

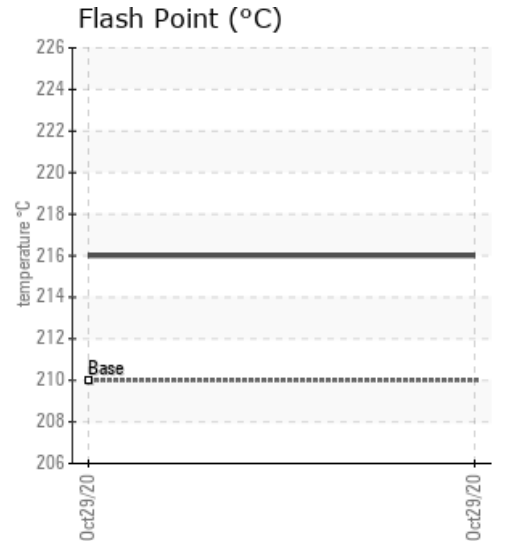
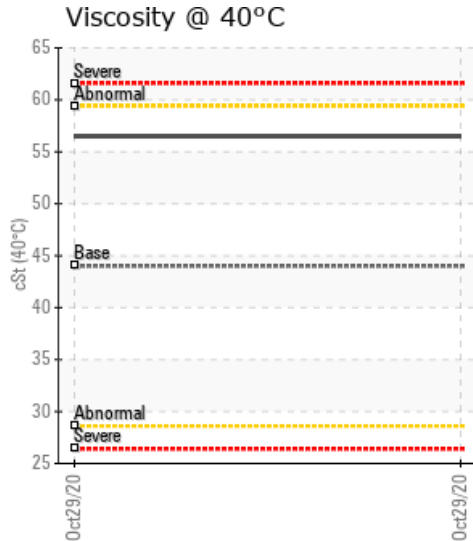
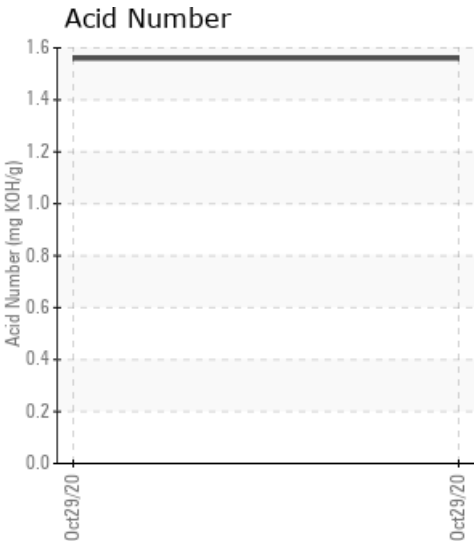
[SHAMROCK PLANT 1] HEAT TRANSFER SYSTEM

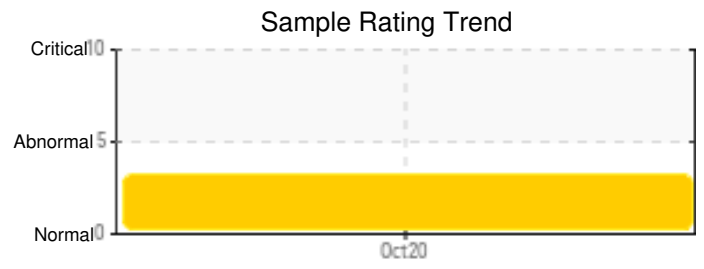
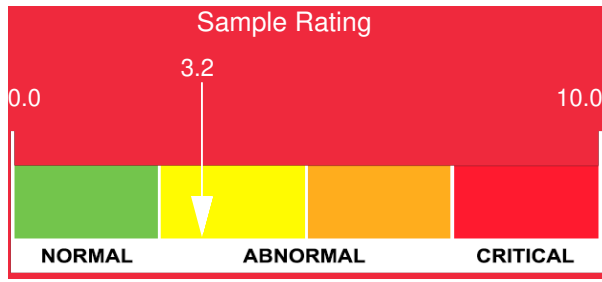
Customer: PTRHTF10239	System Information	Sample Information
Central Washington Asphalt 53847 Walla Walla River Rd Milton-Freewater, OR 97862 USA Attn: Ron Jones Tel: (541)938-5205 E-Mail: ron@cwainc.us	System Volume: 220 gal Bulk Operating Temp: Not Specified Heating Source: Blanket: Fluid: VALVOLINE R&O HYDRAULIC OIL 46 Make:	Lab No: 02388211 Analyst: Ron LeBlanc Sample Date: 10/29/20 Received Date: 11/19/20 Completed: 12/07/20 Ron LeBlanc Ronald.LeBlancSr@petrocanadalsp.com

