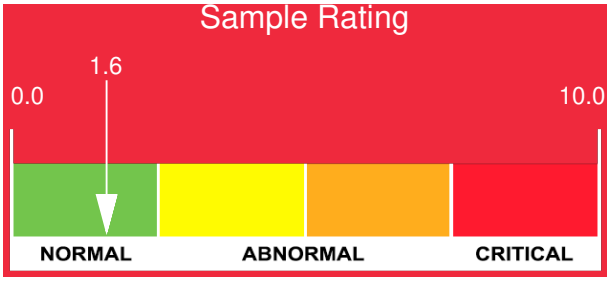
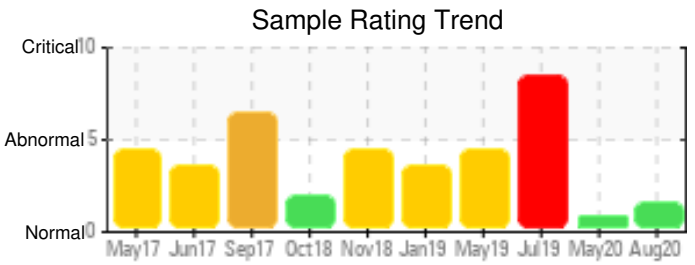




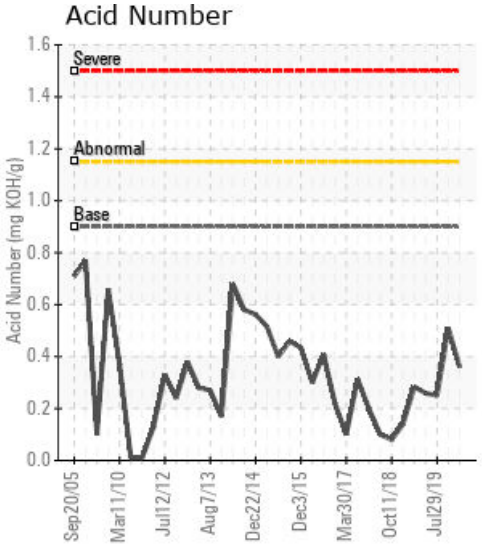
[VIT E 116] EAST

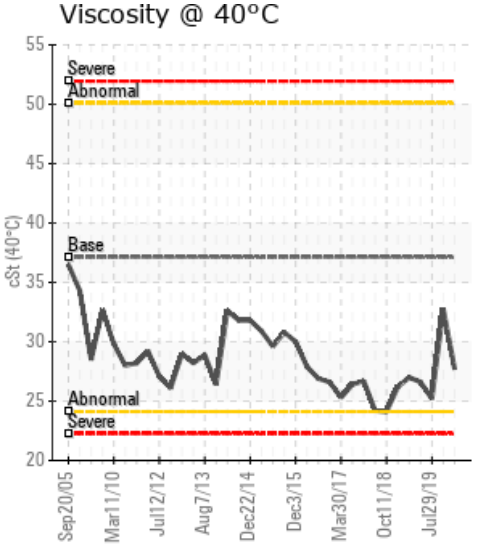
Customer: PTRHTF10004	System Information	Sample Information
ADM VITAMIN E PLANT 3700 EAST DIVISION STREET DECATUR, IL 62526 USA Attn: Rick Cluck Tel: (217)451-7770 E-Mail: ricky.cluck@adm.com	System Volume: 2200 gal Bulk Operating Temp: 550F / 288C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: AMERICAN HEATING	Lab No: 02374016 Analyst: Joe Goecke Sample Date: 08/25/20 Received Date: 09/03/20 Completed: 09/08/20 Joe Goecke Joe.goecke@petrocanadalsp.com

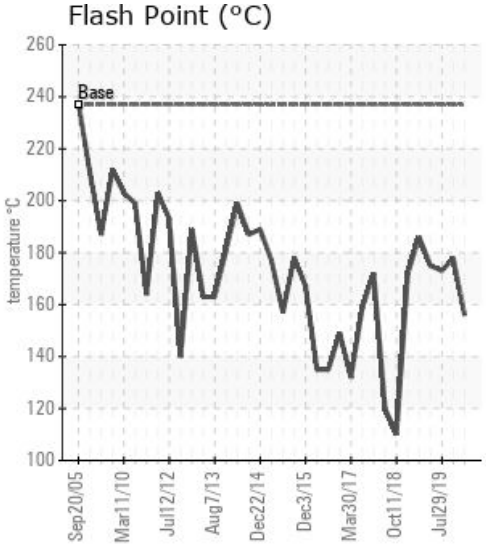
Recommendation: All major items point to a build up of low boilers. Viscosity dropped 5 cst, flash point dropped 20 deg C, and the GCD <335 increased 3.5%. All other parameters look good. Continue to run until next sample and plan for a possible change at winter shut down.

Comments: COC Flash Point is severely low.

