

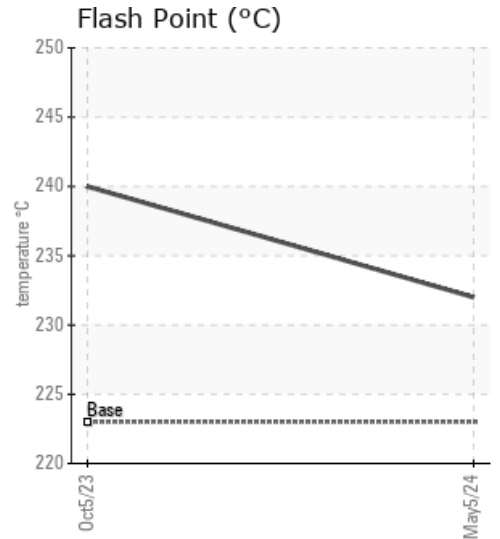
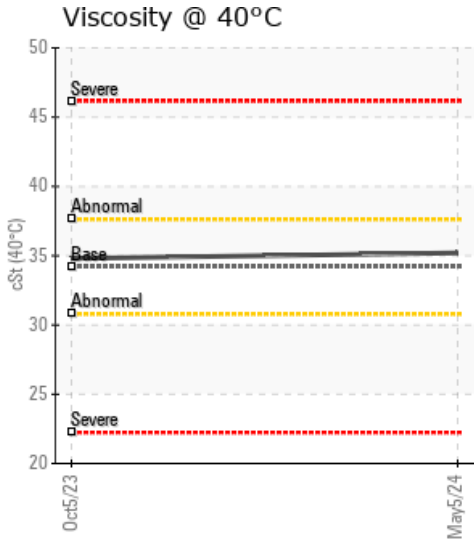
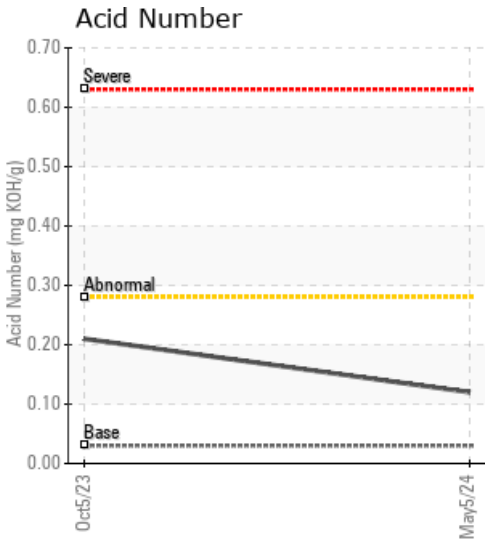
[LSD 16-36-55-15W5] Westbrick Energy

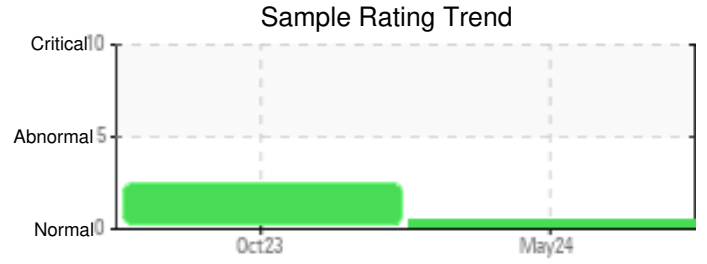
Customer: PTRHTF60082	System Information	Sample Information
WESTBRICK ENERGY	System Volume: 0 ltr	Lab No: 02638722
EDSON, AB CA	Bulk Operating Temp: Not Specified	Analyst: Clinton Buhler
Attn: Mack Hehn	Heating Source:	Sample Date: 05/05/24
Tel: (780)712-4280	Blanket:	Received Date: 05/29/24
E-Mail: mhehn@westbrick.ca	Fluid: PETRO CANADA PETRO-THERM	Completed: 06/04/24
	Make:	Clinton Buhler
		Clinton.Buhler@HFSinclair.com

Recommendation: Sample results indicate the fluid is in suitable condition for continued service. Water content is much improved from last sample. Please re-sample in 12 months.