Recommendation: Acid Number is elevated. Pentane insolubles indicate contamination. Based on the age of the oil it can mean plugged or restricted lines. Consider cleaning and flushing system.

Comments: Pentane Insolubles levels are severely high. Acid Number (AN) is abnormally high. Visc @ 40°C is abnormally high.

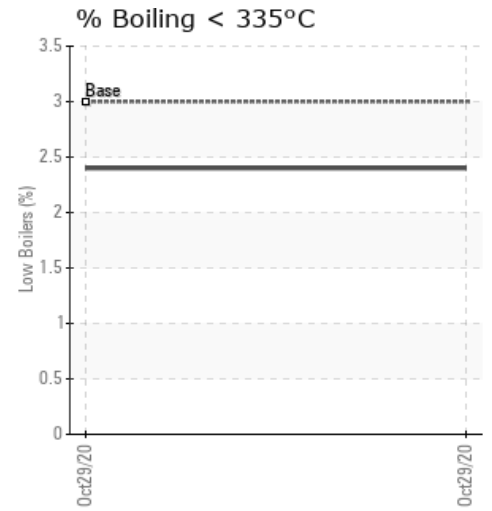
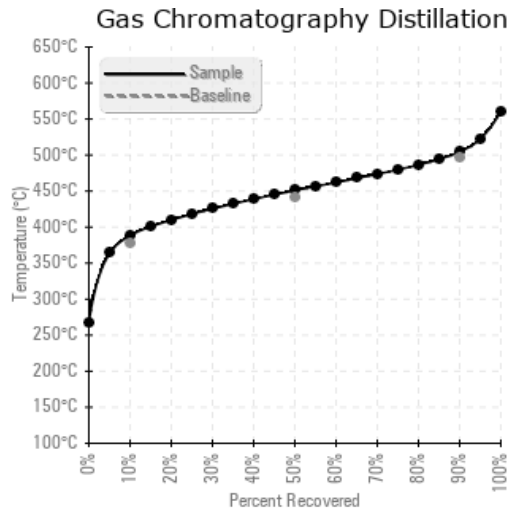
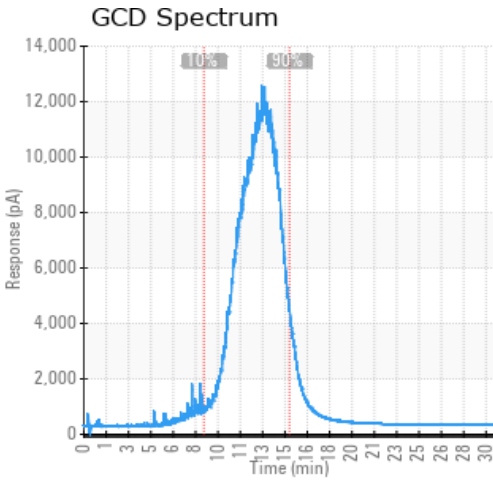
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
10/29/20	11/19/20	10y	SYSTEM PORT	421 / 216	59.7	56.5	1.56	3.32	731 / 388	844 / 451	940 / 505	2.40
Baseline Data				410 / 210		44			711 / 377	824 / 440	927 / 497	3





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
10/29/20	126	0	0	0	4	1	1	0	0	0	2	0	0	0	0	0	0	0	0	0	9	1	2	4
Baseline Data			0	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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