

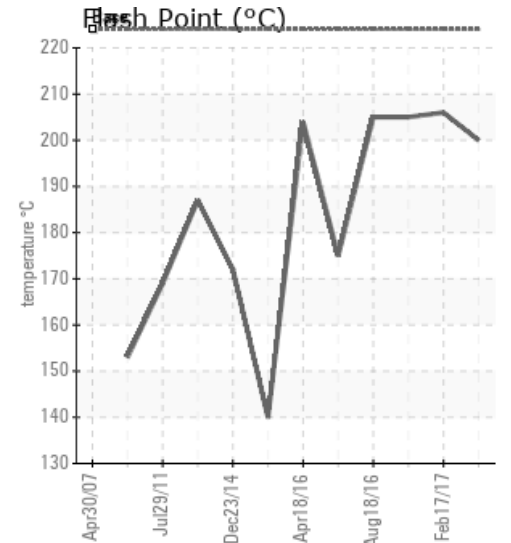
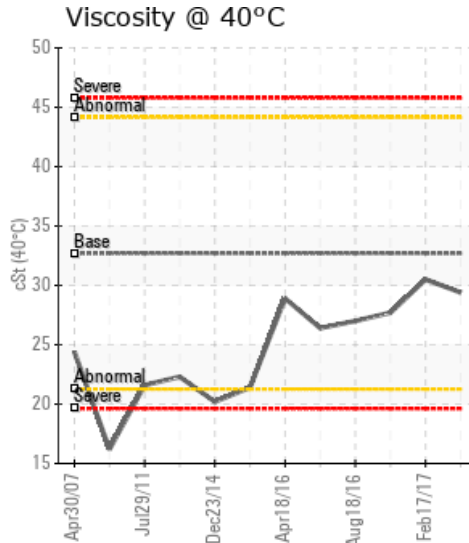
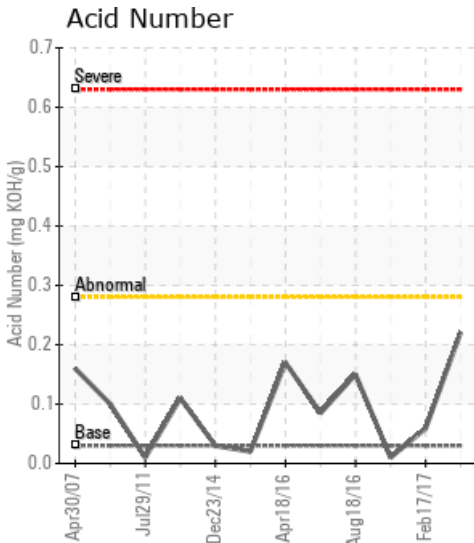
## MAIN SYSTEM

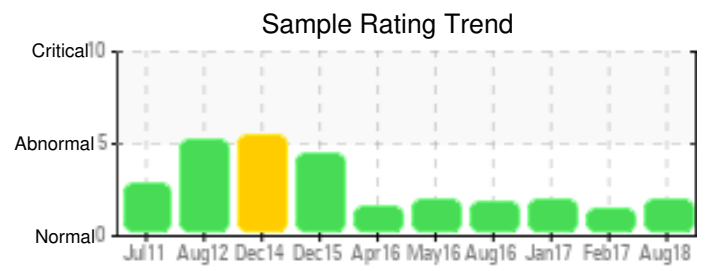
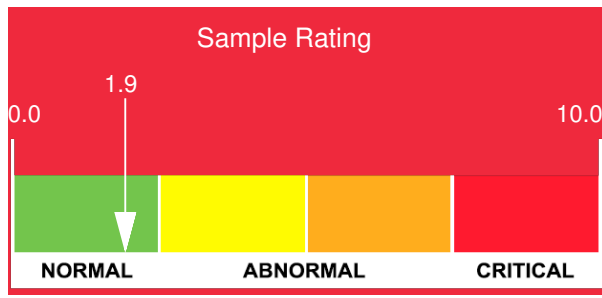
Customer: PTRHTF10067	System Information	Sample Information
CERTAITEED - SAINT GOBAIN 620 AERO DRIVE SHREVEPORT, LA 71107 USA Attn: Richard Howe Tel: (318)470-4769 E-Mail: richard.howe@saint-gobain.com	System Volume: 1350 gal Bulk Operating Temp: 450F / 232C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make:	Lab No: 02237097 Analyst: Gaston Arseneault Sample Date: 08/23/18 Received Date: 08/31/18 Completed: 09/04/18 To discuss this report contact Gaston Arseneault at 973-986-6503

Recommendation: The oil condition remains similar since the last sample. Try to sample consistently every year.

Comments: (GCD) 90% Distillation Point is abnormally low.

