

## WEST HOT OIL SYSTEM

**Customer: PTRHTF10004**  
 ADM VITAMIN E PLANT  
 3700 EAST DIVISION STREET  
 DECATUR, IL 62526 USA  
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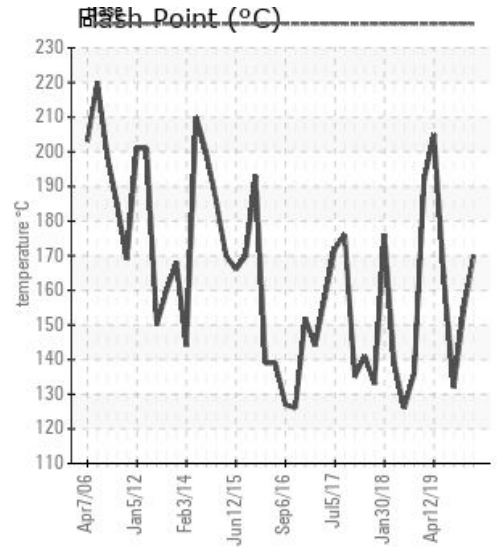
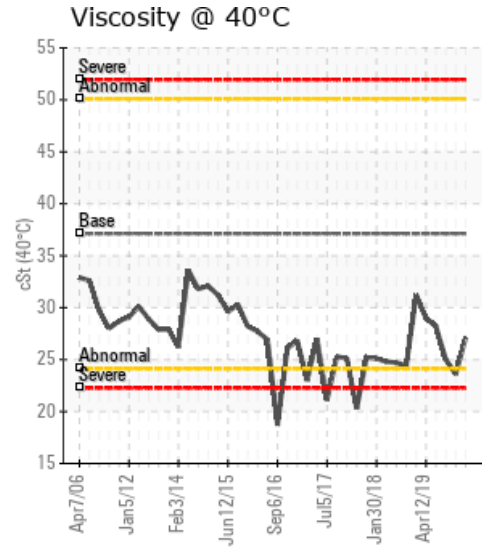
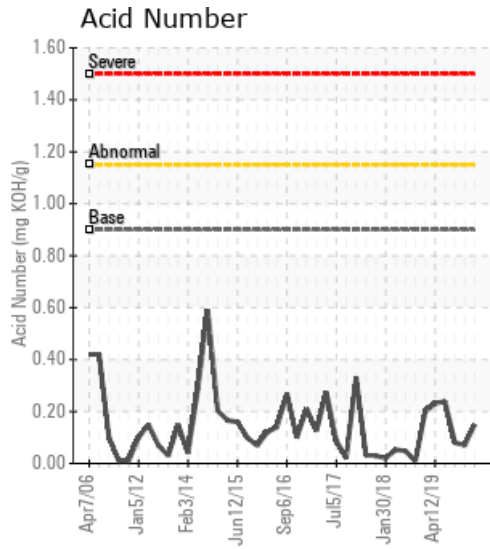
**System Information**  
 System Volume: 2200 gal  
 Bulk Operating Temp: 550F / 288C  
 Heating Source:  
 Blanket:  
 Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID  
 Make: AMERICAN

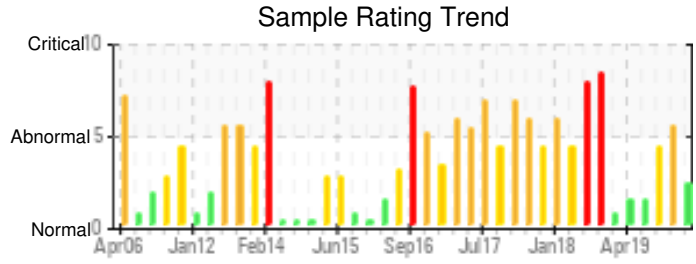
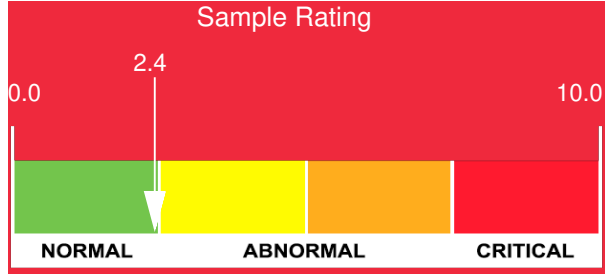
**Sample Information**  
 Lab No: 02391630  
 Analyst: Joe Goecke  
 Sample Date: 11/25/20  
 Received Date: 12/08/20  
 Completed: 12/11/20  
 Joe Goecke  
 Joe.goecke@petrocanadalsp.com

Recommendation: All indicators are better than previous sample. Viscosity is up, Flash point is up and low boilers are down. Continue to use and resample at next scheduled interval.

