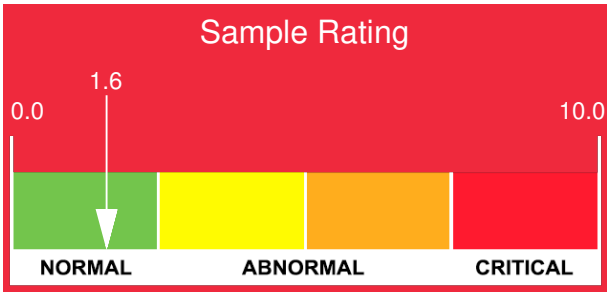
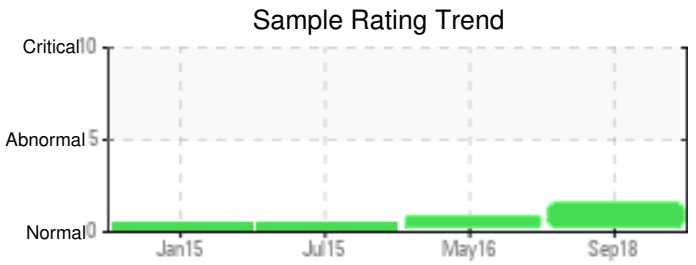




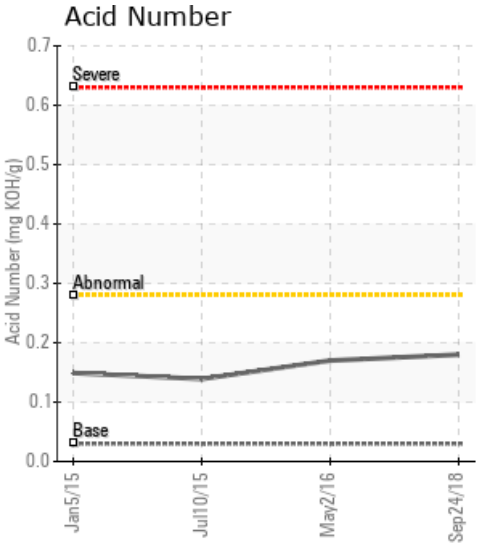
HEAT TRANSFER

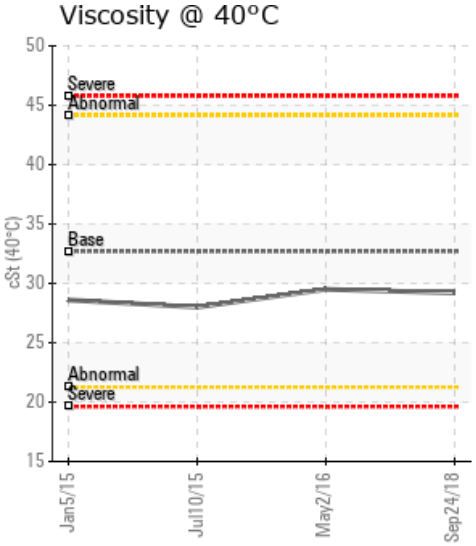
Customer: PTRHTF10028	System Information	Sample Information
PPG AEROSPACE 11601 UNITED ST MOJAVE, CA 93501 USA Attn: Phil Olson Tel: (661)232-6814 E-Mail: phil.olson@ppg.com	System Volume: 0 gal Bulk Operating Temp: 450F / 232C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make:	Lab No: 02243238 Analyst: Steven Slanker Sample Date: 09/24/18 Received Date: 10/04/18 Completed: 10/05/18 To discuss this report contact Steven Slanker at (951)225-2115

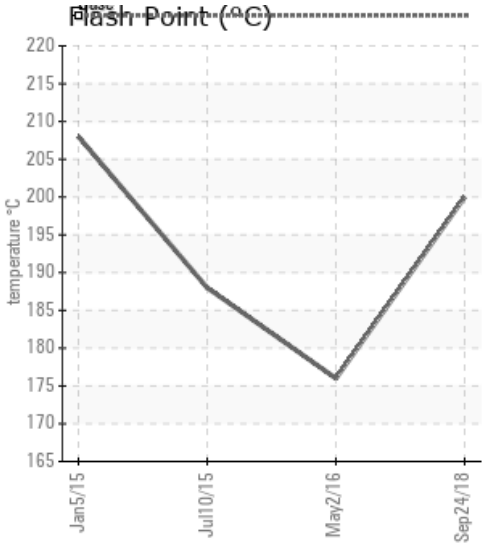
Recommendation: Iron has risen to 110 ppm and water to 331 ppm. Pentane insoluble are also high. If sample is representative of fluid in the system, check for pump wear and filter to remove wear metals, water, contaminates, and insoluble.

Comments: Iron ppm levels are marginal. Pentane Insolubles levels are abnormally high.

