

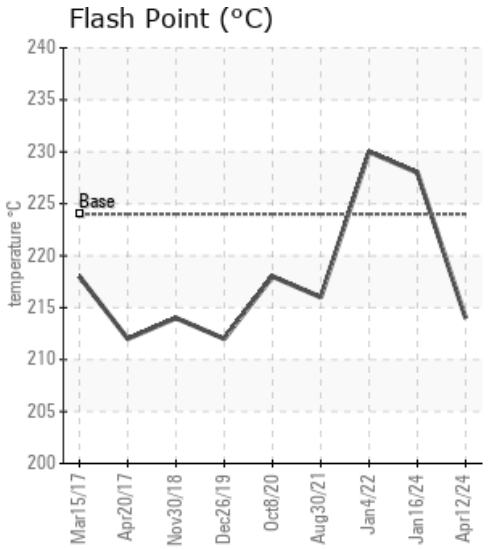
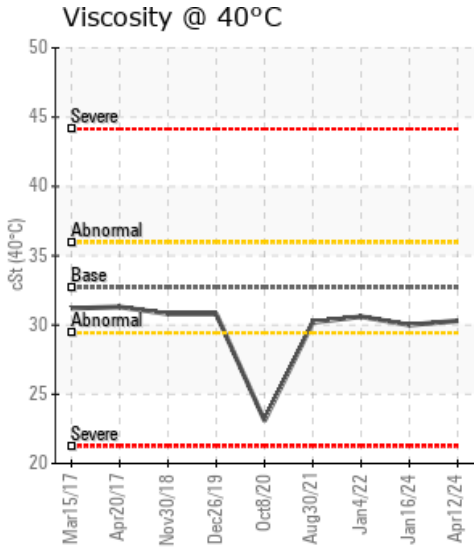
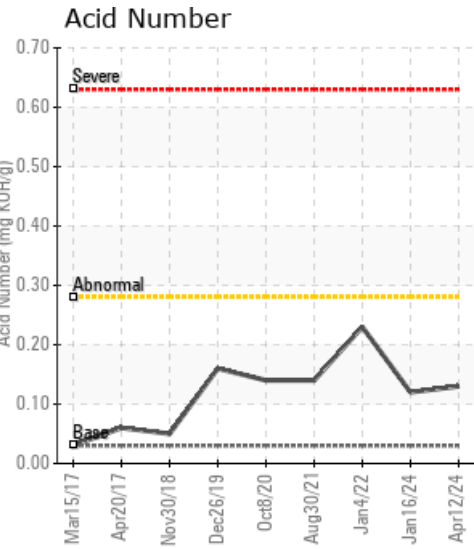
### TFS H/O SYSTEM #3

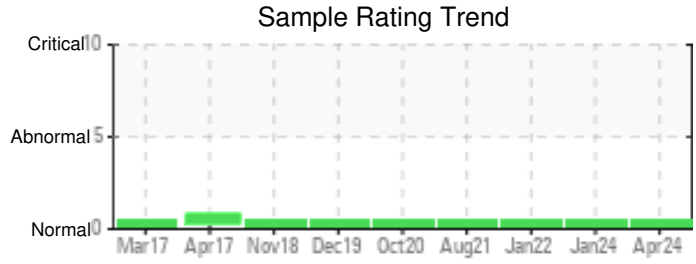
Customer: PTRHTF10176	System Information	Sample Information
CERTAINEED ROOFING 100 CERTAINEED DR JONESBURG, MO 63351 US Attn: Jeff Montgomery Tel: (952)261-9532 E-Mail: jeffrey.d.montgomery@saint-gobain.com	System Volume: 5129 gal Bulk Operating Temp: 468F / 242C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: FSE	Lab No: 02630810 Analyst: Neil Buchanan Sample Date: 04/12/24 Received Date: 04/22/24 Completed: 04/25/24 Neil Buchanan neil.buchanan@HFSinclair.com

Recommendation: Sample looks good and is fit for further service. Resample next interval to monitor.

