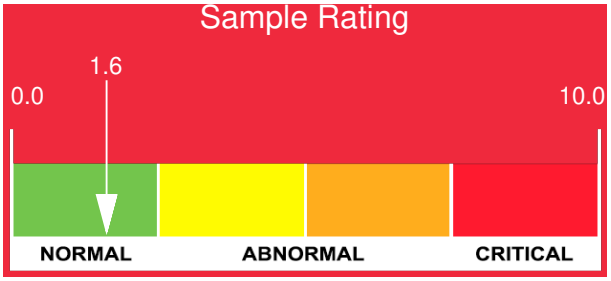
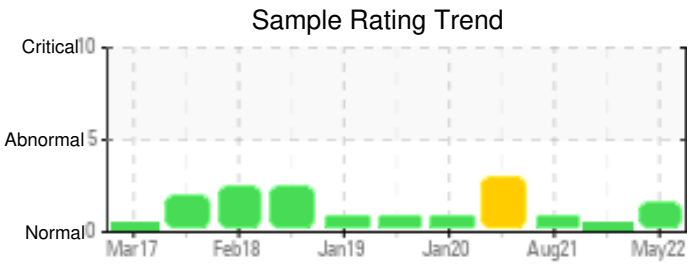




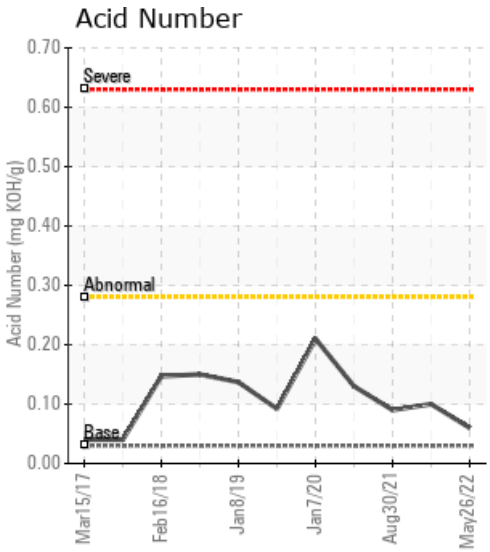
TFS H/O SYSTEM #2

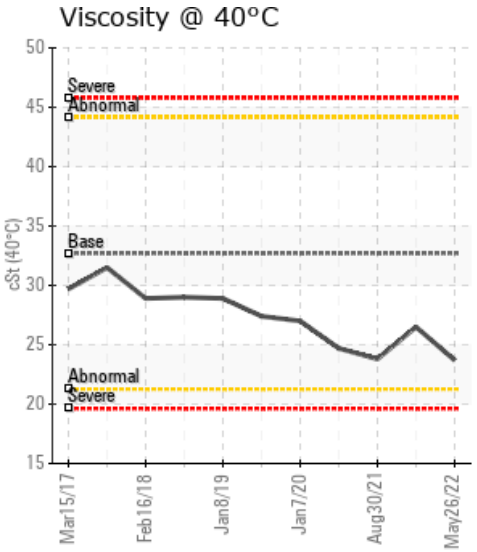
Customer: PTRHTF10176	System Information	Sample Information
CERTAINTEED ROOFING 100 CERTAINTEED DR JONESBURG, MO 63351 USA Attn: Jeff Montgomery Tel: (952)261-9532 E-Mail: jeffrey.d.montgomery@saint-gobain.com	System Volume: 3738 gal Bulk Operating Temp: 525F / 274C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: FSE	Lab No: 02493696 Analyst: Neil Buchanan Sample Date: 05/26/22 Received Date: 06/09/22 Completed: 06/13/22 Neil Buchanan neil.buchanan@hollyfrontier.com

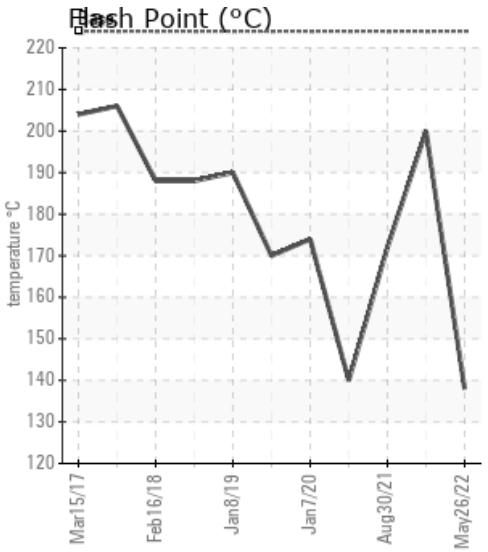
Recommendation: Flash Point is severely low and GCD shows the formation of some light boilers. Other properties are acceptable.

Comments: COC Flash Point is severely low.

