

[15-36-44-15W5] H-5500-1

Customer: PTRHTF60081
 Tourmaline
 15-36-44-15W5
 Rocky Mountain House, AB CA
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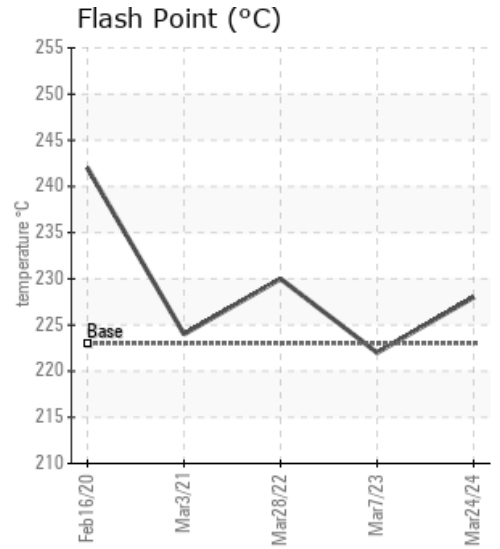
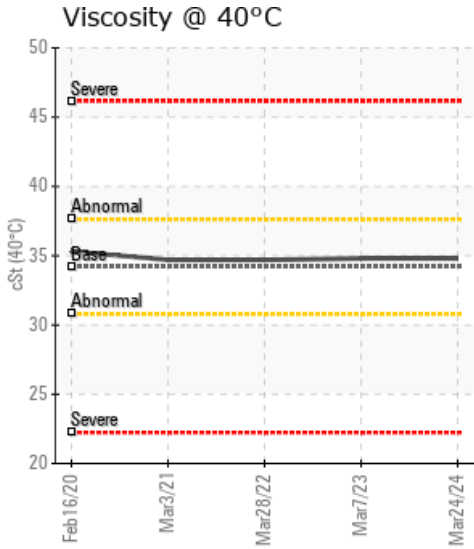
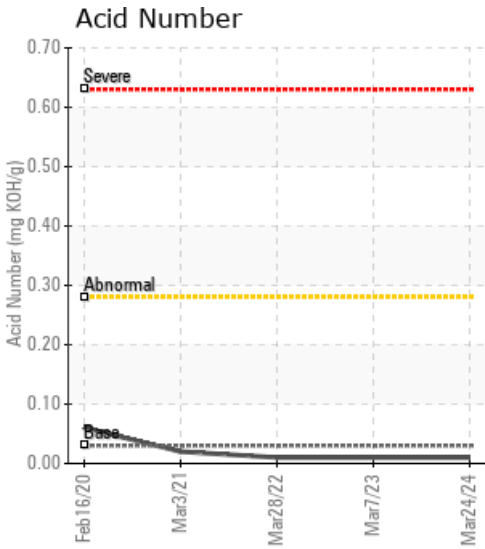
System Information
 System Volume: 26500 ltr
 Bulk Operating Temp: 410F / 210C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA PETRO-THERM
 Make: PETRO-TECH

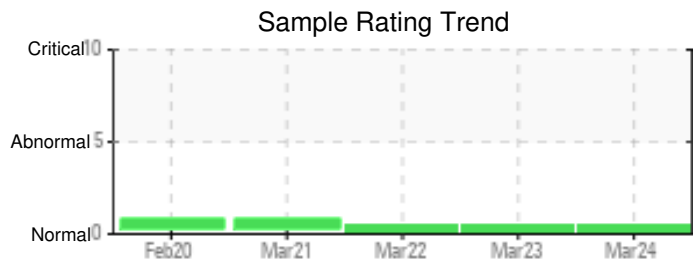
Sample Information
 Lab No: 02632952
 Analyst: Lyle Dach
 Sample Date: 03/24/24
 Received Date: 05/02/24
 Completed: 05/13/24
 Lyle Dach
 lyle.dach@HFSinclair.com

Recommendation: Sample results indicate that the fluid is in very good condition and is suitable for continued service. Resample in 12 months.

