

FULTON HOT OIL HEATER

Customer: PTRHTF10039
 Piedmont Chemical Industries
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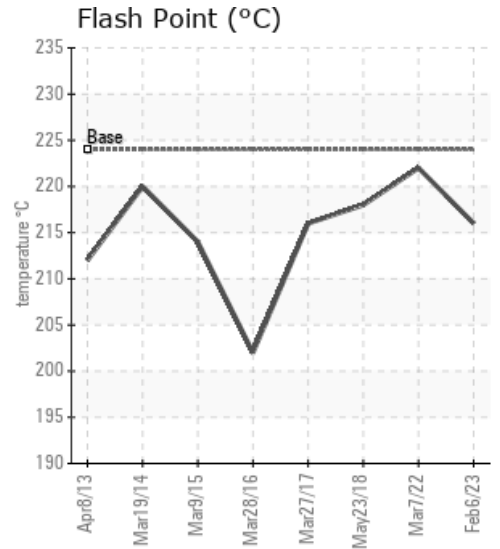
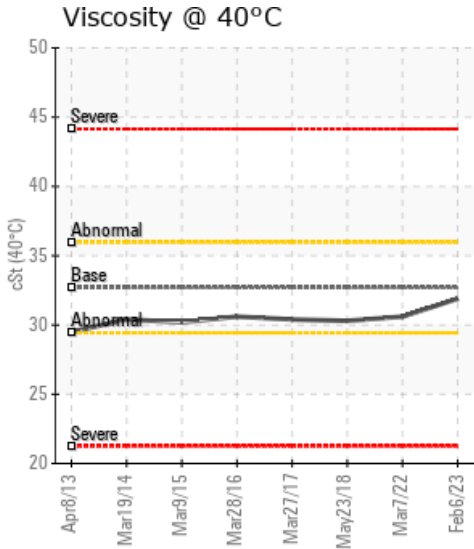
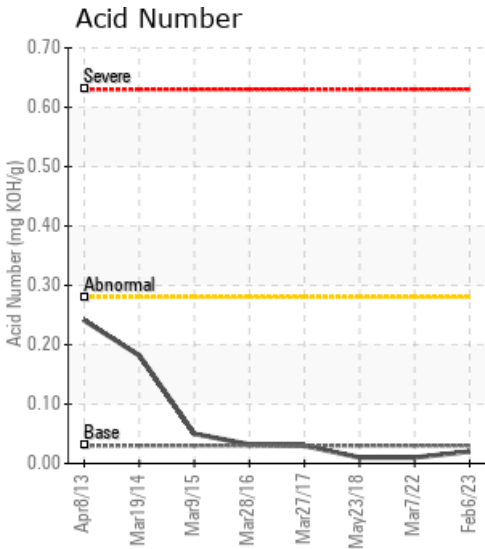
System Information
 System Volume: 750 gal
 Bulk Operating Temp: 536F / 280C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA CALFLO AF
 Make: FULTON

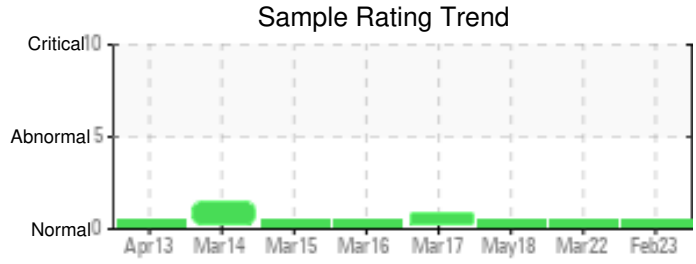
Sample Information
 Lab No: 02539374
 Analyst: Manny Garcia
 Sample Date: 02/06/23
 Received Date: 02/14/23
 Completed: 02/17/23
 Manny Garcia
 manuel.garcia@HFSinclair.com

Recommendation: Excellent Used Oil Analysis Results - Please re-submit sample in February 2024.

Comments: Suitable for Continued Use.