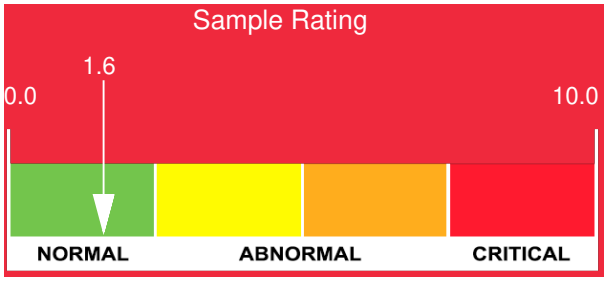
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/26/22	06/09/22	0.0m		280 / 138	0.00	23.7	0.06	0.059	663 / 351	791 / 422	901 / 483	7.10
01/04/22	01/13/22	0.0m		392 / 200	15.8	26.5	0.10	0.089	670 / 355	792 / 422	902 / 483	6.27
08/30/21	09/07/21	48.0m	MAIN PUMP STRAINER	342 / 172	11.0	23.8	0.09	0.079	659 / 348	791 / 422	904 / 484	7.55
10/08/20	10/15/20	48.0m	SIDE STREAM	284 / 140	15.8	24.7	0.13	0.084	668 / 353	792 / 422	903 / 484	6.66
01/07/20	09/17/20	48.0m	Strainer	345 / 174	14.2	27.0	0.21	0.149	679 / 359	794 / 423	901 / 483	5.17
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

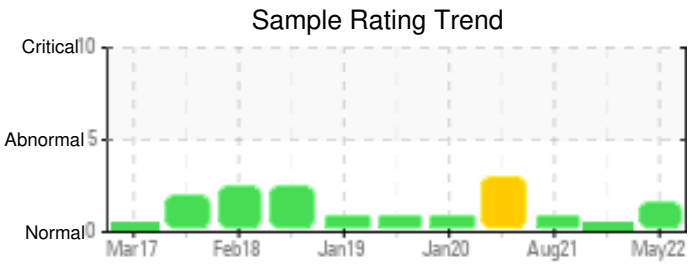






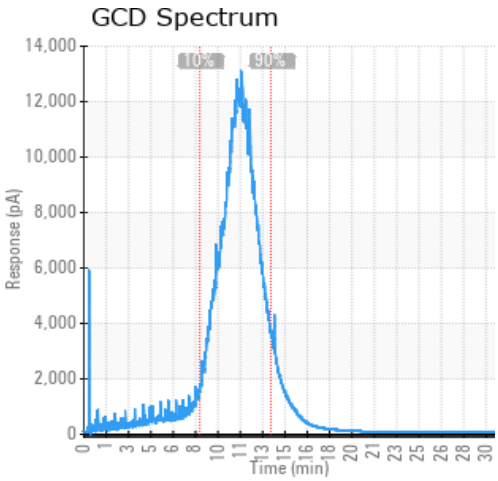
PETRO-CANADA LUBRICANTS

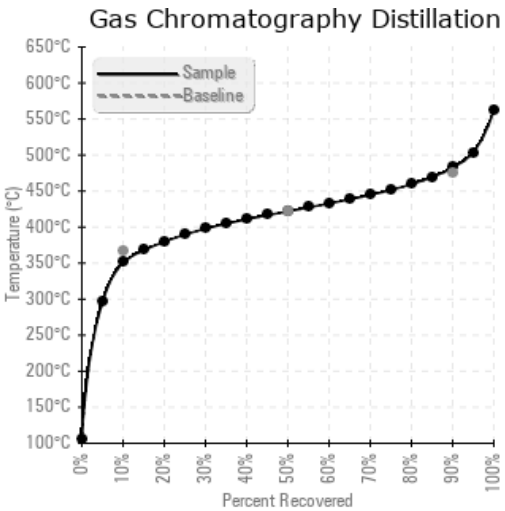


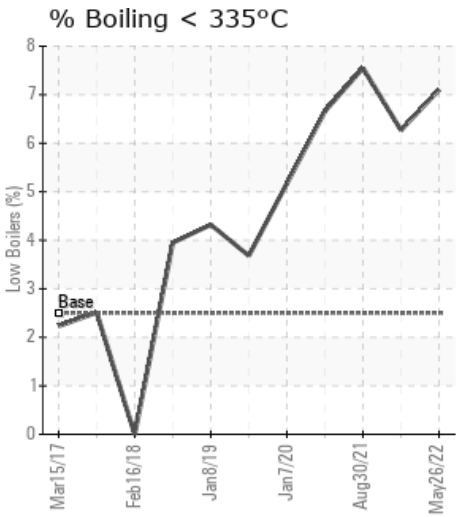


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
05/26/22	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	139	0
01/04/22	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	147	0
08/30/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	105	0
10/08/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	111	0
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
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

01/04/22	Sample looks good and is fit for further service. Resample next interval.
08/30/21	COC Flash Point is abnormally low. GCD indicates the formation of some low boiling hydrocarbons. Systems should be safely vented. COC Flash Point is abnormally low.
10/08/20	Viscosity is decreasing and light ends are increasing. Flash point is also getting in to critical area. We suggest planning on venting in the next couple of months to reduce light ends and raise viscosity and flash points. Resample after maintenance. COC Flash Point is severely low.
01/07/20	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. COC Flash Point is abnormally low.