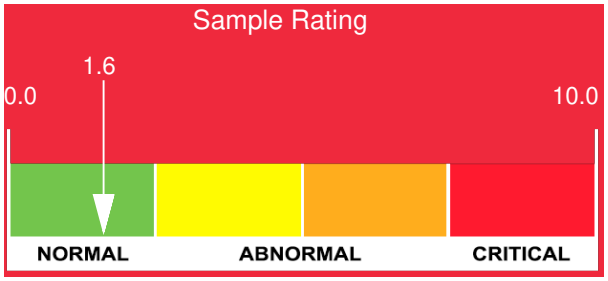
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/25/20	09/03/20	0m	FILTER	313 / 156	19.2	27.7	0.36	0.032	667 / 353	803 / 428	909 / 487	7.07
05/08/20	05/13/20	0m		352 / 178	22.4	32.8	0.51	0.040	707 / 375	810 / 432	910 / 488	3.52
07/29/19	08/08/19	0m	HOT OIL PUMP	343 / 173	12.5	25.2	0.250	0.087	463 / 240	754 / 401	872 / 467	19.51
05/29/19	06/05/19	0m		347 / 175	20.5	26.6	0.259	0.062	657 / 347	796 / 425	909 / 487	7.91
01/30/19	02/08/19	0m		367 / 186	8.4	27.0	0.283	0.020	641 / 339	778 / 415	888 / 475	8.94
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5

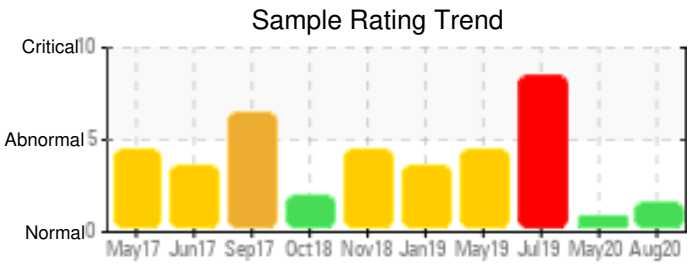






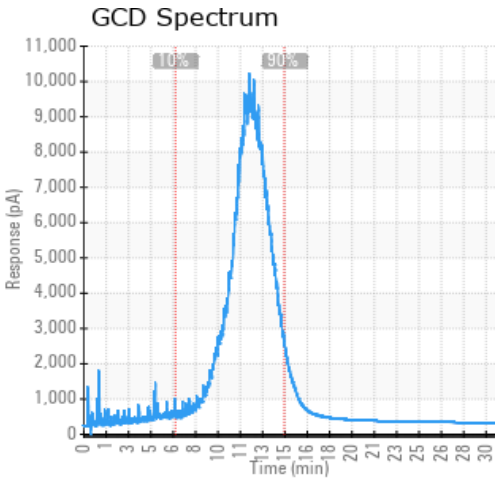
PETRO-CANADA LUBRICANTS

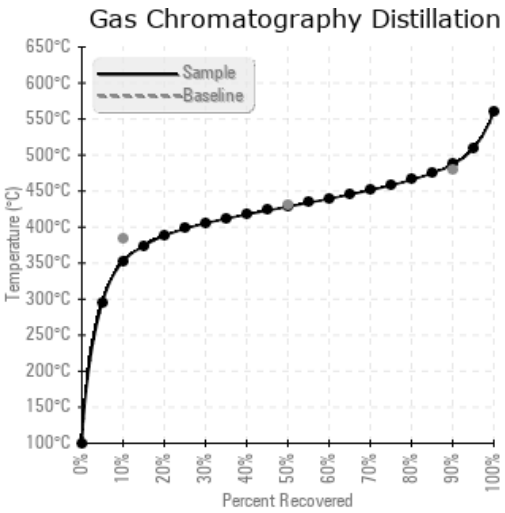


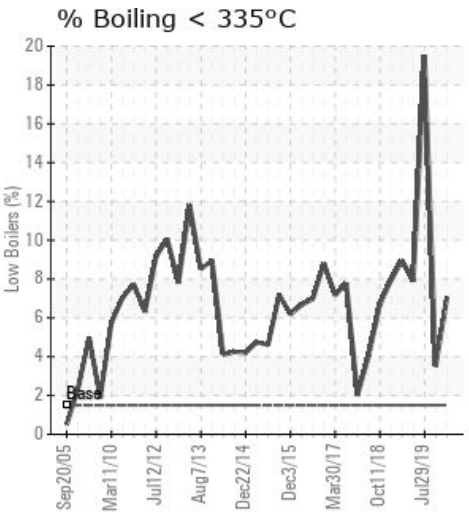


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
08/25/20	20	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	17	0
05/08/20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0
07/29/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
05/29/19	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0
01/30/19	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	2
Baseline Data			0	0						0			0	0				0	0				230	

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







Historical Comments

05/08/20	All parameters are in good shape. Flash point is a little low but okay. continue to use and resample in 90 days. COC Flash Point is abnormally low.
07/29/19	Low Boilers are very high at almost 20%. Flash point not much change or viscosity. Please consider a system change in the next 30-60 days with a resample. (GCD) % < 335°C is severely high. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. (GCD) 90% Distillation Point is marginally low.
05/29/19	Low boilers approaching 8% with viscosity and flash points both slightly lower the system is showing some signs of these building up in the system. System is okay for continued use resample in 60-90 days. COC Flash Point is severely low. (GCD) % < 335°C is marginally high. (GCD) 10% Distillation Point is marginally low.
01/30/19	This sample looks better than the last. Light ends are fairly stable, flash point 10 degrees higher, and viscosity slightly higher. Overall fluid looks okay for continued use. Resample at next scheduled interval. COC Flash Point is abnormally low. (GCD) 10% Distillation Point is abnormally low. (GCD) % < 335°C is marginally high.