Comments: COC Flash Point is severely low. (GCD) 90% Distillation Point is marginally high.

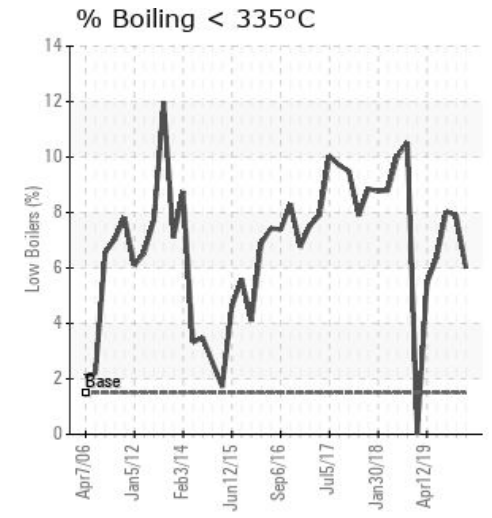
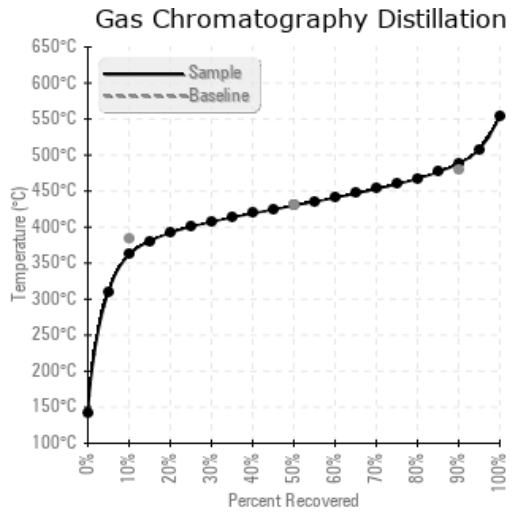
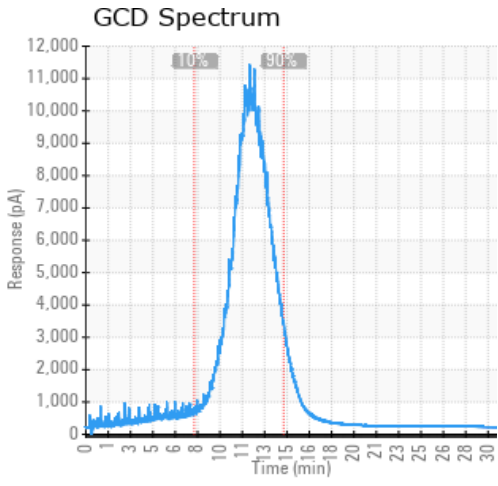
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
11/25/20	12/08/20	0y	Pump	338 / 170	9.1	27.1	0.15	0.107	683 / 362	805 / 430	911 / 488	6.00
08/25/20	09/03/20	0y	24B	309 / 154	11.9	23.6	0.07	0.042	662 / 350	805 / 430	912 / 489	7.90
05/08/20	05/13/20	0y		270 / 132	14.5	25.0	0.08	0.036	659 / 348	801 / 427	909 / 487	8.04
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
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	
11/25/20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	
08/25/20	14	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	12	0
05/08/20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0
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	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	0	18	0
Baseline Data			0	0						0			0	0				0	0					230	

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



Historical Comments	
08/25/20	Viscosity a bit lower, flash point actually a bit higher but still in the danger area. low boilers decreased a bit as well. system seems stable and okay to run to next sample date. COC Flash Point is severely low. Visc @ 40°C is abnormally low. (GCD) % < 335°C is marginally high. (GCD) 90% Distillation Point is marginally high. (GCD) 10% Distillation Point is marginally low.
05/08/20	Viscous and flash point have dropped since last sample and are approaching a level of concern. Low boilers are up 2% and need to be monitored closer. continue to use but resample in 60 days. COC Flash Point is severely low. (GCD) % < 335°C is marginally high. (GCD) 10% Distillation Point is marginally low.
10/09/19	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. COC Flash Point is severely low.
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.

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