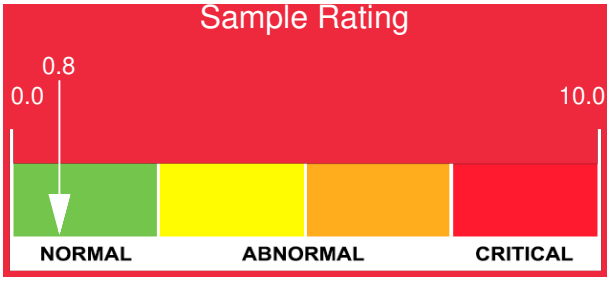
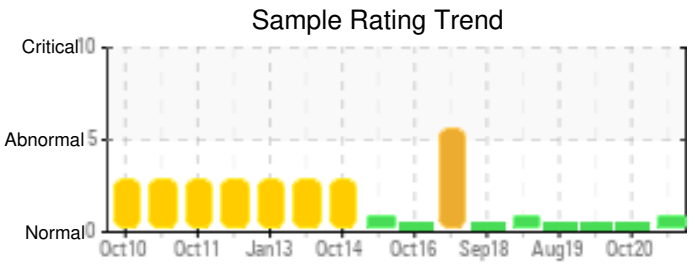




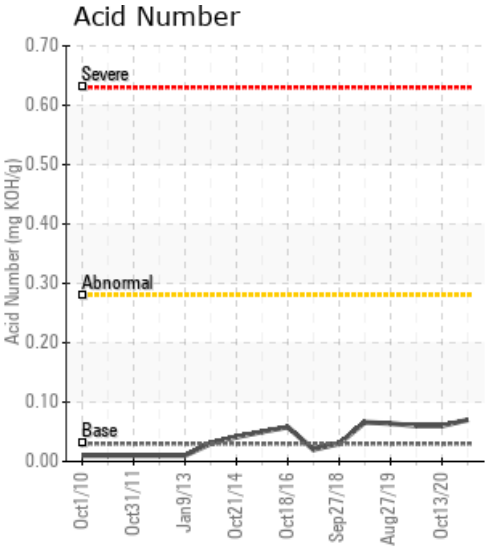
XST HOT OIL SYSTEM HEATING HTF

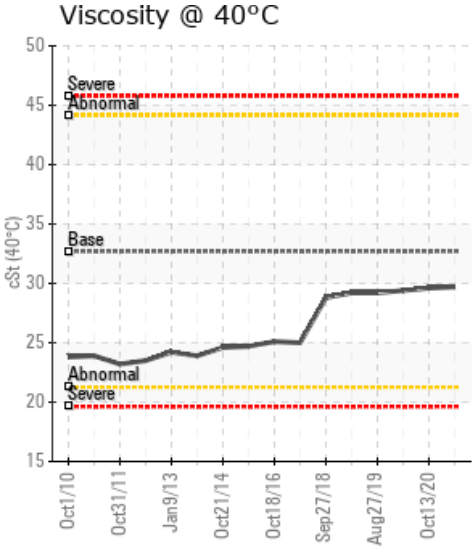
Customer: PTRHTF10048	System Information	Sample Information
MOMENTIVE PERFORMANCE MATERIAL 703 SOUTH STREET NEW SMYRNA BEACH, FL 32168 USA Attn: Don Pultz Tel: (386)409-5524 E-Mail: donald.pultz@momentive.com	System Volume: 100 gal Bulk Operating Temp: 305F / 152C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: SPALTECH	Lab No: 02416844 Analyst: Jake Finn Sample Date: 04/15/21 Received Date: 04/23/21 Completed: 05/03/21 Jake Finn jake.finn@hollyfrontier.com

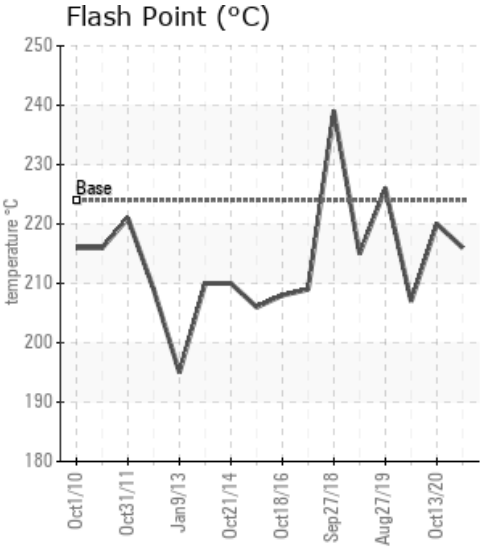
Recommendation: 90% Distillation point (GCD) is marginally high, but sample otherwise indicates fluid is suitable for continued use. Please sample and resubmit for testing in one year.

Comments: (GCD) 90% Distillation Point is marginally high.