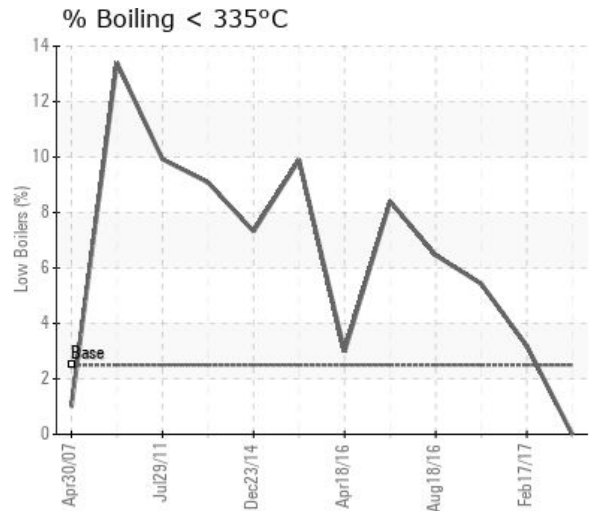
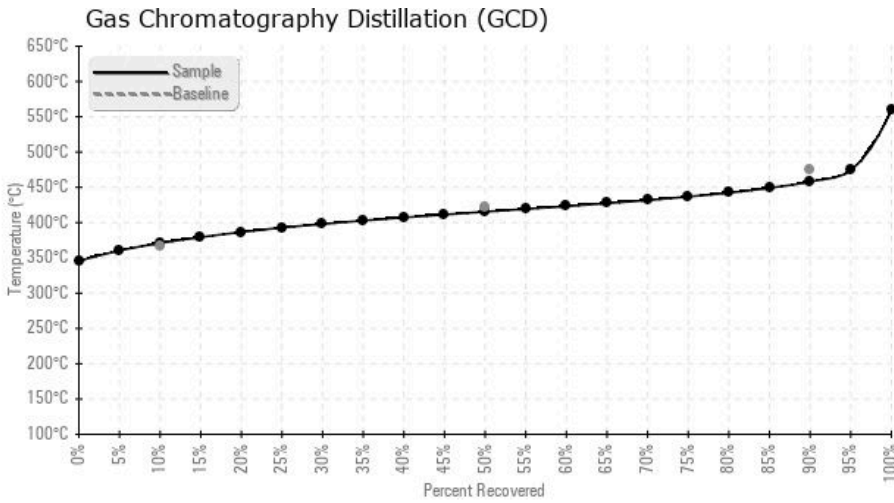
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/23/18	08/31/18	36m	INLINE FILTER	392 / 200	11.4	29.4	0.221	0.036	700 / 371	780 / 415	857 / 458	0.00
02/17/17	03/01/17	12m	LAMINATE	403 / 206	14.2	30.5	0.059	0.051	689 / 365	796 / 425	897 / 480	3.19
01/04/17	01/23/17	10m	HOT OIL ROOM	401 / 205	20.3	27.7	0.01	0.076	677 / 358	798 / 425	910 / 488	5.43
08/18/16	08/29/16	7m	NORTH DRAIN BY PUMP	401 / 205	301.0	27.0	0.150	0.151	668 / 353	798 / 425	911 / 488	6.46
05/05/16	05/13/16	5m	NORTH PUMP DRAIN	347 / 175	17.7	26.4	0.085	0.173	646 / 341	776 / 413	860 / 460	8.40
04/18/16	04/29/16	3m	DRAIN ON FILTER BSKT	399 / 204	15.4	28.9	0.17	0.679	691 / 366	798 / 425	899 / 482	2.98
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	
08/23/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	0	
02/17/17	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	28	0
01/04/17	11	0	0	0	0	0	1	0	0	0	2	1	0	0	0	0	0	0	0	0	4	0	33	0	
08/18/16	14	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	4	0	53	1	
05/05/16	23	0	0	2	0	0	0	0	0	0	7	1	1	0	0	0	0	0	1	0	17	0	39	1	
04/18/16	12	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	8	0	63	1	
<b>Baseline Data</b>			0	0						0			0	0					0				270		

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



### Historical Comments

02/17/17	Everything looks good, the oil color lightened significantly and results overall improved, as if an oil addition was performed. No action required at this time. Re-sample at next scheduled interval.
01/04/17	The oil appears to be in excellent condition based on the results. Strong flash point, minimum contamination from water and no asphalt detected through the results, strong oxidation resistance (Acid Number like new oil). Re-sample at next scheduled interval. (GCD) 90% Distillation Point is marginally high.
08/18/16	The oil properties are slowly migrating towards Calflo AF. We suggest to re-sample in 6 months time to keep monitoring the fluid condition (GCD) 90% Distillation Point is marginally high.
05/05/16	The viscosity and flash point of the fluid are a bit lower than fresh oil. Otherwise, in terms of degradation, the oil is still in good condition. We suggest to vent the low boilers out of the expansion tank and replace the volume lost by safely adding fresh oil. COC Flash Point is abnormally low. (GCD) 90% Distillation Point is marginally low.
04/18/16	Fluid is suitable for continued use. The Pentane Insoluble result above 0.5% weight indicates excessive debris circulating with the fluid. The solids are most likely residue from the system cleaning process. Improved filtration is recommended to reduce the solids level. The iron could serve as a catalyst for oxidation. The silicon could be abrasive dirt. Pentane Insolubles levels are severely high.