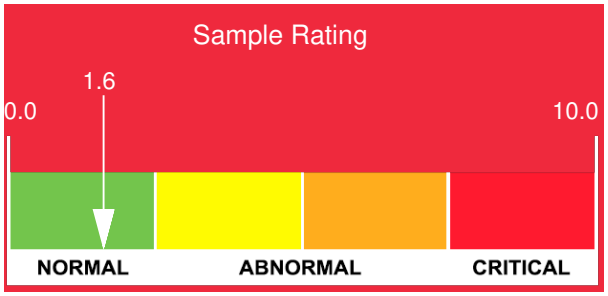
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
09/24/18	10/04/18	0m		392 / 200	331.4	29.2	0.18	0.396	689 / 365	786 / 419	883 / 473	1.98
05/02/16	05/13/16	18m		349 / 176	9.1	29.5	0.17	0.111	680 / 360	798 / 425	897 / 480	4.46
07/10/15	07/21/15	7m	DUPLEX FILTER EFFLNT	370 / 188	9.3	28.0	0.139	0.050	675 / 357	797 / 425	902 / 483	4.95
01/05/15	01/21/15	64m		406 / 208	8.5	28.6	0.149	0.040	680 / 360	800 / 427	903 / 484	4.29
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

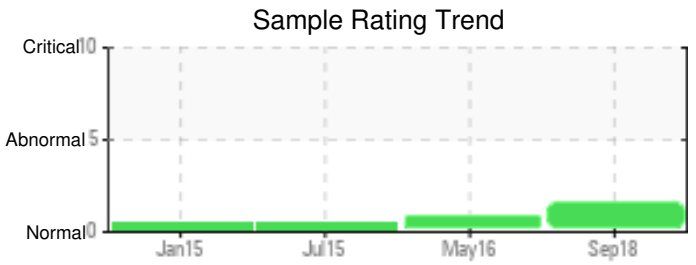






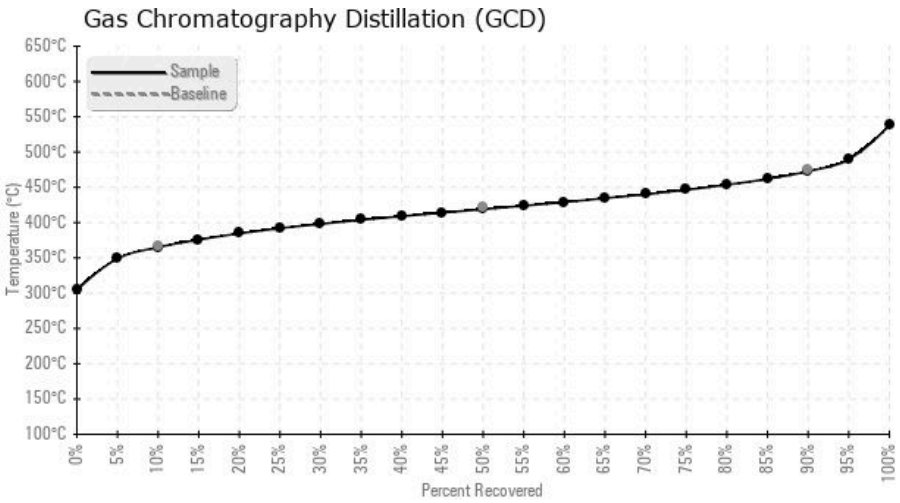
PETRO-CANADA LUBRICANTS

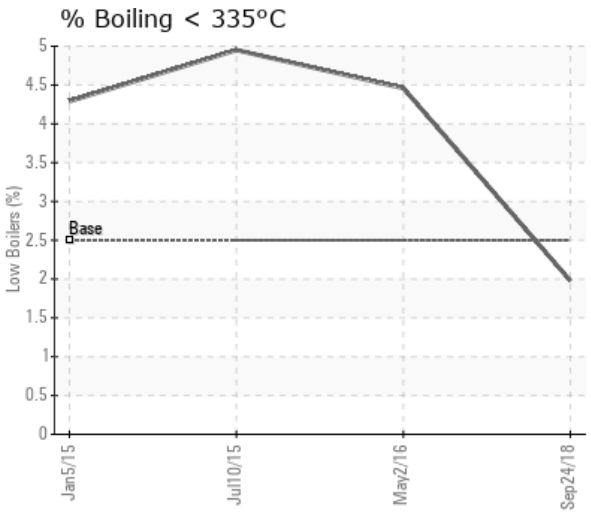




Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
09/24/18	110	0	0	0	1	0	0	0	0	0	0	11	0	0	0	0	1	0	0	0	0	0	125	2
05/02/16	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	96	0
07/10/15	2	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	91	0
01/05/15	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	213	0
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

05/02/16	Purge low boilers from the system. Higher levels of sludge are observed on the filter paper. Continue monitoring filtration and change filters and needed. COC Flash Point is abnormally low.
07/10/15	The flash point is slightly below and GCD <335°C is slightly higher than normal. Recommend venting off low boilers to get flash point above 224°C. COC Flash Point is marginally low.
01/05/15	Fluid suitable for continued use. Resample at normal interval.