

HOT OIL HEATER #1

Customer: PTRHTF10070
 CERTAINTEED - SAINT GOBAIN
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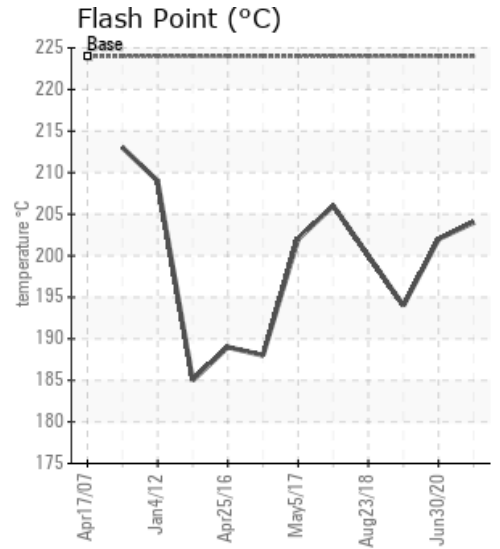
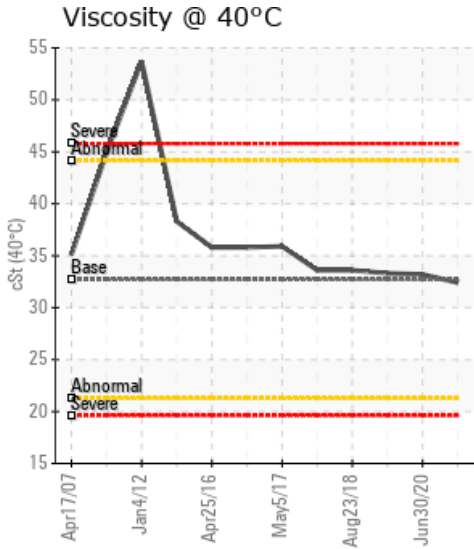
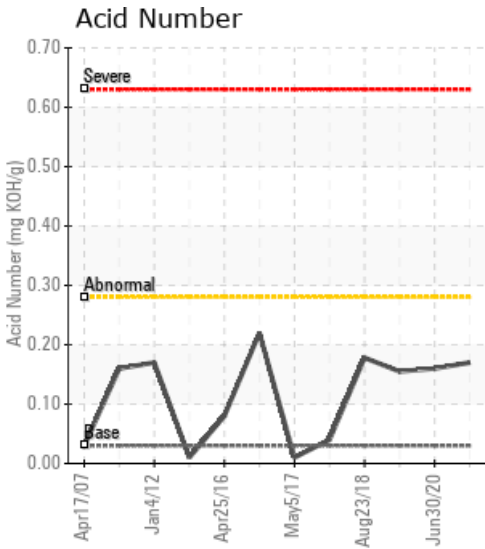
System Information
 System Volume: 600 ltr
 Bulk Operating Temp: 525F / 274C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA CALFLO AF
 Make:

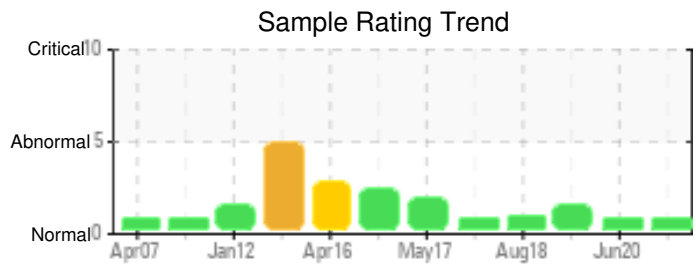
Sample Information
 Lab No: 02472199
 Analyst: Ron LeBlanc
 Sample Date: 01/27/22
 Received Date: 02/15/22
 Completed: 02/25/22
 Ron LeBlanc
 Ronald.LeBlancSr@hollyfrontier.com

Recommendation: The GCD 90% point is abnormally high. This indicates components boiling above the final boiling point of the fresh fluid that can result in sludge and fowling to the heat exchanger.

Comments: (GCD) 90% Distillation Point is abnormally high.

