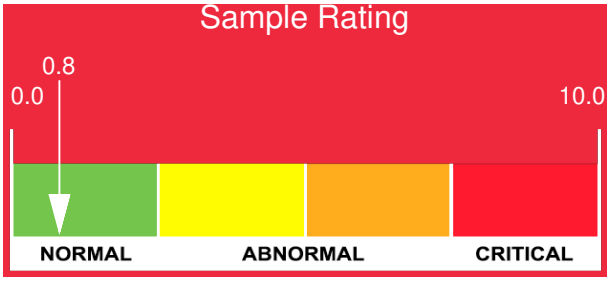
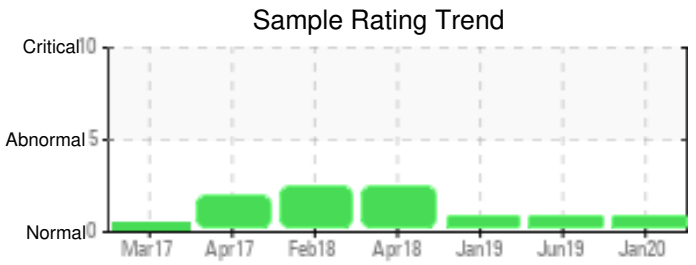
PETRO-CANADA LUBRICANTS





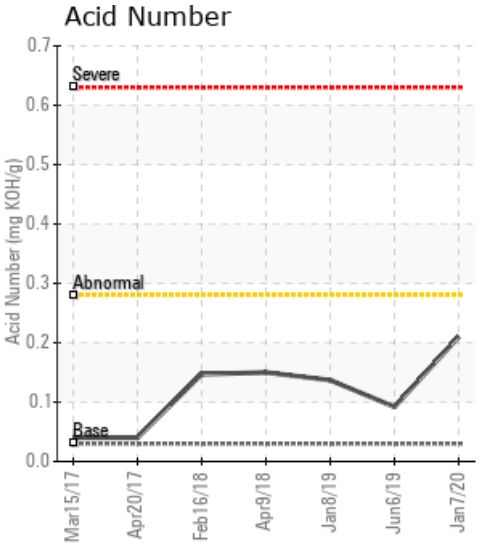
TFS H/O SYSTEM #2

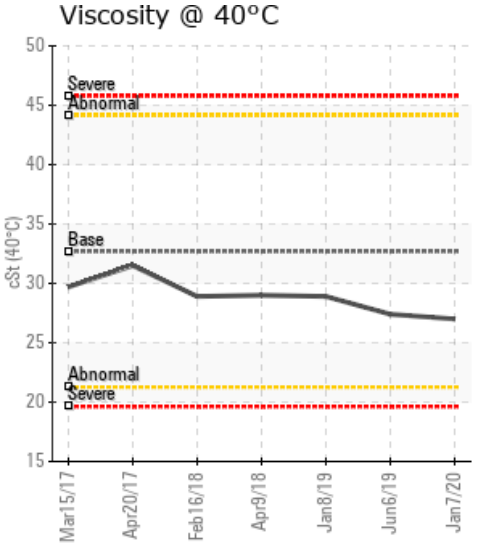
Customer: PTRHTF10176	System Information	Sample Information
CERTAINTEED ROOFING 100 CERTAINTEED DR JONESBURG, MO 63351 USA Attn: Jeff Montgomery Tel: (952)261-9532 E-Mail: jeffrey.d.montgomery@saint-gobain.com	System Volume: 3738 gal Bulk Operating Temp: 525F / 274C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: FSE	Lab No: 02376396 Analyst: Joe Goecke Sample Date: 01/07/20 Received Date: 09/17/20 Completed: 09/23/20 Joe Goecke Joe.goecke@petrocanadalsp.com

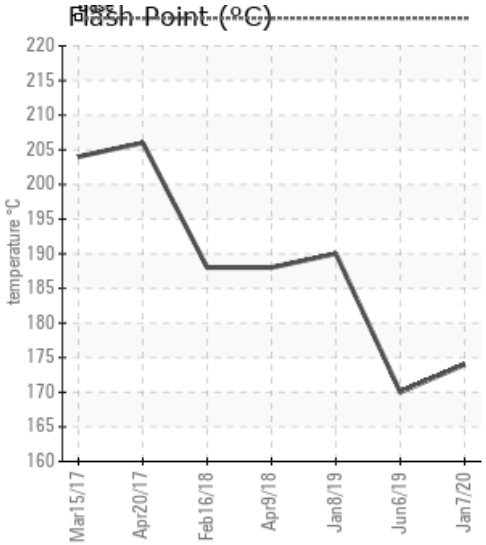
Recommendation: Sample was submitted 9 months after taking. Flash point is lower than normal but slightly higher than past sample. Low boilers are rising as well, if system can be vented (may have been already) it should be done. Timely sample submissions yield more relevant data.

Comments: COC Flash Point is abnormally low.