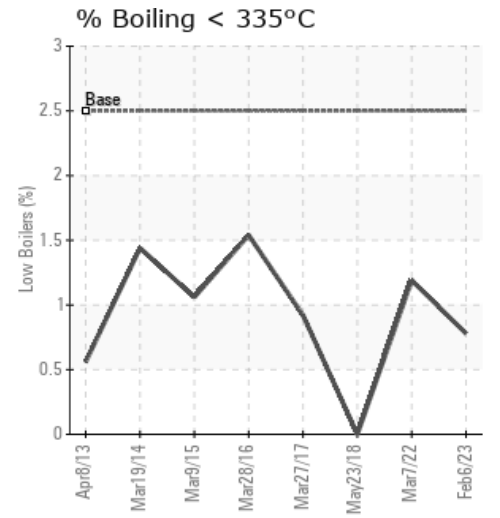
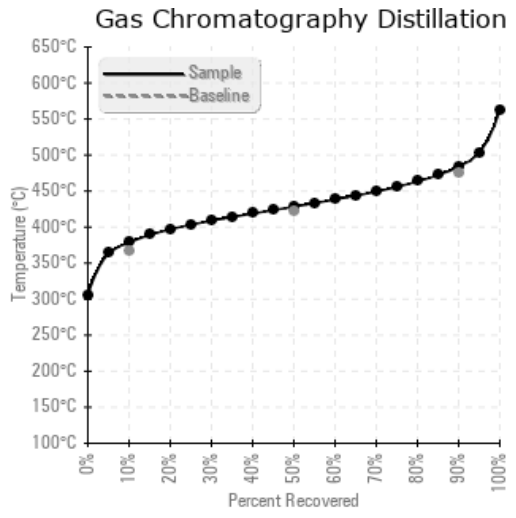
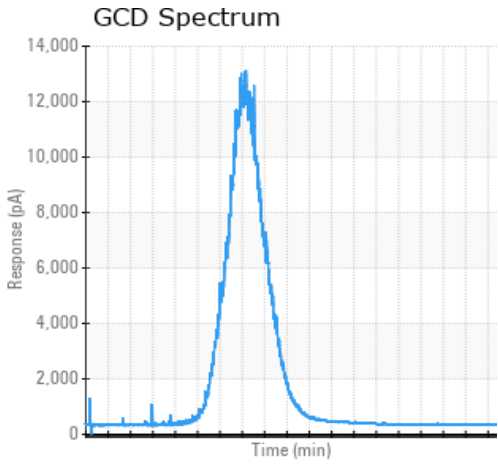
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
02/06/23	02/14/23	15.0y	PUMP	421 / 216	0.00	31.9	0.02	0.066	713 / 379	803 / 428	903 / 484	0.78
03/07/22	03/17/22	11.0y		432 / 222	7.6	30.6	0.01	0.012	704 / 373	798 / 425	896 / 480	1.19
05/23/18	06/05/18	6.0y		424 / 218	9.8	30.3	0.01	0.033	716 / 380	793 / 423	891 / 477	0.00
03/27/17	03/30/17	5.0y	MAIN CIRC PUMP	421 / 216	4.0	30.4	0.03	0.156	708 / 375	808 / 431	920 / 493	0.92
03/28/16	04/01/16	4.0y	AT MAIN CIRC. PUMP	396 / 202	0.00	30.6	0.032	0.033	694 / 368	795 / 424	893 / 479	1.54
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		
02/06/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	0		
03/07/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	0	
05/23/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	0	
03/27/17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	0
03/28/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	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	
03/07/22	Fluid Sample is Satisfactory and suitable for continued use. Please schedule the next sample for March 2023. Viscosity of the oil is perfect, contamination low and the distillation points in check. Very light debris noticed in the sample of fluid and changing system filters (if any) is recommended and potentially cleaning the fluid with an on-line oil filtration system (kidney loop)
05/23/18	Oil is suitable for continued use. Please re-submit the next sample during May 2019
03/27/17	Mitigation of the high 90% distillation point can be done by 'venting' the system. Please submit any new samples into the lab for verification of maintenance performed. Otherwise, submit annual sample to the lab as recommended. Wear Metals are low; Contaminant Levels are Low; Water contamination is satisfactory; Viscosity is acceptable; COC Flash Point is good; (GCD) 90% Distillation Point is abnormally high. Pentane insoluble are low; Very light white metal & debris noticed in sample visually;
03/28/16	Sample is in acceptable condition and suitable for continued use. Please re-submit sample during next scheduled interval. Wear metals low; contaminant levels low; additive levels good; water is low; Acid numbers are low; Flash Point is good; distillation curves are low; Pentane solids low; very light debris seen visually

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