

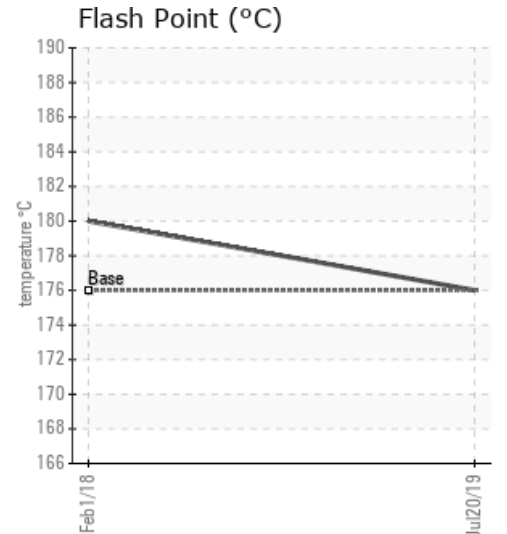
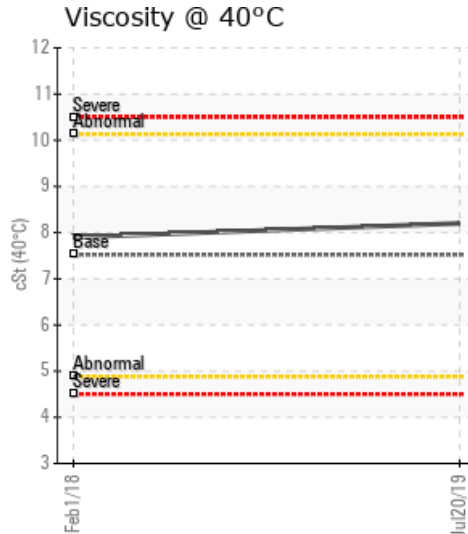
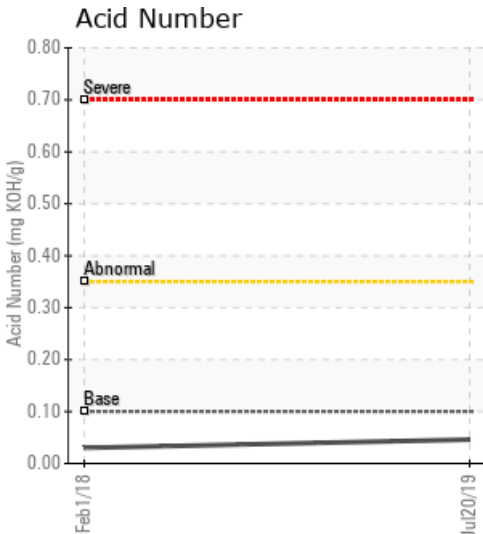
[ATHABASCA OIL CORP / 13-03-79-10W4M] L5 (PAD E) LIESMER

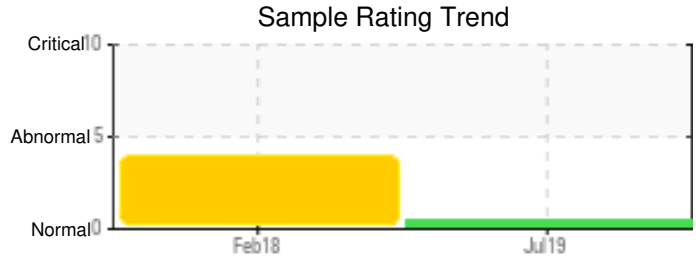
Customer: PTRHTF20133	System Information	Sample Information
ATHABASCA OIL CORP. LEISMER DEMONSTRATION PLANT LSD2-79-10-W4M NEAR CONKLIN, AB Canada Attn: George Ball Tel: (587)233-1312 E-Mail: gball@atha.com	System Volume: 8000 ltr Bulk Operating Temp: 212F / 100C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO LT Make:	Lab No: 02301902 Analyst: Benjamin Latorre Sample Date: 07/20/19 Received Date: 08/09/19 Completed: 08/19/19 Benjamin Latorre benjamin.latorre@HFSinclair.com

Recommendation: Test results are normal. No immediate action required. Resample at the next interval.

Comments:

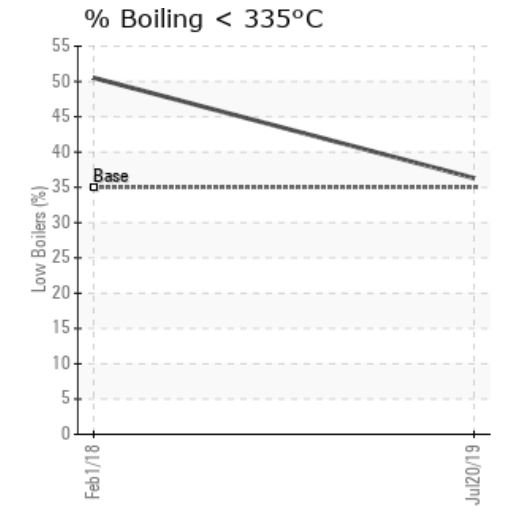
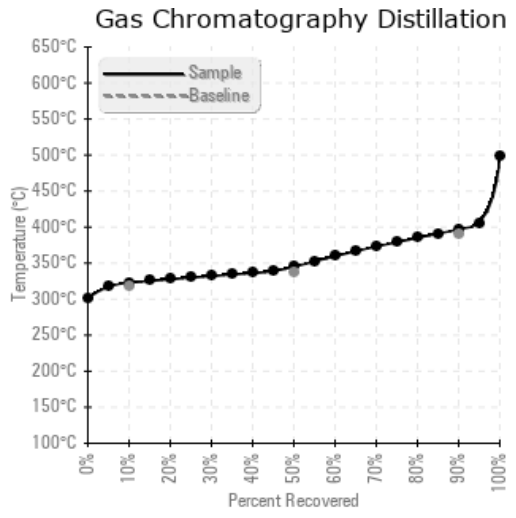
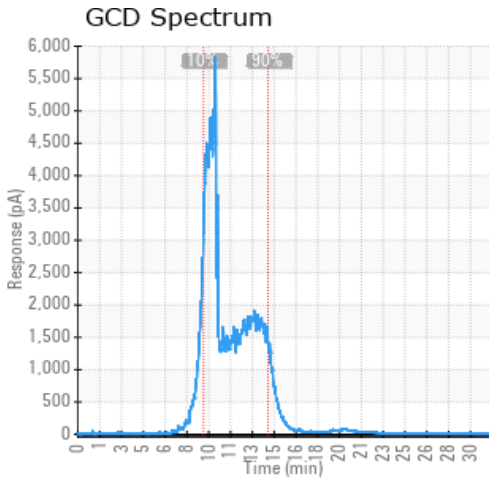
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
07/20/19	08/09/19	0.0y		349 / 176	0.00	8.2	0.046	0.063	613 / 323	653 / 345	747 / 397	36.31
02/01/18	02/21/18	2.5y		356 / 180	3.9	7.9	0.03	0.009	608 / 320	634 / 335	734 / 390	50.52
Baseline Data				349 / 176		7.52	0.1		604 / 318	640 / 338	734 / 390	35.0





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
07/20/19	7	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	250	0
02/01/18	18	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	246	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

02/01/18	The fluid is in good condition and suitable for further use. Low boiler vapor content is high (GCD% <335C = 50.52%). For fresh Calflo LT this is 35%. This is a result of normal thermal degradation of the fluid and can be rectified by venting low boiler vapor to atmosphere. Please re-sample in 6 months. (GCD) % < 335°C is severely high.
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