

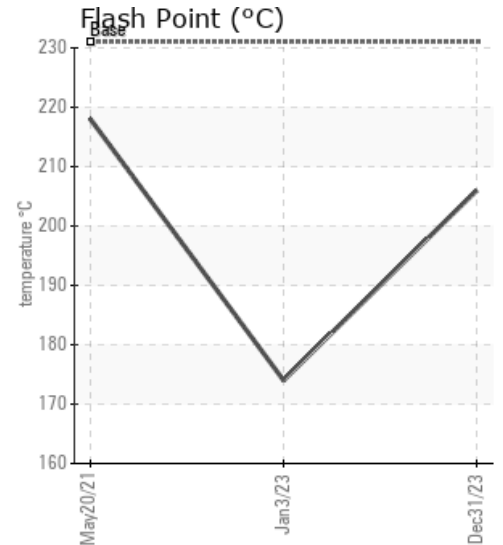
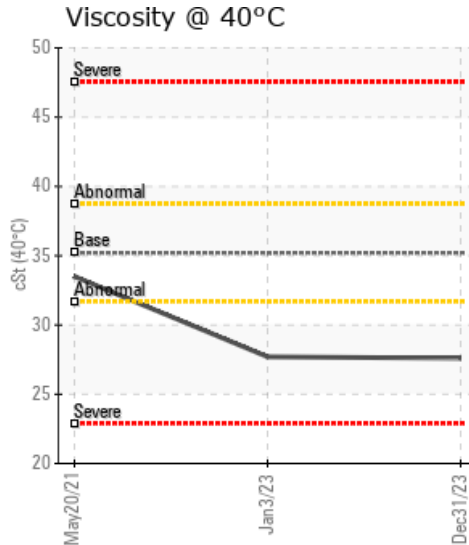
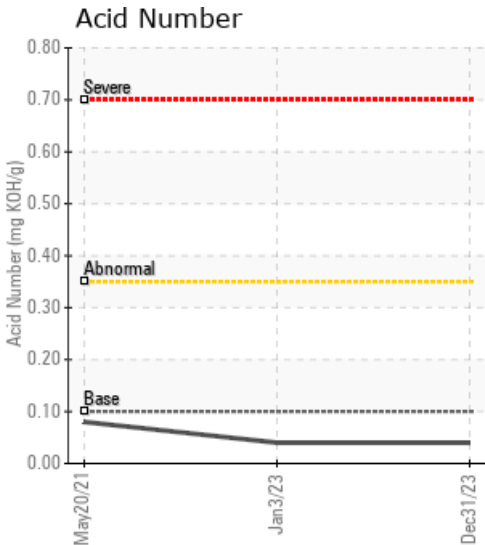
LINE 2

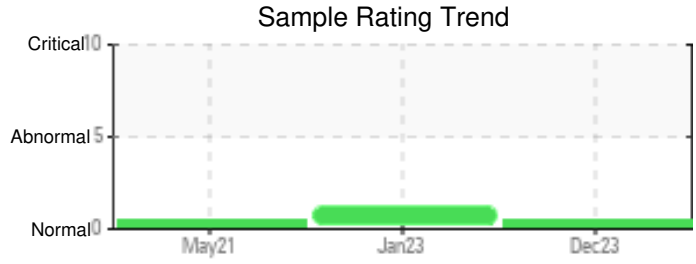
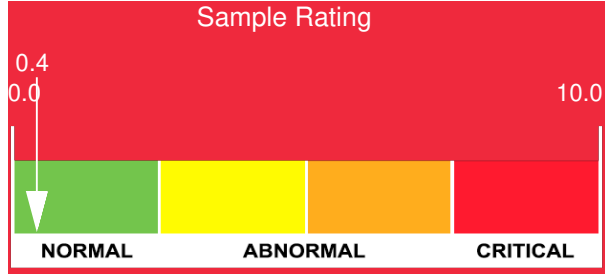
Customer: PTRHTF10164	System Information	Sample Information
Malarkey Roofing 3400 S. Council Rd OKLAHOMA CITY, OK 73179 US Attn: Hunter Lewis Tel: (405)261-6900 E-Mail: hunter.lewis1@holcim.com	System Volume: 3500 gal Bulk Operating Temp: 565F / 296C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO HTF Make: AMERICAN HEATING	Lab No: 02608652 Analyst: Garrett Bapp Sample Date: 12/31/23 Received Date: 01/12/24 Completed: 01/18/24 Garrett Bapp Garrett.Bapp@HFSinclair.com

Recommendation: Sample has improved since the January 2023 sample. Viscosity still remain lower than new product but all other parameters are within spec. Flash Point has vastly come up and is in safe range. GCD profile shows low boilers. Recommend to vent light ends from the system at this time and continue routine sampling.

