

## FREMONT RPG

**Customer: PTRHTF10036**  
 CERTAINTEED - SAINT GOBAIN  
 6400 STEVENSON BLVD  
 FREMONT, CA 94538-2468 US  
 Attn: Dan Arata  
 Tel: (510)490-0890  
 E-Mail: dan.d.arata@saint-gobain.com

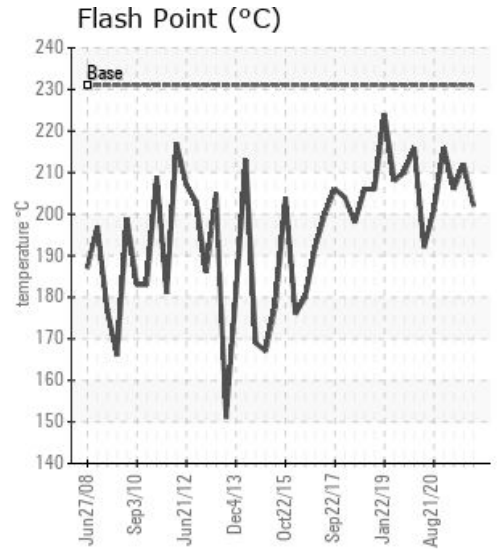
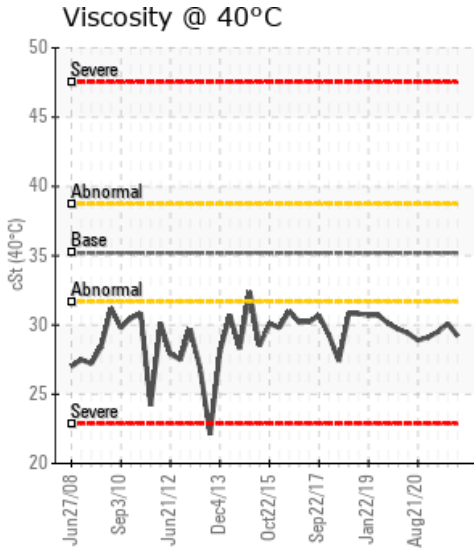
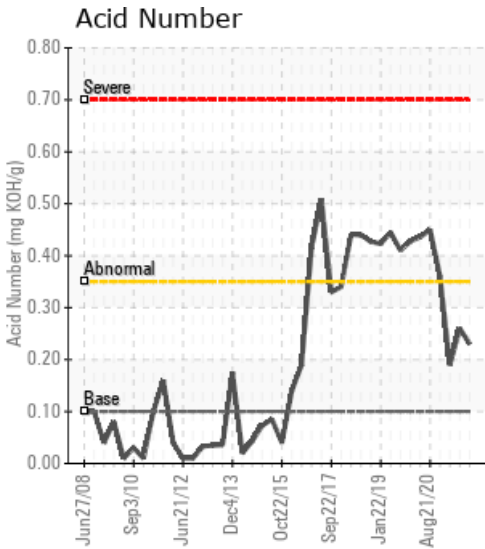
**System Information**  
 System Volume: 5000 gal  
 Bulk Operating Temp: 450F / 232C  
 Heating Source:  
 Blanket:  
 Fluid: PETRO CANADA CALFLO HTF  
 Make: FIRST THERMAL

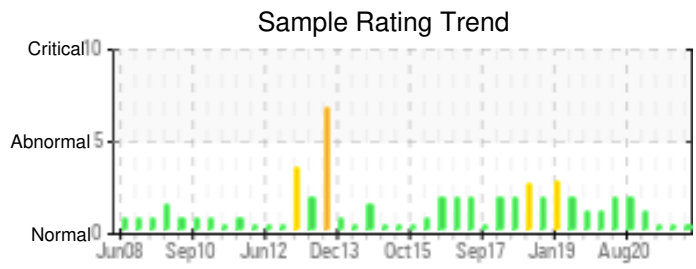
**Sample Information**  
 Lab No: 02547835  
 Analyst: Ron LeBlanc  
 Sample Date: 03/16/23  
 Received Date: 03/27/23  
 Completed: 03/30/23  
 Ron LeBlanc  
 Ronald.LeBlancSr@HFSinclair.com

Recommendation: Test results shows that PCA HTF remains in good conditions and for its continues usage. Resample in 6 months or sooner, if significant changes are observed in the heat transfer system (Heat transfer system temperature sets vs process temperature).On next sample, please provide all pertinent information:Unit age, Comp age, time on filter.

