

[ATHABASCA OIL CORP / 16-21-078-10W4M] L1 (PAD A) LIESMER

Customer: PTRHTF20133
 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

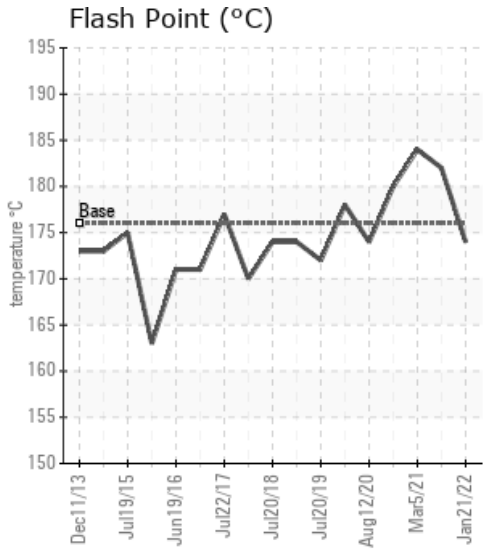
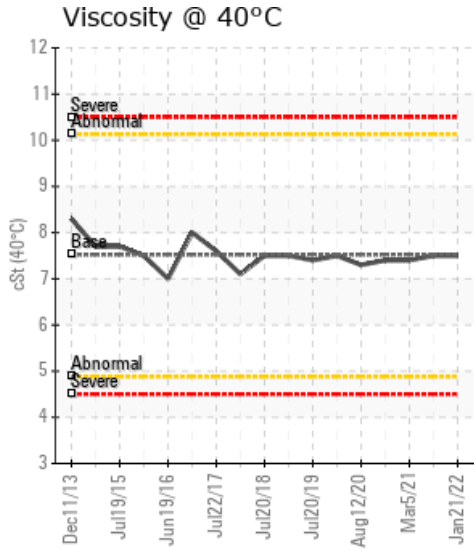
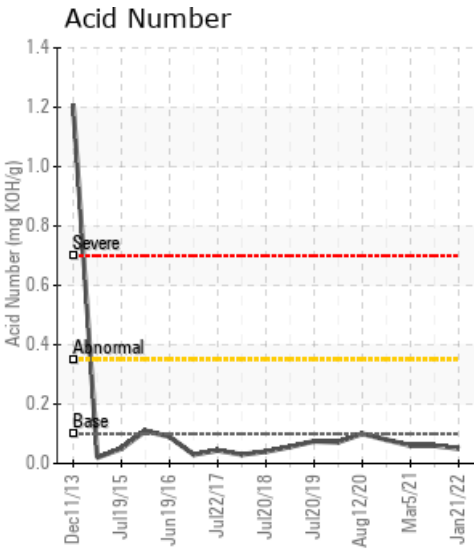
System Information
 System Volume: 8000 ltr
 Bulk Operating Temp: 212F / 100C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA CALFLO LT
 Make: TORNADO TECHNOLOGIES

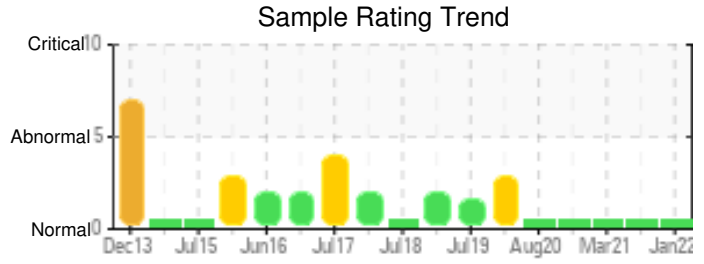
Sample Information
 Lab No: 02470277
 Analyst: Terry Veenstra
 Sample Date: 01/21/22
 Received Date: 02/04/22
 Completed: 02/07/22
 Terry Veenstra
 terry.veenstra@hollyfrontier.com

Recommendation: Fluid is in good condition and suitable for continued use. Resample in 6 months.

