

## [STORM/CNRL FIREWEED / A-5-J194-A-13] E-4040 STAB HEATER

**Customer: PTRHTF20046**  
 QUADRA CHEMICALS  
 12925 146TH STREET  
 EDMONTON, AB T5L 2H6 CANADA  
 Attn: Quadra Samples  
 Tel:  
 E-Mail: quadra\_samples@quadra.ca

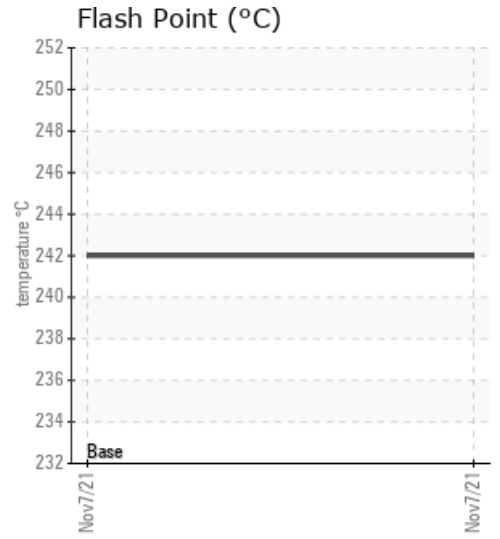
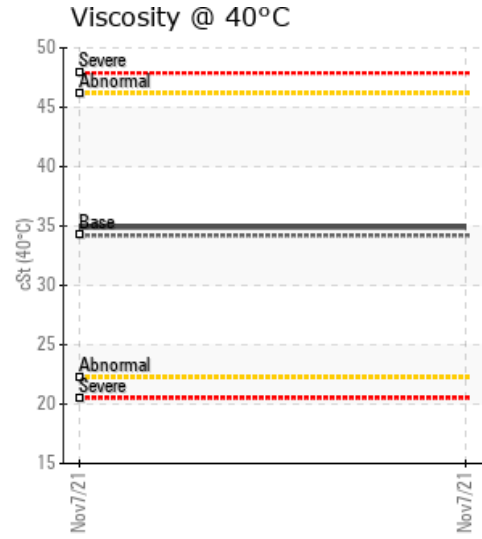
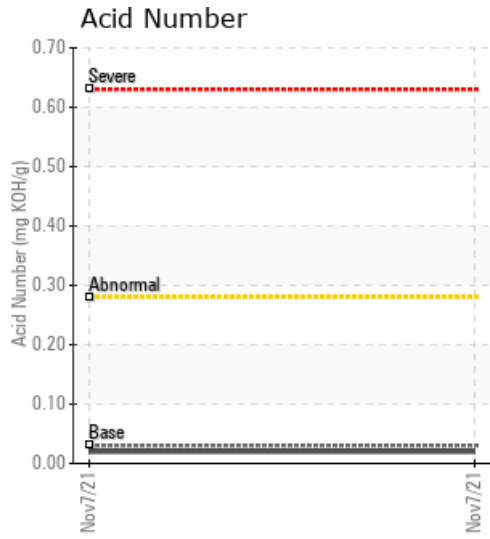
**System Information**  
 System Volume: 28000 ltr  
 Bulk Operating Temp: Not Specified  
 Heating Source:  
 Blanket:  
 Fluid: PETRO CANADA PETRO-THERM  
 Make: ALCO

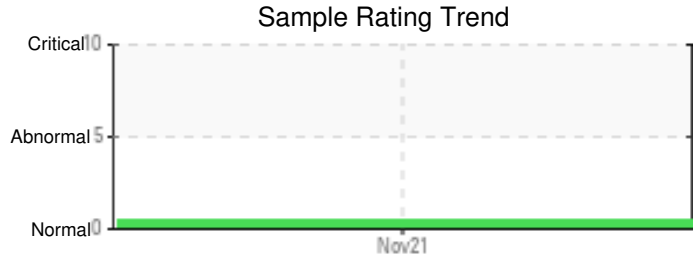
**Sample Information**  
 Lab No: 02476629  
 Analyst: Clinton Buhler  
 Sample Date: 11/07/21  
 Received Date: 03/10/22  
 Completed: 03/14/22  
 Clinton Buhler  
 Clinton.Buhler@hollyfrontier.com

Recommendation: This appears to be the initial sample taken from the system after start-up. Sample results indicate the fluid is in suitable condition for continued service. Please re-sample in 6 months.

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

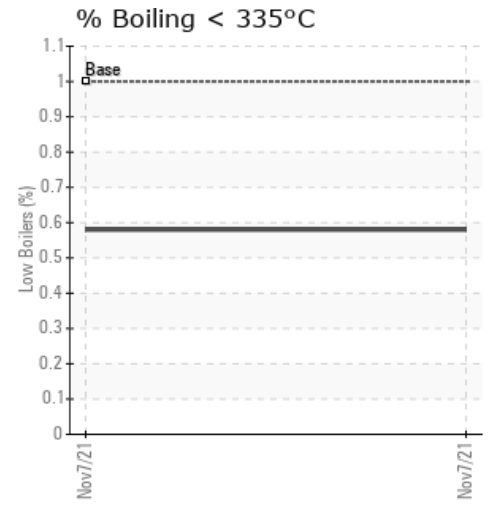
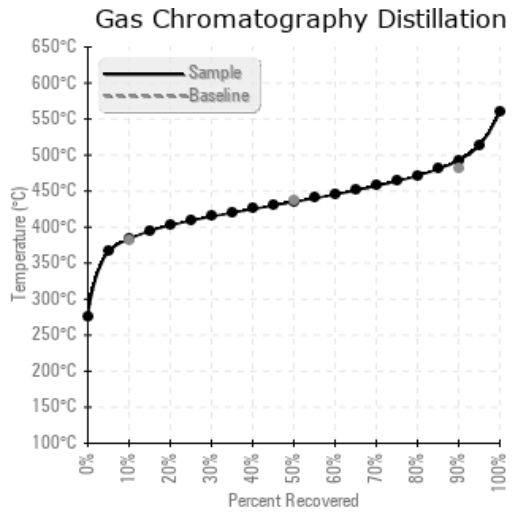
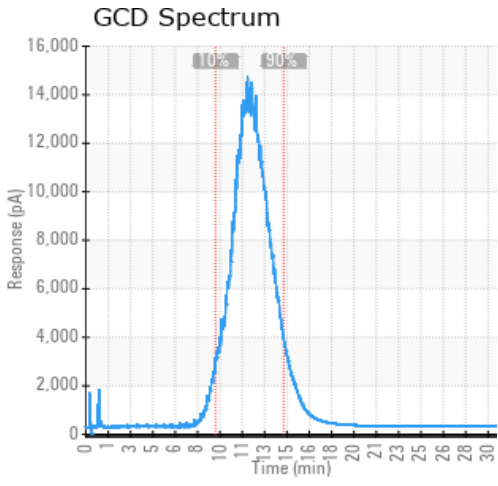
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
11/07/21	03/10/22	67.0h		468 / 242	13.3	34.9	0.02	0.067	722 / 383	815 / 435	919 / 493	0.58
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00





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
11/07/21	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Baseline Data			0	0						0			0	0					0				0	

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



### Historical Comments


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