

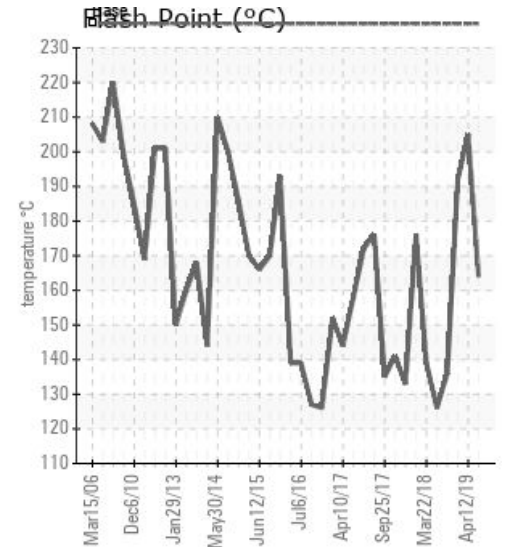
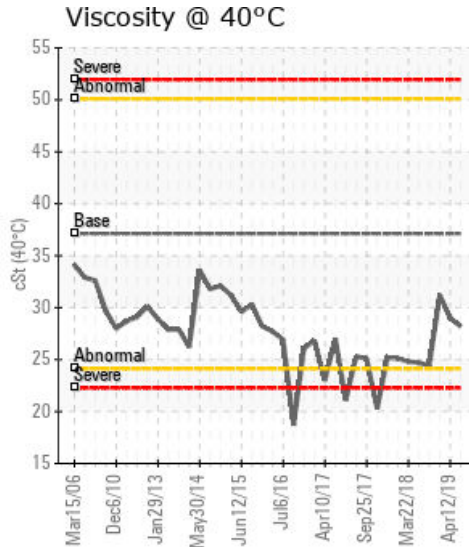
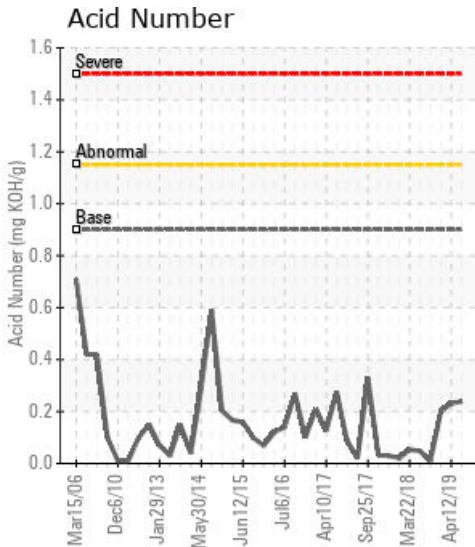
## WEST HOT OIL SYSTEM

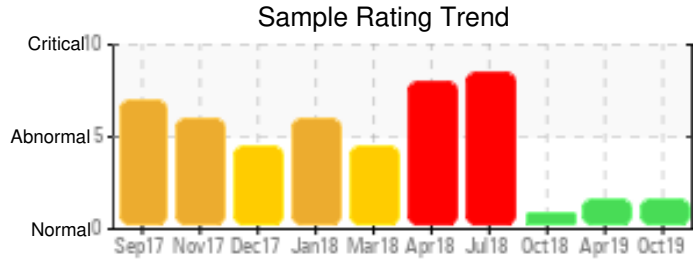
Customer: PTRHTF10004	System Information	Sample Information
ADM VITAMIN E PLANT 3700 EAST DIVISION STREET DECATUR, IL 62526 USA Attn: Rick Cluck Tel: (217)451-7770 E-Mail: ricky.cluck@adm.com	System Volume: 2200 gal Bulk Operating Temp: 550F / 288C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: AMERICAN	Lab No: 02314616 Analyst: Joe Goecke Sample Date: 10/09/19 Received Date: 10/16/19 Completed: 10/24/19

Recommendation: Flash point has dropped to a cautious level and low boilers are at 6%. Continue to monitor and resample at next interval. Increase of low boilers was slight.

Comments: COC Flash Point is severely low.

