

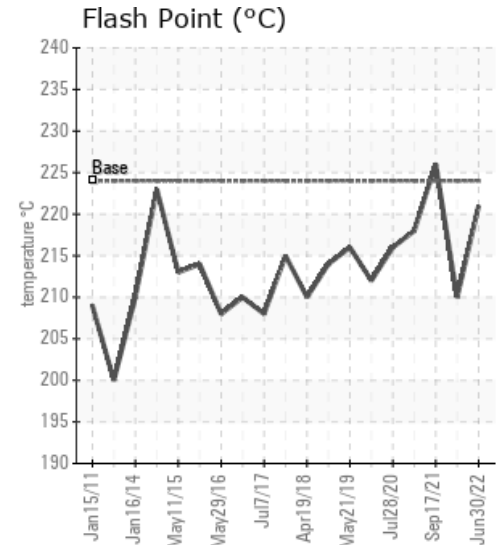
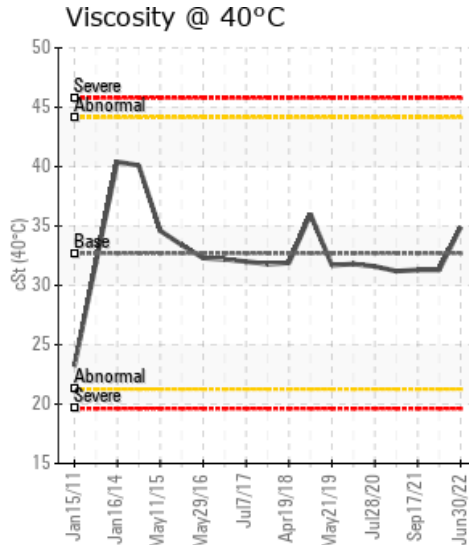
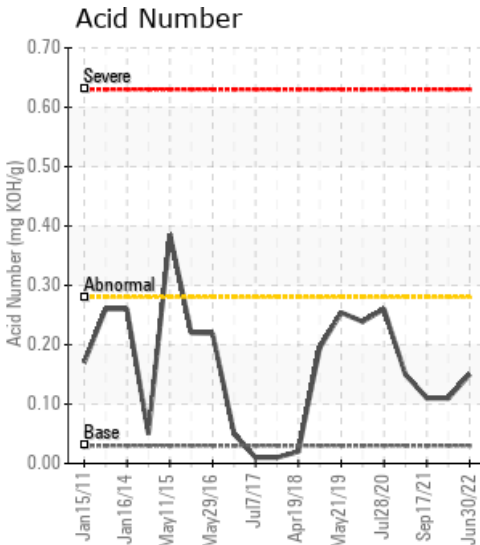
## LINE 2 HOT OIL SYSTEM

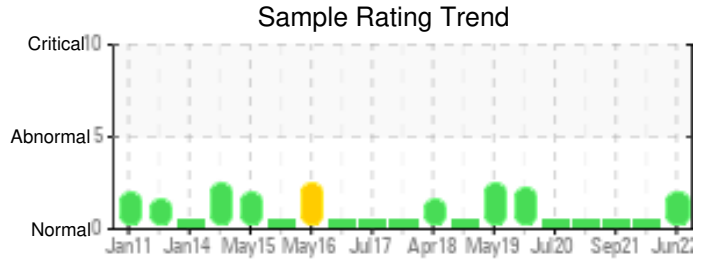
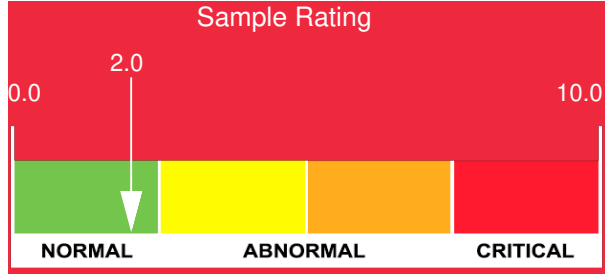
Customer: PTRHTF10059	System Information	Sample Information
CERTAINTEED - SAINT GOBAIN 11519 US RT 250 N MILAN, OH 44846 USA Attn: DAVE BLAKELY Tel: (419)541-0843 E-Mail: dave.l.blakely@saint-gobain.com	System Volume: 1265 gal Bulk Operating Temp: 480F / 249C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: FIRST THERMOL	Lab No: 02501226 Analyst: Yvette Trzcinski Sample Date: 06/30/22 Received Date: 07/21/22 Completed: 07/25/22 Yvette Trzcinski yvette.trzcinski@hollyfrontier.com