Comments:

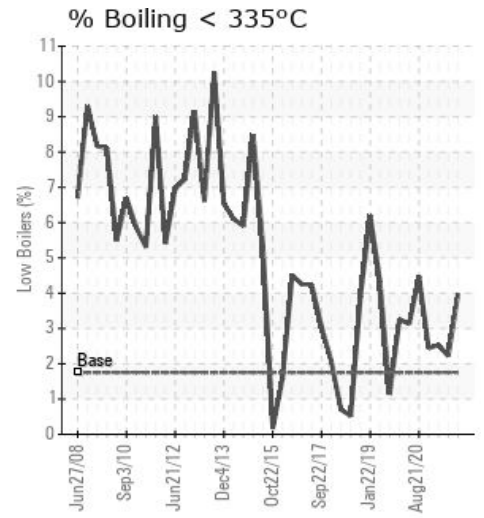
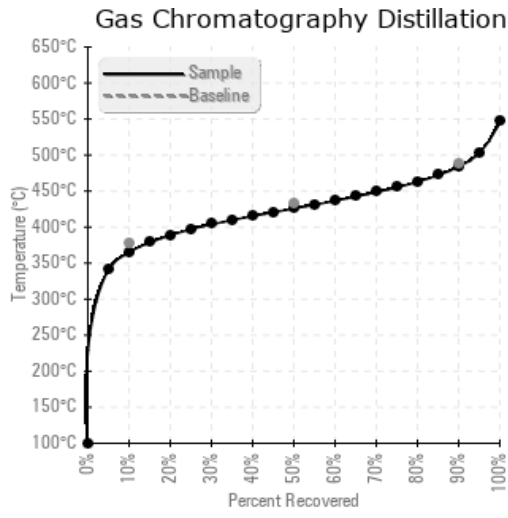
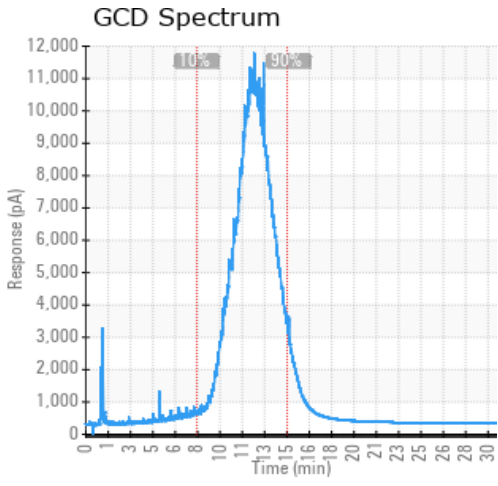
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/16/23	03/27/23	4.0m	RETURN LINE	396 / 202	66.7	29.2	0.23	0.151	689 / 365	798 / 426	903 / 484	3.98
02/18/22	03/17/22	0.0m		414 / 212	12.3	30.1	0.26	0.078	699 / 370	800 / 427	904 / 484	2.22
08/19/21	09/07/21	0.0m	SIDE STREAM FILTER	403 / 206	15.8	29.5	0.19	0.120	697 / 369	800 / 427	906 / 486	2.53
05/21/21	06/04/21	0.5m	Main loop valve	421 / 216	9.1	29.1	0.36	0.060	699 / 371	801 / 427	908 / 487	2.44
08/21/20	09/03/20	0.0m	MAIN LOOP VALVE	394 / 201	21.0	28.9	0.45	0.054	681 / 361	785 / 418	904 / 485	4.47
Baseline Data				448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75





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
03/16/23	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	70	0
02/18/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	0
08/19/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	60	0
05/21/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	0
08/21/20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	71	0
<b>Baseline Data</b>			0	0						0			0	0				0	0				280	

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



**Historical Comments**

02/18/22	Sample is within specifications. Resample in 6 months.
08/19/21	Sample appears to be normal. Take another sample in 3 months. If the system has a strainer or filter, check at time of taking samples if possible.
05/21/21	AN is elevated. AN came down from last sample. No action needed. Take sample in 6 months. Be sure to purge oil from port before taking sample in container. Acid Number (AN) is abnormally high.
08/21/20	While a bit high, the acid number (oxidation) level of the oil has remained stable. The small amount of low boilers can be vented out but the flash point is still strong at ~395F. No actions needed at this time. Keep sampling regularly Acid Number (AN) is abnormally high. COC Flash Point is marginally low.

Petro-Canada makes no representation or warranty of any kind, either express or implied, as to the accuracy or completeness of the analysis and assumes no responsibility and shall have no liability whatsoever with respect to such analysis, or a party's use of it. Petro-Canada is a division of HollyFrontier Corporation.