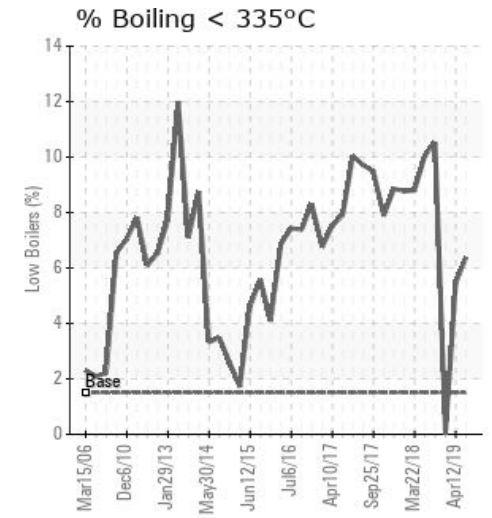
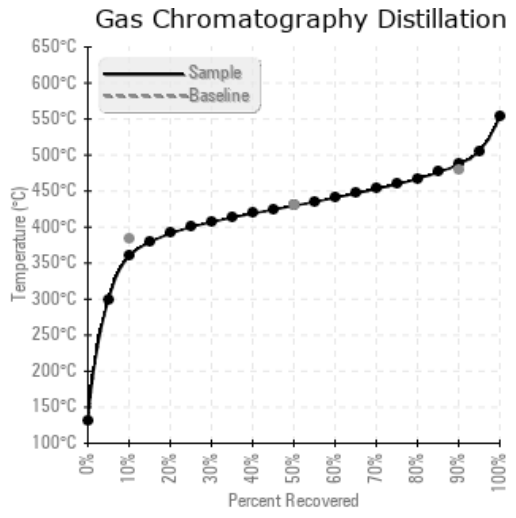
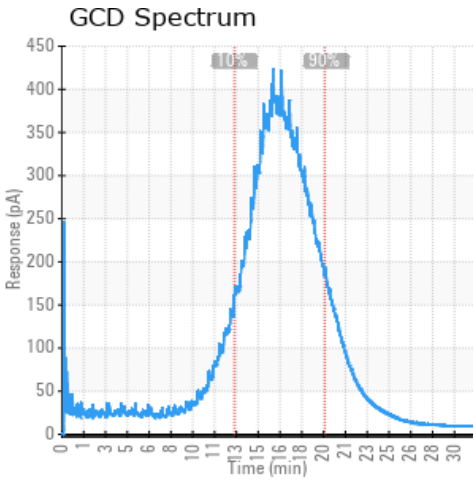
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
10/09/19	10/16/19	1y		327 / 164	7.7	28.2	0.239	0.131	680 / 360	805 / 430	909 / 487	6.38
04/12/19	04/22/19	0y	PUMP	401 / 205	6.1	29.0	0.231	0.038	685 / 363	804 / 429	921 / 494	5.45
10/11/18	10/18/18	0y		378 / 192	11.9	31.2	0.20	0.039	719 / 382	795 / 424	894 / 479	0.00
07/31/18	08/08/18	0y	B24 HOT OIL PUMP	277 / 136	2.2	24.4	0.01	0.075	621 / 327	796 / 425	913 / 489	10.52
04/26/18	05/04/18	0y		259 / 126	0.00	24.7	0.048	0.050	628 / 331	798 / 426	912 / 489	10.05
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5





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
10/09/19	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0
04/12/19	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0
10/11/18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0
07/31/18	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0
04/26/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0
Baseline Data			0	0						0			0	0					0				230	

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



Historical Comments	
04/12/19	This sample looks great. Minimal change from new oil. Flash point and low boilers acceptable. Continue to use and resample at next scheduled interval (GCD) 90% Distillation Point is abnormally high. COC Flash Point is marginally low.
10/11/18	Sample looks very good. continue to use and resample in 90 days. All key parameters close to normal. COC Flash Point is abnormally low.
07/31/18	Low boilers continue to rise over 10.5% and flash point is low at 136 C. The viscosity has dropped a slight amount and the 10% Distillation point has dropped to very low temp. Oil should be scheduled for a change within the next 60-90 days. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. (GCD) % < 335°C is marginally high. (GCD) 90% Distillation Point is marginally high.
04/26/18	Flash point continues to drop into a very low level. Low boilers have crossed the 10% level. The system should be changed in the 60-90 days. Viscosity remains low as well. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. (GCD) % < 335°C is marginally high. (GCD) 90% Distillation Point is marginally high.

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