Comments:

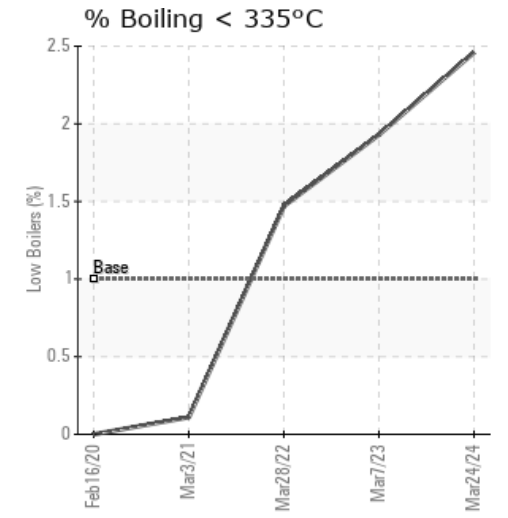
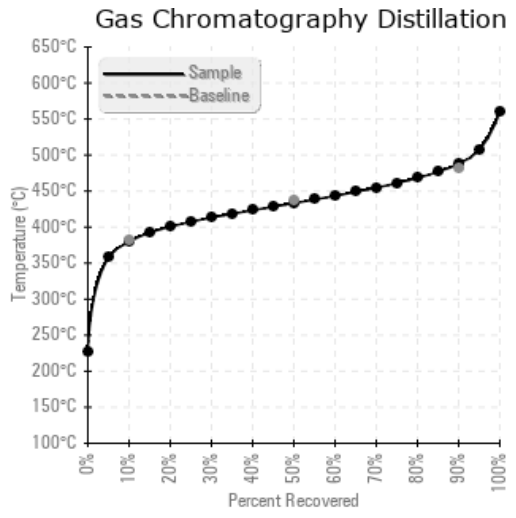
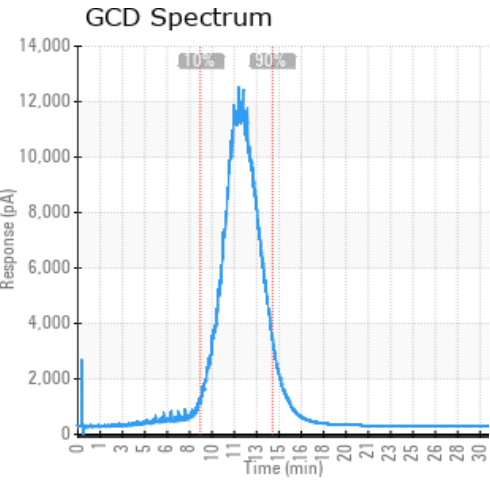
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/24/24	05/02/24	0.0y	BEFORE	442 / 228	9	34.8	0.01	0.037	716 / 380	812 / 433	910 / 488	2.46
03/07/23	03/31/23	0.0y		432 / 222	14.2	34.8	0.01	0.026	719 / 382	812 / 434	909 / 487	1.93
03/28/22	06/02/22	0.0y	pump discharge	446 / 230	4.6	34.7	0.01	0.053	723 / 384	814 / 434	911 / 489	1.47
03/03/21	03/22/21	5.0y	differential flange	435 / 224	17.6	34.7	0.02	0.034	722 / 383	813 / 434	931 / 500	0.11
02/16/20	03/23/20	5.0y	RETURN LINE	468 / 242	6.9	35.3	0.060	0.072	747 / 397	822 / 439	924 / 495	0.00
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
03/24/24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/07/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/28/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/03/21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02/16/20	0	0	0	0	0	0	0	0	0	0	0	0	0	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	
03/07/23	Sample results indicate that the fluid is in suitable condition for continued service. Resample in 12 months.
03/28/22	Sample results indicate that the fluid is in very good condition and is suitable for continued service. Resample in 12 months.
03/03/21	Fluid remains in very good condition. Suggest submitting samples annually to proactively monitor fluid condition. (GCD) 90% Distillation Point is slightly elevated.
02/16/20	Distillation (GCD) at 90% is marginally high indicating the presence of some heavier ends. Otherwise fluid looks to be in good shape. With no history we cannot do trend analysis. Resample in 6 months. Verify that the temperatures and volumes on all 3 systems are the same as reported. (GCD) 90% Distillation Point is marginally high.

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