Comments:

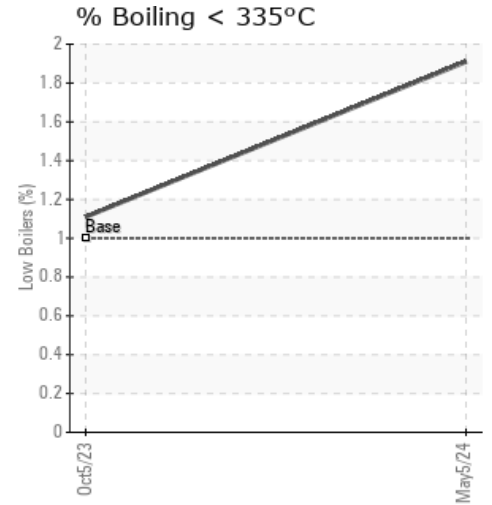
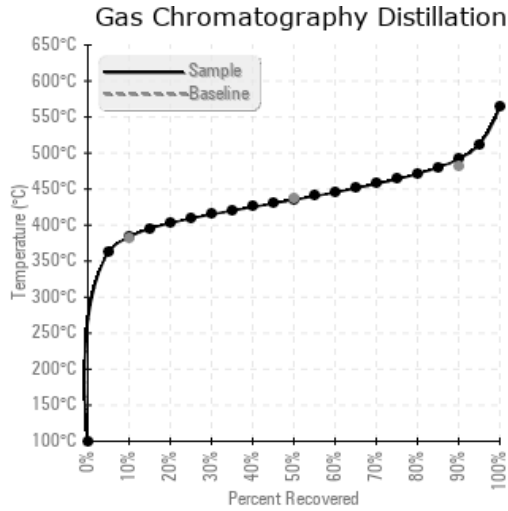
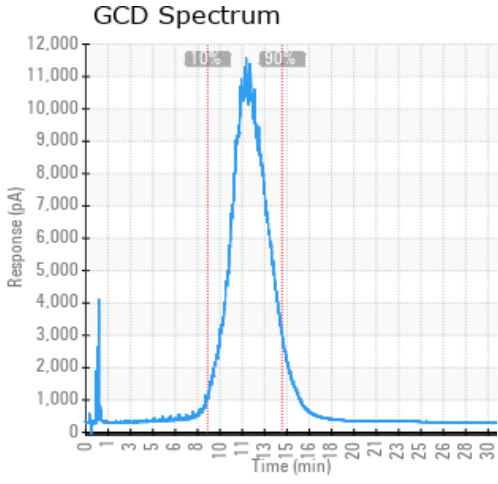
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/05/24	05/29/24	24.0m		450 / 232	50	35.2	0.12	0.150	722 / 383	815 / 435	917 / 492	1.91
10/05/23	10/24/23	21.0m	Sight glass	464 / 240	984.5	34.8	0.21	0.128	726 / 386	816 / 436	918 / 492	1.11
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
05/05/24	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/05/23	24	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	2	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	
10/05/23	Sample results indicate the fluid is in suitable condition for continued service. Water content is at 984 ppm which is high for a heat transfer system, indicating potential contamination or possibly from sampling fluid from a dead leg or low point that may have collected water (site-glass). If safe to do so, please vent expansion tank of any water vapor followed by ensuring blanket gas is operational in the expansion tank. Please re-sample in 6 months, but please try to sample from a hot, turbulent zone after a thorough flush of the sample valve and piping. (GCD) 90% Distillation Point is marginally high.

Petro-Canada makes no representation or warranty of any kind, either express or implied, as to the accuracy or completeness of the analysis and assumes no responsibility and shall have no liability whatsoever with respect to such analysis, or a party's use of it. Petro-Canada is a division of HollyFrontier Corporation.