Recommendation: The viscosity and acid number have increased slightly from the last sample but the solids and flash point are all at very acceptable levels. The fluid is acceptable for continued service, re-sample at your next normal sample interval

Comments:

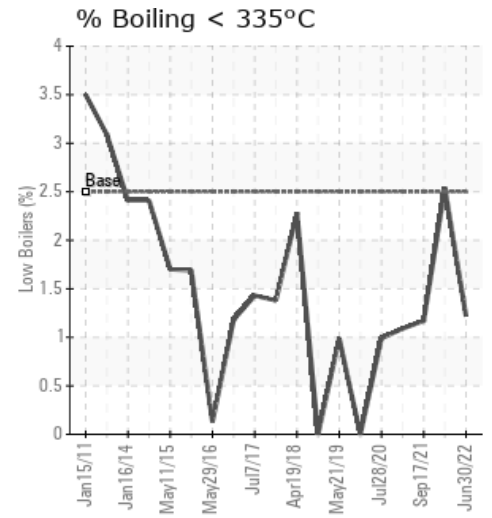
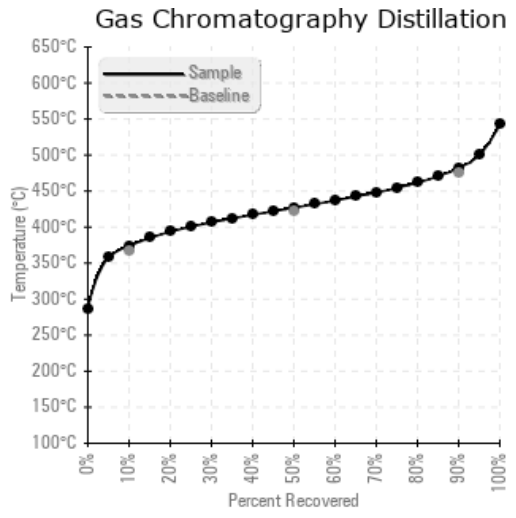
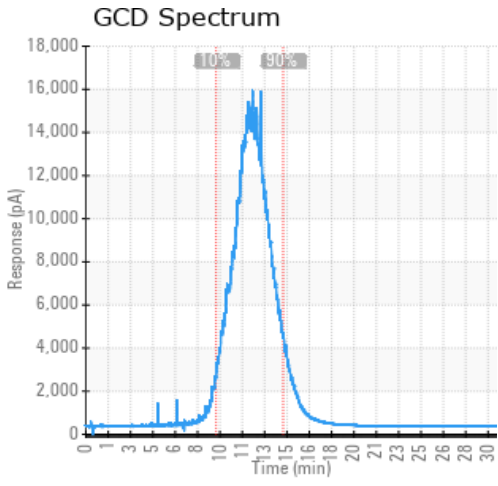
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
06/30/22	07/21/22	0.0y	sample port	430 / 221	2.5	34.9	0.15	0.065	705 / 374	800 / 427	900 / 482	1.22
01/12/22	02/18/22	0.0y	sample port	410 / 210	10.9	31.3	0.11	0.136	697 / 369	797 / 425	897 / 481	2.54
09/17/21	10/05/21	0.0y	SAMPLE PORT	439 / 226	18.8	31.3	0.11	0.114	704 / 373	799 / 426	899 / 482	1.17
01/04/21	01/19/21	0.0y	Sample Port	424 / 218	11.0	31.2	0.15	0.124	705 / 374	799 / 426	900 / 482	1.09
07/28/20	08/05/20	24.0y	FILTER DRAIN	421 / 216	20.7	31.6	0.26	0.090	707 / 375	800 / 426	898 / 481	0.99
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
06/30/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0
01/12/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
09/17/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0
01/04/21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0
07/28/20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	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	
01/12/22	There has been some slight degradation as can be seen by the slight reduction in flash point and increase in the insolubles but viscosity, flash point, GCD boiling points and solids (pentane insolubles) are within specification and acceptable for continued service. Resample in 6-12 months
09/17/21	All the sample specifications flash point, viscosity, acid number, solids and GCD results are within specifications sample fluid is acceptable for continued service. Resample in 12 months
01/04/21	The fluid does appear to have some degradation occurring, but the acid number has not increased from the last sample and the viscosity has remained consistent and oil specifications are all within acceptable limits. Resample at the next interval
07/28/20	The oil looks very good the viscosity, acid number and flash point are all looking very good and similar to the sample at the beginning of the year - very low solids - resample at the next interval

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