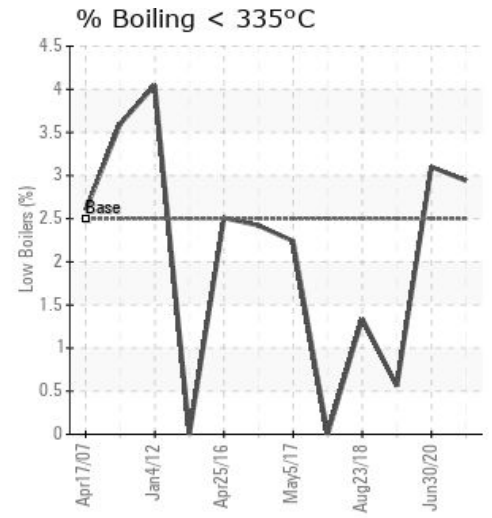
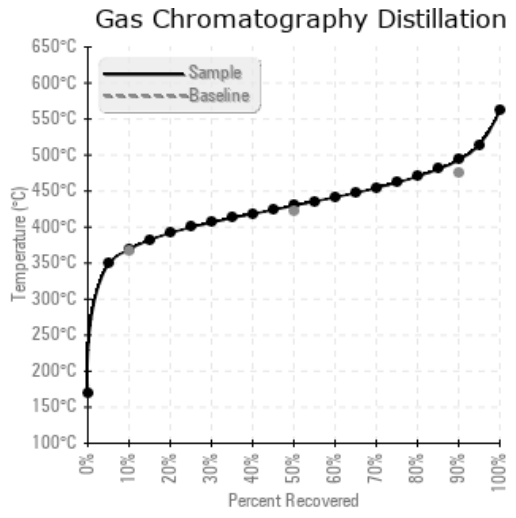
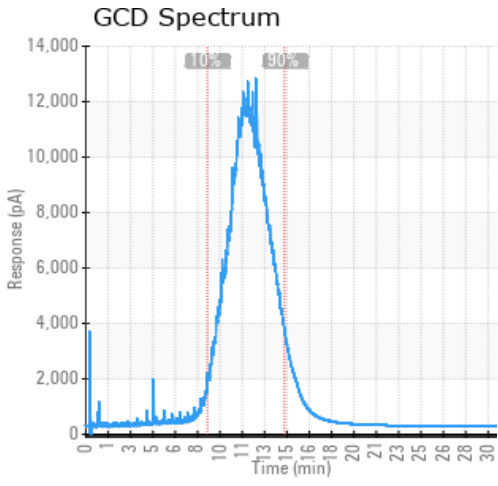
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/27/22	02/15/22	12.0m		399 / 204	10.6	32.4	0.17	0.222	697 / 369	805 / 430	919 / 493	2.94
06/30/20	07/22/20	0.0m		396 / 202	11.6	33.2	0.16	0.116	692 / 367	801 / 427	920 / 494	3.10
05/28/19	06/10/19	0.0m		381 / 194	12.9	33.3	0.155	0.335	701 / 372	803 / 428	918 / 492	0.56
08/23/18	08/31/18	0.0m	PORT ON HEATER	392 / 200	10.7	33.6	0.178	0.311	702 / 372	808 / 431	922 / 494	1.34
06/24/18	07/12/18	0.0m	SAMPLE PORT	403 / 206	10.6	33.6	0.04	0.307	691 / 366	770 / 410	861 / 461	0.00
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5





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	
01/27/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	
06/30/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0
05/28/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0
08/23/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
06/24/18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0
Baseline Data			0	0						0			0	0					0					270	

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



Historical Comments	
06/30/20	Virtually no change to the oil since the last sample. Flash point remains strong, no moisture or asphalt contamination. No action needed at this time. Keep up the sampling program and normal PMs around the system components. (GCD) 90% Distillation Point is abnormally high.
05/28/19	Resample in 1 month. Purge sample line before collecting oil. (GCD) 90% Distillation Point is abnormally high. COC Flash Point is marginally low.
08/23/18	The oil is in excellent condition as all properties are within normal limits. Resample in 1 year. (GCD) 90% Distillation Point is abnormally high.
06/24/18	Pentane insoluble are elevated along with (GCD) 90% Distillation Point. Suggest purging oil from sample point and resample to confirm. (GCD) 90% Distillation Point is marginally low.

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