Comments: Visc @ 40°C is abnormally low.

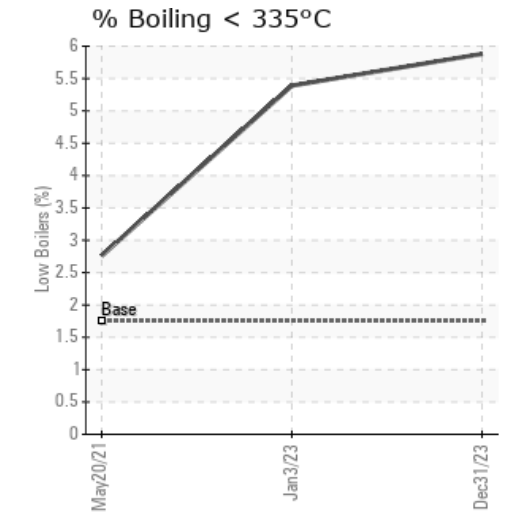
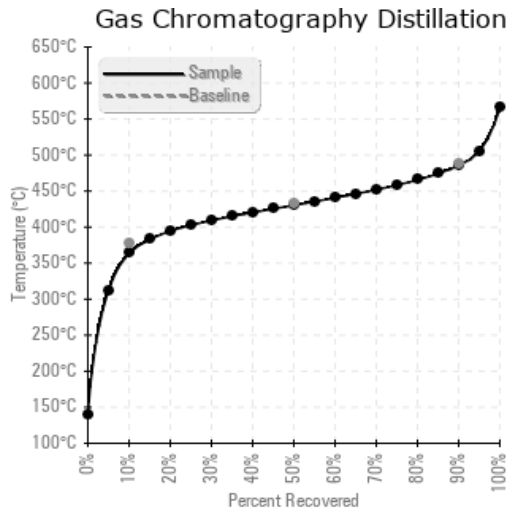
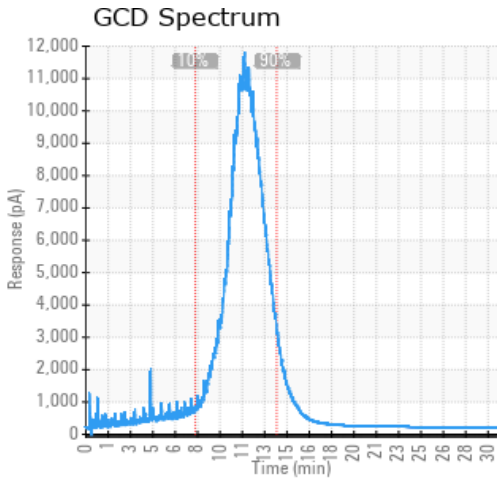
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/31/23	01/12/24	2.0y		403 / 206	9	27.6	0.04	0.047	686 / 364	807 / 430	906 / 486	5.88
01/03/23	02/23/23	16.0y	before pump	345 / 174	0.00	27.7	0.04	0.110	694 / 368	809 / 432	907 / 486	5.39
05/20/21	05/28/21	1.0y		424 / 218	14.7	33.5	0.08	0.130	704 / 373	797 / 425	924 / 495	2.76
Baseline Data				448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75





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	
12/31/23	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0	
01/03/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0
05/20/21	15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	41	0
Baseline Data			0	0						0			0	0				0	0					280	

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



Historical Comments

01/03/23	System is in overall good health. Viscosity is slightly lower than base line along with a lower than desirable flash point indicating thermal degradation is occurring. Recommend to vent system and sweeten system with 30% new oil. Resample in 1 year. COC Flash Point is abnormally low. Visc @ 40°C is abnormally low.
05/20/21	No recommendations. New system and new fluid. Reference point.

Petro-Canada makes no representation or warranty of any kind, either express or implied, as to the accuracy or completeness of the analysis and assumes no responsibility and shall have no liability whatsoever with respect to such analysis, or a party's use of it. Petro-Canada is a division of HollyFrontier Corporation.