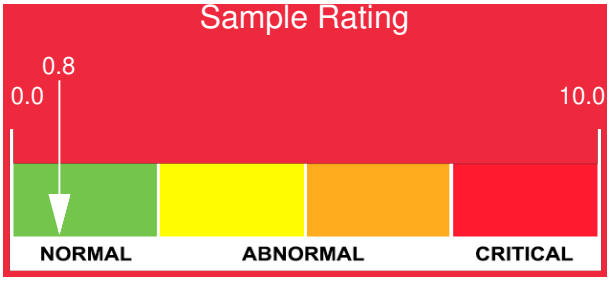
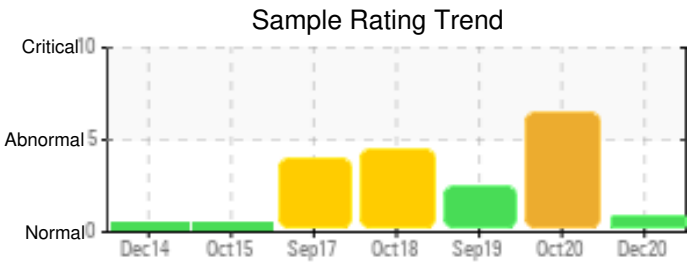




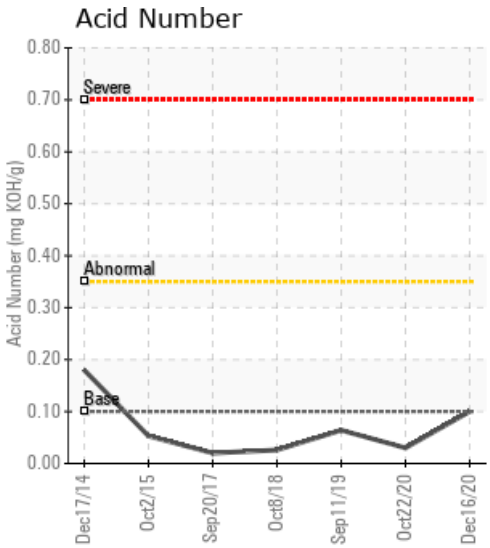
HOT OIL

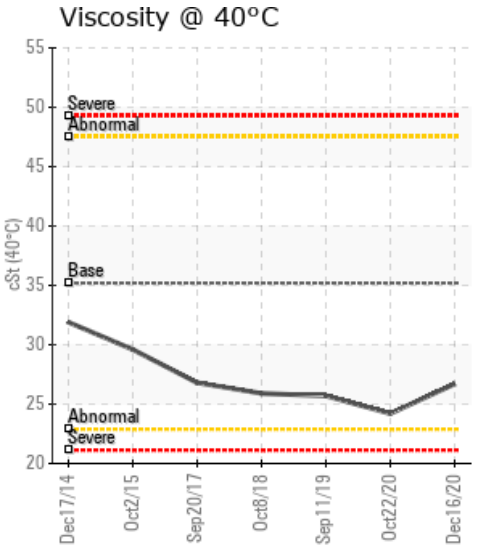
Customer: PTRHTF10002	System Information	Sample Information
EVONIK 3305 26th ST LOS ANGELES, CA USA Attn: Prakash Mehta Tel: (818)709-0492 E-Mail: purelubricants@earthlink.net	System Volume: 1500 gal Bulk Operating Temp: 600F / 316C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO HTF Make:	Lab No: 02396129 Analyst: Steven Slanker Sample Date: 12/16/20 Received Date: 01/07/21 Completed: 01/14/21 Steven Slanker steven.slanker@hollyfrontier.com

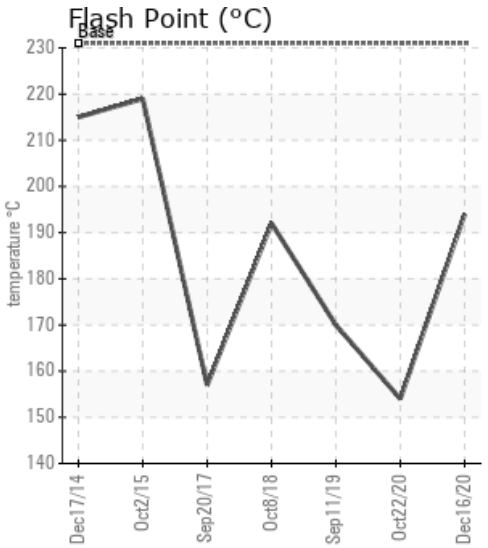
Recommendation:

Comments: COC Flash Point is marginally low. Recommend venting off low boilers.