Comments:

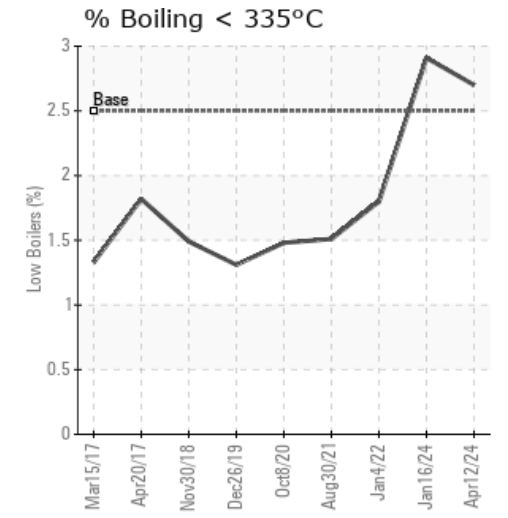
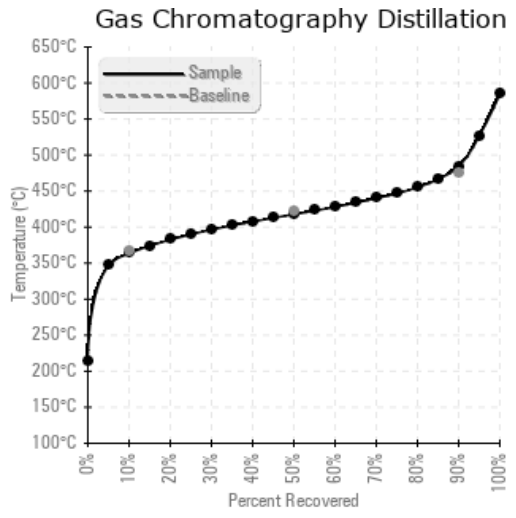
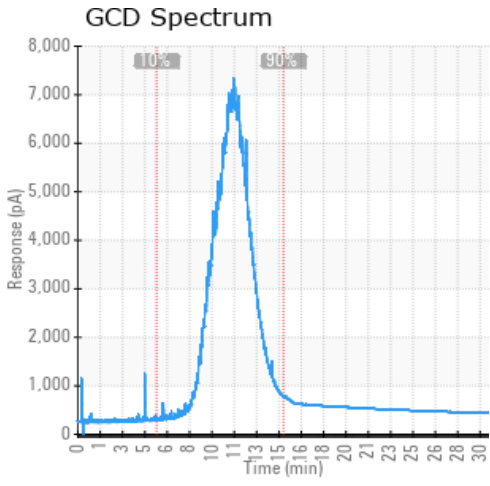
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/12/24	04/22/24	0.0y	side stream filter	417 / 214	41	30.3	0.13	0.071	686 / 364	784 / 418	904 / 484	2.70
01/16/24	01/23/24	0.0y	sidestream filter	442 / 228	14	30.0	0.12	0.005	693 / 367	798 / 426	902 / 483	2.91
01/04/22	01/13/22	0.0y		446 / 230	139.4	30.6	0.23	0.110	699 / 371	799 / 426	902 / 484	1.80
08/30/21	09/07/21	4.0y	MAIN PUMP STRAINER	421 / 216	3.4	30.2	0.14	0.066	700 / 371	800 / 426	903 / 484	1.51
10/08/20	10/15/20	4.0y		424 / 218	10.2	23.1	0.14	0.063	701 / 372	800 / 427	903 / 484	1.48
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
04/12/24	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	174	0
01/16/24	7	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	167	0
01/04/22	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	201	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	1	198	0
10/08/20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	193	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	
01/16/24	Sample looks good and is fit for further service. Resample next interval to monitor.
01/04/22	Sample looks good and is fit for further service. Resample next interval.
08/30/21	Sample looks good and is fit for further service. Resample next interval to monitor.
10/08/20	Viscosity is lower than expected. All other parameters look very good. continue to use and resample at next scheduled interval.

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