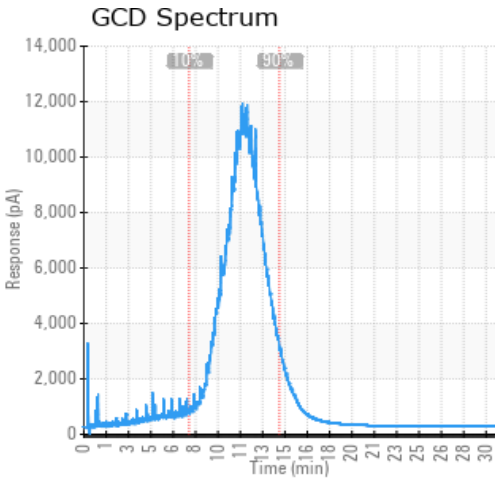
PETRO-CANADA LUBRICANTS

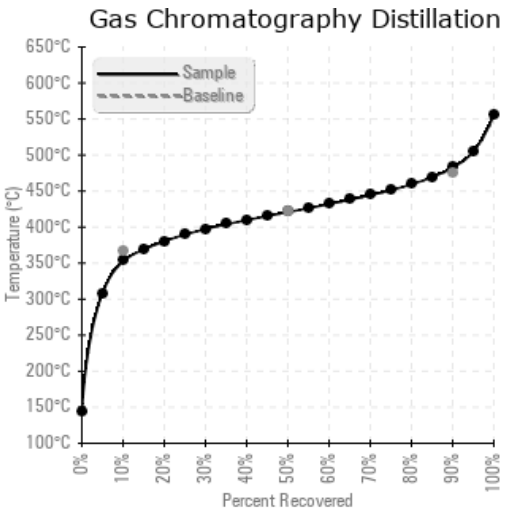


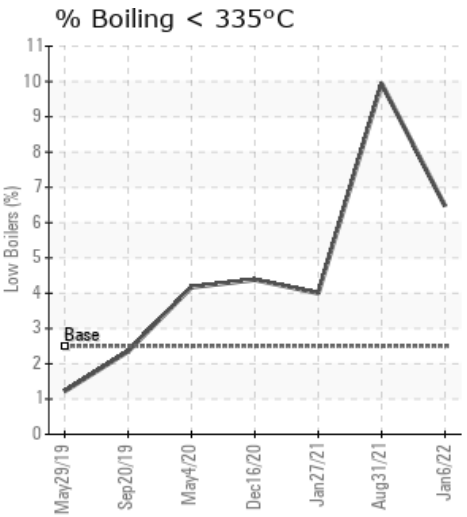


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
01/06/22	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0
08/31/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0
01/27/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0
12/16/20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	31	0
05/04/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	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

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.
01/27/21	The sample results for the Filler Heater have shown slight improvements with Flash point from 188 to 190. Low boilers GCD 10% 363.4 have shown a slight increase whereas GCD 90% 483.7 have decrease slightly. Acid number has also increased from .05 to .09. Continue to monitor at planned intervals. COC Flash Point is marginally low.
12/16/20	This new Higher Temp system continues to effect HTF condition. We are noticing that the viscosity has dropped to 24.0 cSt @ 40C as well as COC Flash point which has dropped to 188. We recommend Venting (boil-off), as soon as possible. We would also recommend venting more frequently and adding fresh (make-up) fluid more frequently to assist with fluid condition. There is no asphalt contamination reported at this time. COC Flash Point is marginally low.
05/04/20	The sample results for the Filler Heater have shown slight improvements with Flash point from 175 to 198. Low boilers GCD 10% 362.9 as well as GCD 90% 483.8 have decrease slightly. Acid number has also decrease from .116 to .06. Continue to monitor at planned intervals.