

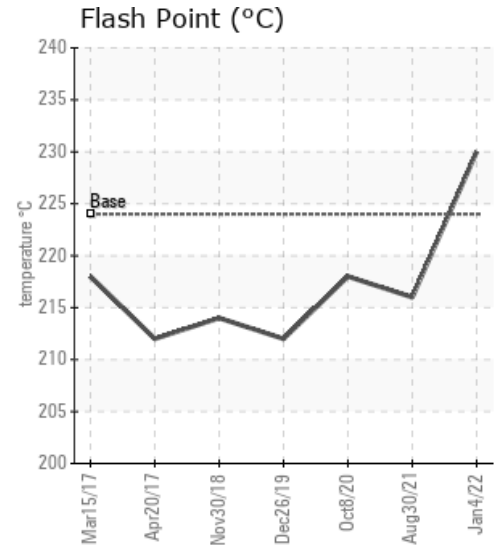
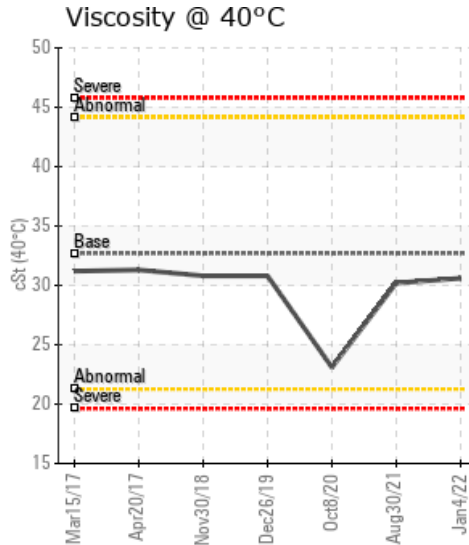
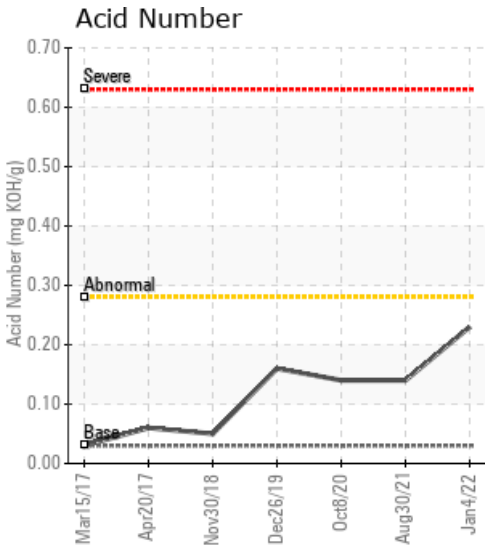
TFS H/O SYSTEM #3

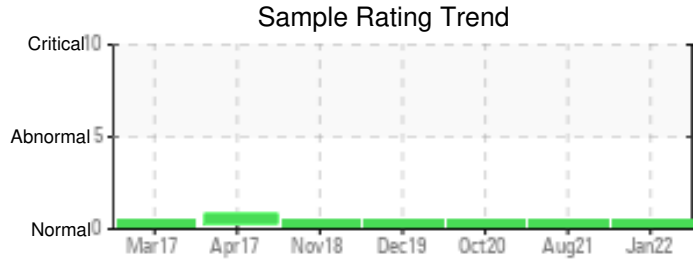
Customer: PTRHTF10176	System Information	Sample Information
CERTAINEED ROOFING 100 CERTAINEED DR JONESBURG, MO 63351 US Attn: Jeff Montgomery Tel: (952)261-9532 E-Mail: jeffrey.d.montgomery@saint-gobain.com	System Volume: 5129 gal Bulk Operating Temp: 468F / 242C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: FSE	Lab No: 02466165 Analyst: Neil Buchanan Sample Date: 01/04/22 Received Date: 01/13/22 Completed: 01/17/22 Neil Buchanan neil.buchanan@HFSinclair.com

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

Comments:

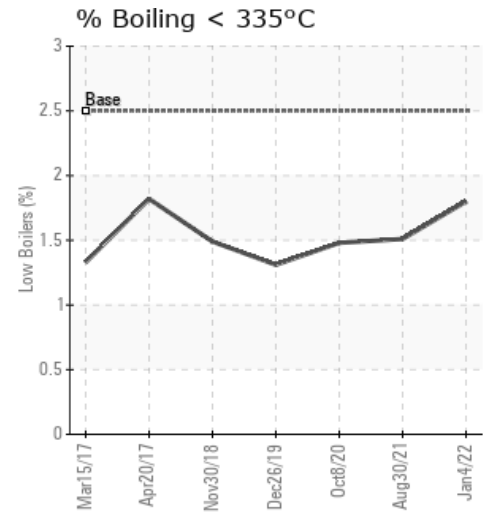
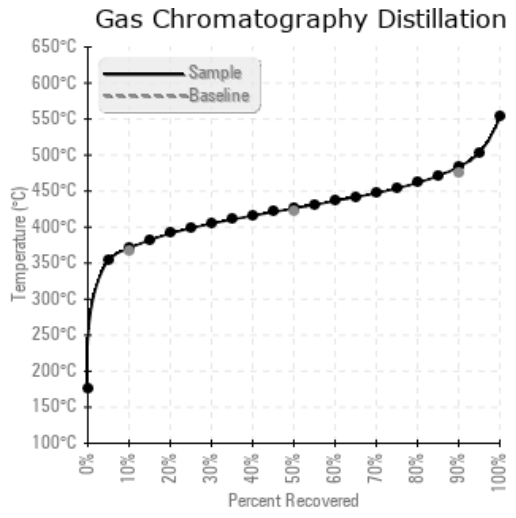
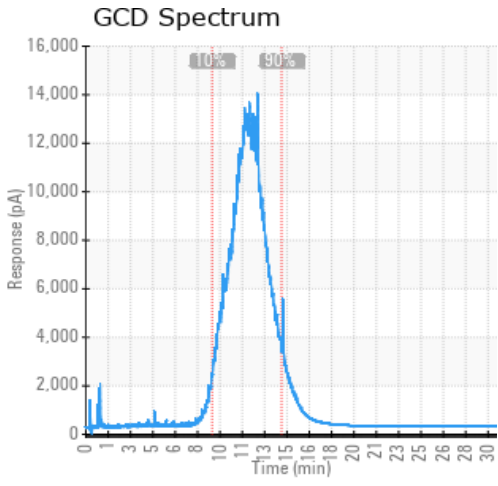
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/04/22	01/13/22	0.0y		446 / 230	139.4	30.6	0.23	0.110	699 / 371	799 / 426	902 / 484	1.80
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
12/26/19	09/17/20	11.0y	To Exit	414 / 212	9.3	30.8	0.16	0.053	702 / 372	800 / 426	902 / 483	1.31
11/30/18	12/18/18	0.0y		417 / 214	16.8	30.8	0.05	0.055	694 / 368	794 / 423	898 / 481	1.49
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
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
12/26/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	198	0
11/30/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	189	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

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.
12/26/19	Sample was received 10 months after taken. All parameters look good and in spec for the fluid. Continue to use and monitor as normal. Timely submission of samples provides more useful data.
11/30/18	The oil condition is normal and within acceptable parameters. No actions needed at this time based on the results. Re-sample at next scheduled interval.

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