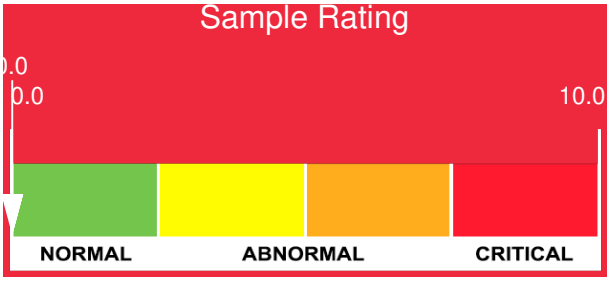
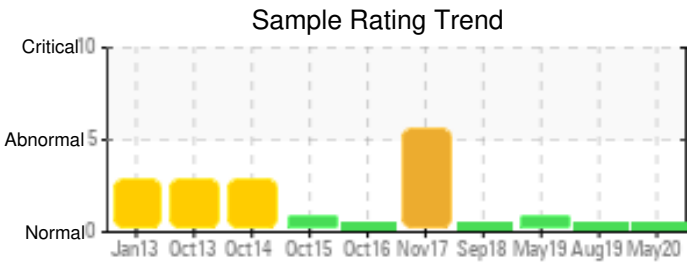




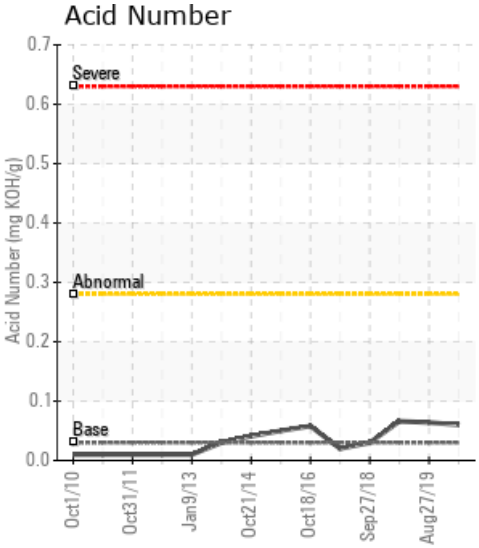
XST HOT OIL SYSTEM HEATING HTF

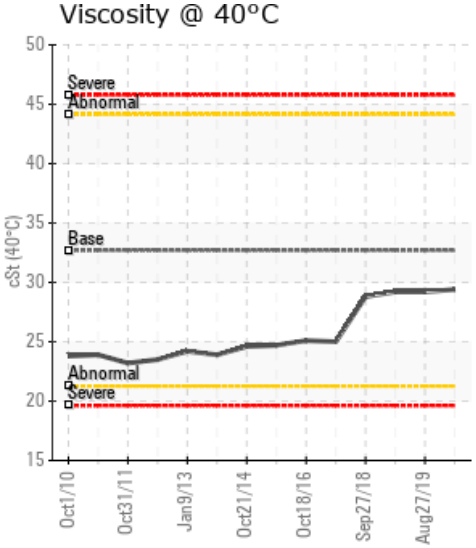
Customer: PTRHTF10048	System Information	Sample Information
MOMENTIVE PERFORMANCE MATERIAL 703 SOUTH STREET NEW SMYRNA BEACH, FL 32168 USA Attn: Don Pultz Tel: (386)409-5524 E-Mail: donald.pultz@momentive.com	System Volume: 100 gal Bulk Operating Temp: 305F / 152C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: SPALTECH	Lab No: 02353178 Analyst: Manny Garcia Sample Date: 05/05/20 Received Date: 05/11/20 Completed: 05/14/20 Manny Garcia manuel.garcia@petrocanadalsp.com

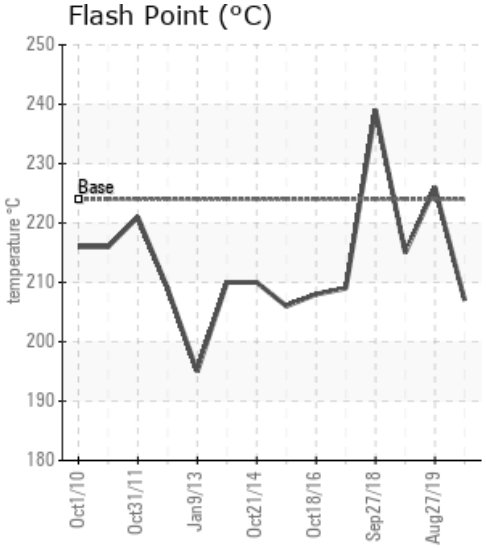
Recommendation: Petro-Canada CALFLO AF Fluid is suitable for continued use. Please re-submit next sample in May 2021

Comments:

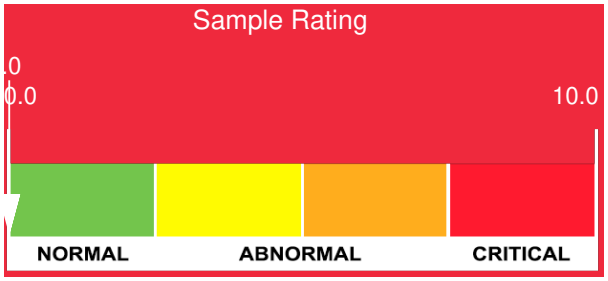
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/05/20	05/11/20	2y	CAMPLING PORT	405 / 207	48.3	29.4	0.06	0.100	683 / 362	791 / 422	893 / 478	3.65
08/27/19	09/06/19	1y	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	1y	XST SAMPLE PORT	419 / 215	113.3	29.2	0.066	0.035	672 / 356	782 / 416	883 / 473	4.46
09/27/18	10/03/18	0y		462 / 239	3.7	28.8	0.03	0.037	677 / 358	781 / 416	878 / 470	3.57
11/02/17	11/13/17	9y		408 / 209	4.3	25.0	0.02	0.013	628 / 331	734 / 390	846 / 452	12.47
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

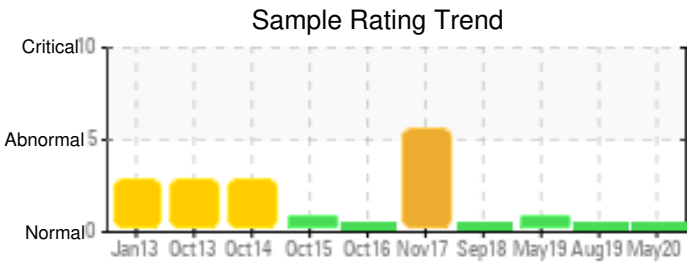






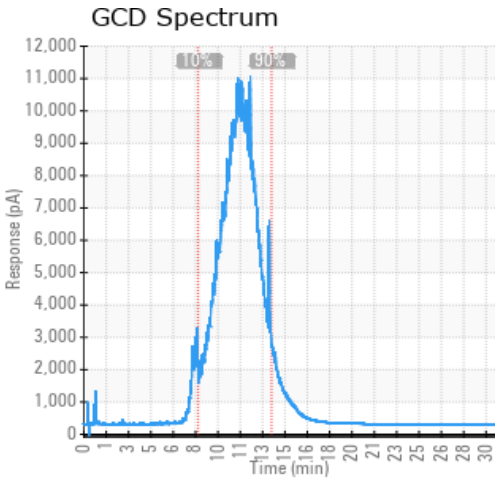
PETRO-CANADA LUBRICANTS

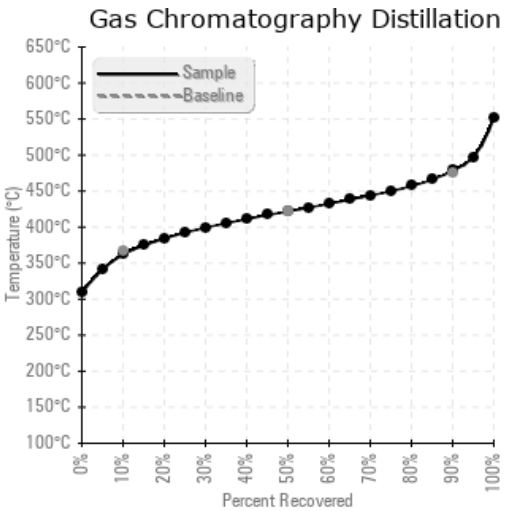


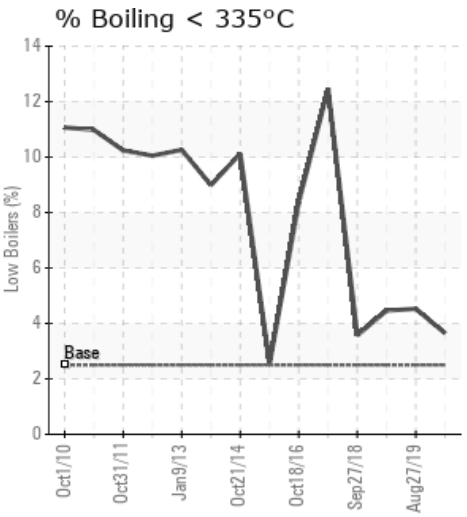


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
05/05/20	4	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	276	2
08/27/19	4	0	0	0	0	1	0	0	0	0	3	0	0	0	0	0	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
09/27/18	4	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	263	2
11/02/17	5	0	0	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	266	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

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.
09/27/18	Fluid is suitable for continued use. Please include time on oil and component age when the next annual sample is sent September, 2019.The fluid condition has greatly improved in the last year between analysis. Continue to maintain the system in the same fashion for optimal results.
11/02/17	'Venting' this system can assist in bringing the distillation points back in-line. Any maintenance done to mitigate these values should be followed up with another oil sample to our lab for verification.Very Low Wear Metals; Low contamination levels; 4.3ppm water level - low; Very low acid numbers; 25 CsT @ 40oC' (GCD) 90% Distillation Point is severely low. (GCD) % < 335°C is marginally high. (GCD) 10% Distillation Point is marginally low. (GCD) 50% Distillation Point is marginally low. Pentane insolubles are low; Very Light debris visible;