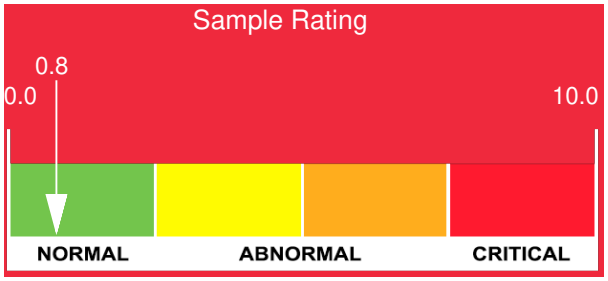
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/15/21	04/23/21	3.0y	Sampling port	421 / 216	37.4	29.7	0.07	0.033	688 / 364	793 / 423	906 / 485	3.02
10/13/20	10/19/20	3.0y	SAMPLE PORT	428 / 220	82.4	29.6	0.06	0.087	684 / 362	791 / 422	895 / 479	3.51
05/05/20	05/11/20	2.0y	CAMPLING PORT	405 / 207	48.3	29.4	0.06	0.100	683 / 362	791 / 422	893 / 478	3.65
08/27/19	09/06/19	1.0y	PORT	439 / 226	145.4	29.2	0.064	0.130	676 / 358	790 / 421	894 / 479	4.53
05/23/19	05/24/19	1.0y	XST SAMPLE PORT	419 / 215	113.3	29.2	0.066	0.035	672 / 356	782 / 416	883 / 473	4.46
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

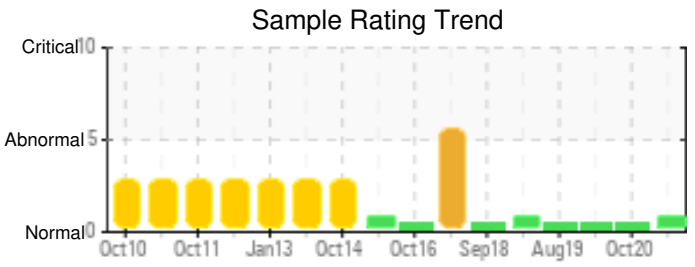






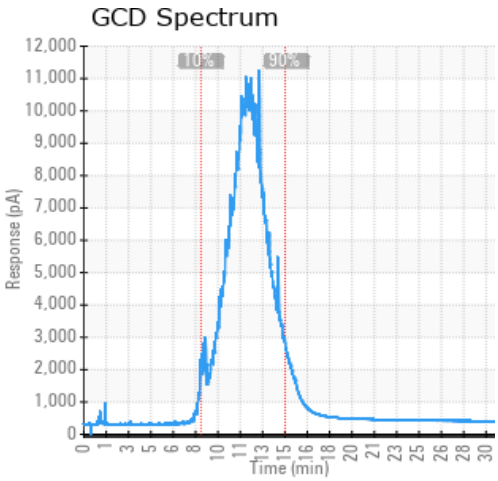
PETRO-CANADA LUBRICANTS

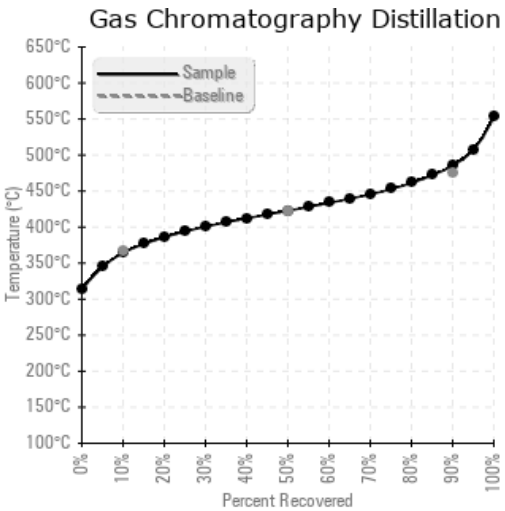


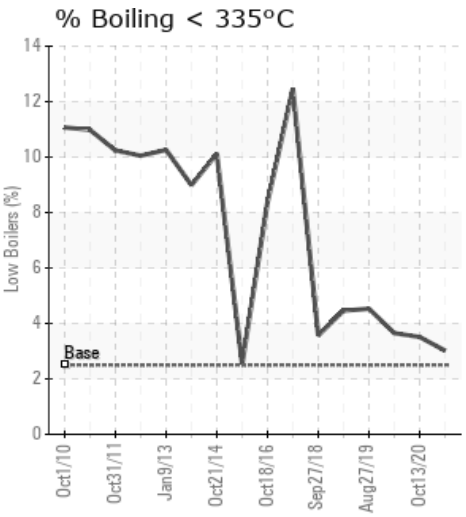


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
04/15/21	4	0	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	265	2
10/13/20	4	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	270	2
05/05/20	4	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	276	2
08/27/19	4	0	0	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	276	2
05/23/19	4	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	263	2
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

10/13/20	Fluid is satisfactory and suitable for continued use. Please re-submit sample in October 2021Very light debris noticed in sample. Mitigation can be performed during a 'safe' down day. Change any system filters & filter system fluids with a kidney loop portable filter cart to maintain system cleanliness.
05/05/20	Petro-Canada CALFLO AF Fluid is suitable for continued use. Please re-submit next sample in May 2021
08/27/19	Sample is suitable for continued use. Please submit next sample on August 2020Very light debris noticed in the fluid. During any shutdown periods, the fluid could be filtered thru a kidney loop system to eliminate any debris/contamination. Emulsified water noticed by the lab which should evaporate off during normal operation at these elevated operating temperatures.
05/23/19	Fluid is suitable for continued use. Please re-submit sample in May 2020Fluid parameters appear to be in very satisfactory condition. Fluid appears to have a 'hazy' appearance and there is very lite debris present in the oil. Filtration of the fluid in the system during a safe 'down-time' could help in maintaining proper system cleanliness.