Comments:

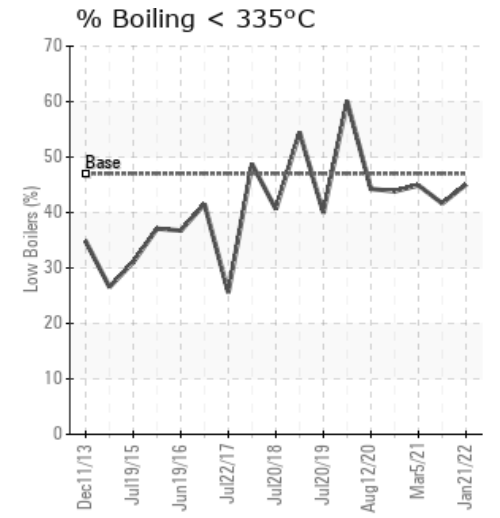
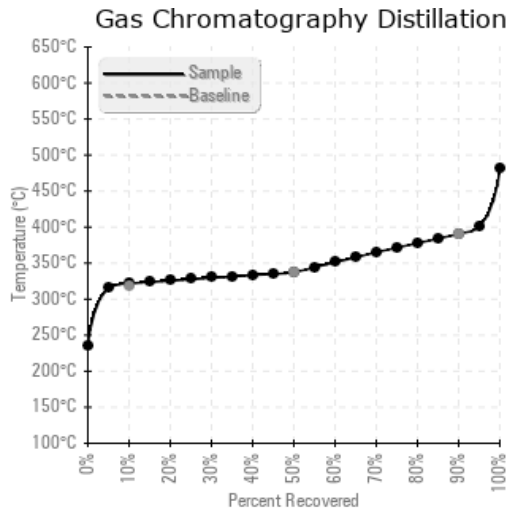
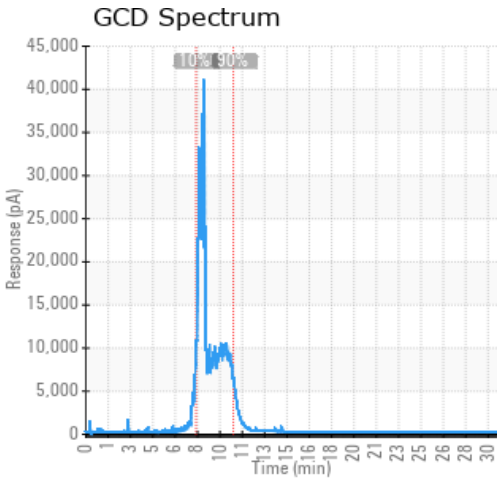
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/21/22	02/04/22	0.0y	system header	345 / 174	2.2	7.5	0.05	0.011	611 / 322	639 / 337	735 / 391	45.06
07/29/21	08/10/21	0.0y	pit 0285	360 / 182	6.1	7.5	0.06	0.032	613 / 323	641 / 338	734 / 390	41.64
03/05/21	03/16/21	0.0y		363 / 184	0.00	7.4	0.06	0.055	611 / 322	641 / 338	746 / 397	44.90
02/03/21	02/24/21	0.0y	Bott. of tracer tree	356 / 180	28.9	7.4	0.08	0.120	612 / 322	640 / 338	737 / 392	43.83
08/12/20	08/31/20	0.0y	PIT0285	345 / 174	50.5	7.3	0.10	0.048	612 / 322	640 / 338	737 / 392	44.26
Baseline Data				349 / 176		7.52	0.1		604 / 318	640 / 338	734 / 390	47.0





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
01/21/22	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	162	0
07/29/21	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	174	0
03/05/21	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	159	0
02/03/21	3	0	0	0	0	0	0	0	0	0	3	0	4	0	0	0	0	0	0	0	0	0	161	0
08/12/20	6	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	166	0
Baseline Data			0	0						0			0	0				0	0				270	

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



Historical Comments	
07/29/21	Fluid is in good condition and suitable for continued use. Resample in 6 months.
03/05/21	GCD tests look good and within specifications although there is quite a spike . between 8.5 and 9.5 minutes indicating the presence of light ends in sample likely from thermal cracking, however this appears to be improving from sample to sample. Flash point is at 184°C which is above new oil specification of 176°C . Pentane Insoluble is 0.055 which is low. Fluid appears to be in good condition.
02/03/21	Fluid is in good condition and good for continued use. Resample in 6 months
08/12/20	Results Normal. No action needed at this time. Resample at next scheduled date.

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