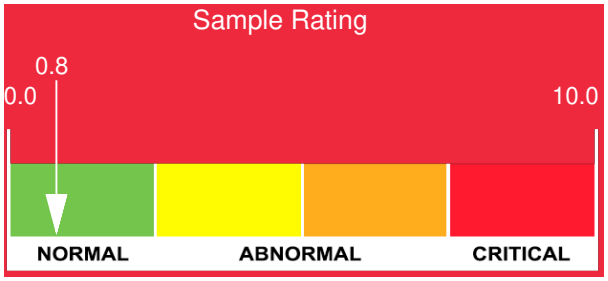
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/07/20	09/17/20	48m	Strainer	345 / 174	14.2	27.0	0.21	0.149	679 / 359	794 / 423	901 / 483	5.17
06/06/19	06/18/19	0m		338 / 170	18.1	27.4	0.092	0.036	685 / 363	794 / 424	904 / 485	3.68
01/08/19	01/21/19	0m		374 / 190	15.0	28.9	0.137	0.096	667 / 353	771 / 411	874 / 468	4.32
04/09/18	04/20/18	17m		370 / 188	26.7	29.0	0.150	0.077	674 / 356	780 / 416	884 / 473	3.95
02/16/18	03/07/18	28m		370 / 188	15.1	28.9	0.147	0.072	691 / 366	781 / 416	888 / 475	0.00
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

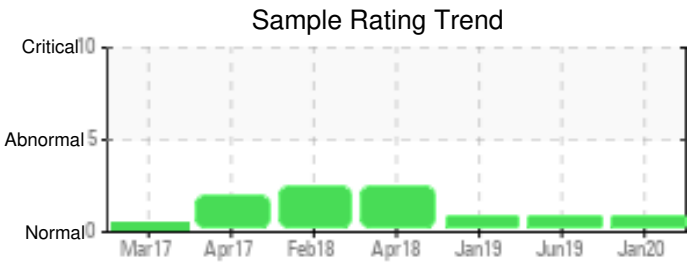






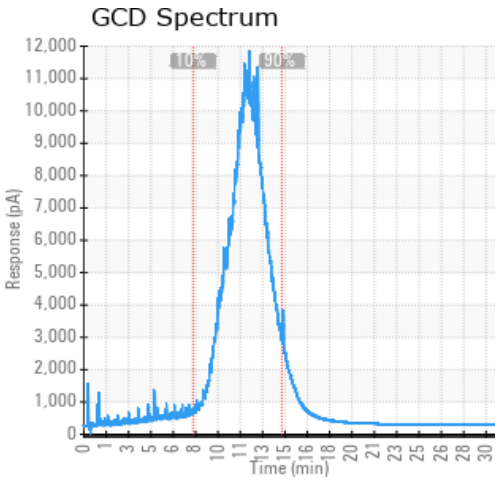
PETRO-CANADA LUBRICANTS

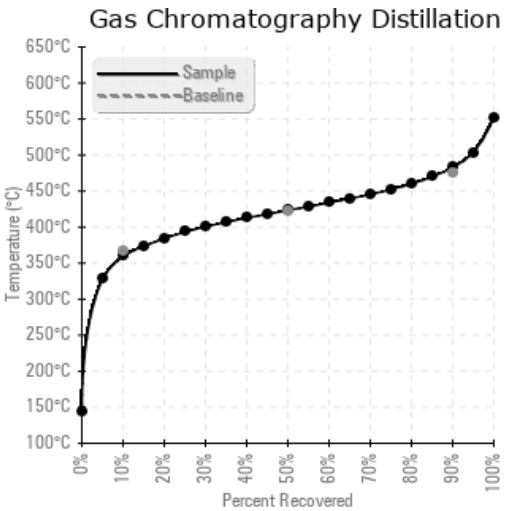


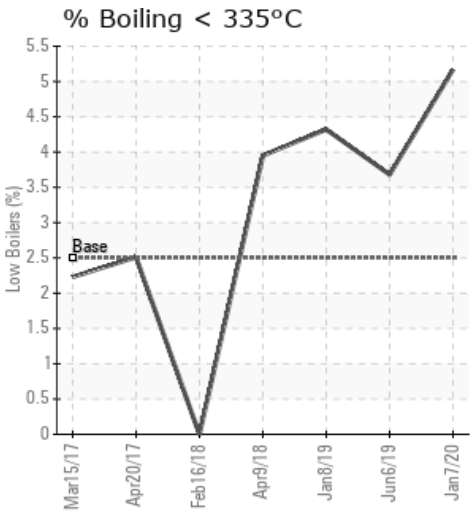


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
01/07/20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128	0
06/06/19	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	149	2
01/08/19	126	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	1	0	174	7
04/09/18	94	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	0	179	5
02/16/18	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	177	4
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

06/06/19	The viscosity has been slowly declining and so is the flash point. We suggest to vent the low boilers and replace the volume lost by adding fresh oil in the expansion tank. COC Flash Point is abnormally low.
01/08/19	The results are almost identical to the satisfactory results from 6 months ago. No action needed at this time besides re-sampling in about 6-9 months time. COC Flash Point is marginally low.
04/09/18	The results are almost identical to the satisfactory results from a couple months ago. No action needed at this time besides re-sampling in about 6-9 months time. COC Flash Point is marginally low.
02/16/18	The viscosity dropped 10% in 9 months. it is still within normal limits but the drop is also felt in the drop in flash point. We suggest to perform a venting of the fluid to release the light ends and replace the volume lost by adding fresh fluid. This will help keep the flash point strong and properties normal. COC Flash Point is marginally low.