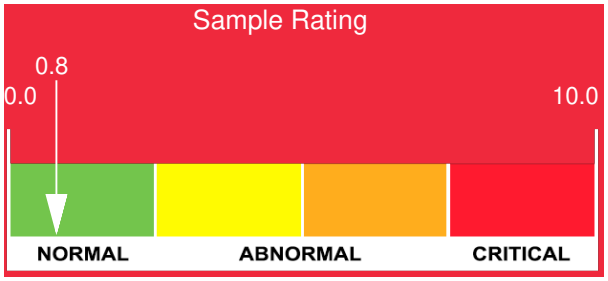
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/16/20	01/07/21	0.0y		381 / 194	23.7	26.7	0.10	0.054	685 / 363	805 / 430	912 / 489	5.84
10/22/20	10/29/20	1.0y		309 / 154	18.6	24.2	0.03	0.065	580 / 304	773 / 412	881 / 472	12.61
09/11/19	09/20/19	0.0y		338 / 170	18.8	25.7	0.064	0.048	683 / 362	799 / 426	888 / 476	5.39
10/08/18	10/29/18	0.0y		378 / 192	21.6	25.9	0.026	0.052	632 / 333	779 / 415	886 / 474	9.76
09/20/17	10/02/17	2.0y		315 / 157	593.8	26.8	0.02	0.109	687 / 364	805 / 430	936 / 502	4.97
Baseline Data				448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75

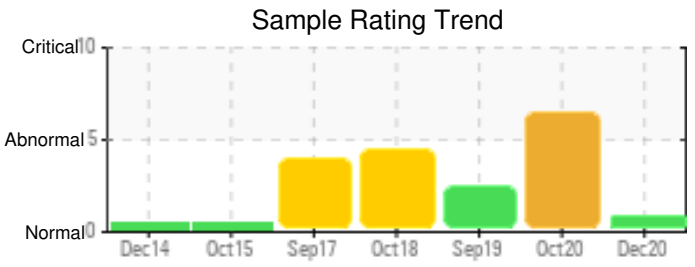






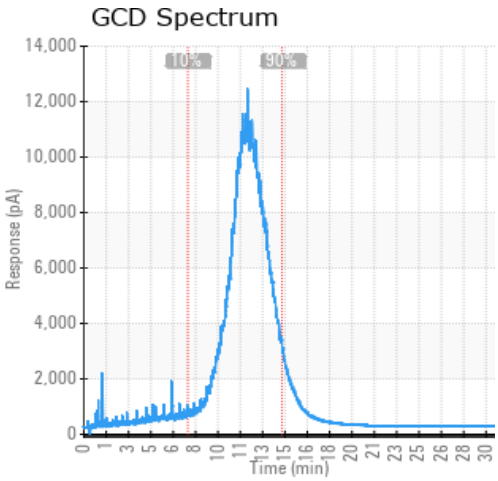
PETRO-CANADA LUBRICANTS

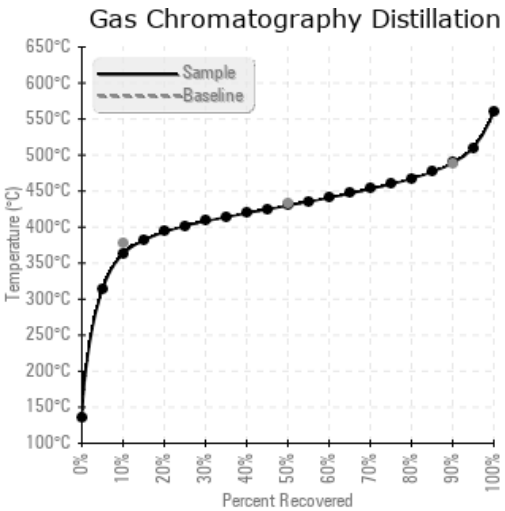


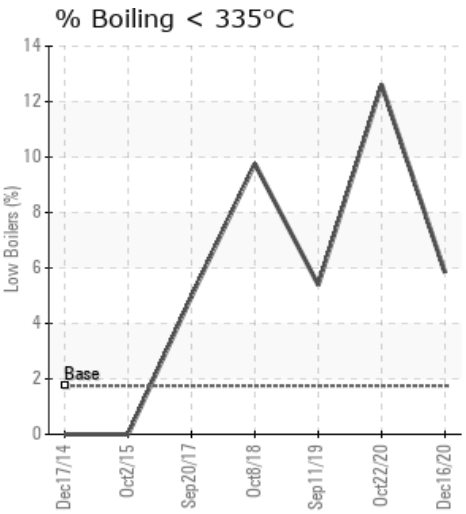


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
12/16/20	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
10/22/20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0
09/11/19	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0
10/08/18	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0
09/20/17	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0
Baseline Data			0	0						0			0	0				0	0				280	

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







Historical Comments

10/22/20	Distillation and flash points very low. Carefully vent off the low boilers and resample. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. (GCD) % < 335°C is abnormally high. (GCD) 90% Distillation Point is abnormally low.
09/11/19	The flash point is severely low. Vent the volatile components off to raise the COC flash point. Check the heater and determine if it is overheating the heat transfer fluid during the heating cycle. COC Flash Point is severely low. (GCD) 90% Distillation Point is marginally low.
10/08/18	High level of low boilers. Need to vent system and remove these before they become a major hazard. Review heater settings and determine if overheating is taking place during startups and heating cycles. (GCD) 10% Distillation Point is abnormally low. (GCD) % < 335°C is marginally high. COC Flash Point is marginally low. (GCD) 90% Distillation Point is marginally low.
09/20/17	The Flash Point is severely low and the water high. Vent the tank to remove the low boilers. Replace part of the fluid if venting does not raise the flash point enough. Water contamination levels are marginally high. Water contamination levels are marginally high.. ppm Water contamination levels are marginally high. COC Flash Point is severely low. (GCD) 90% Distillation Point is marginally high.