Sample Rating

0.0 | 0.0 | 10.0

NORMAL | ABNORMAL | CRITICAL

Sample Rating Trend

Critical 10 / Abnormal 5 / Normal 0

Dec13 Jul15 Jun16 Jul17 Jul18 Jul19 Aug20 Mar21 Jan22

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

Customer: PTRHTF20133	System Information	Sample Information
ATHABASCA OIL CORP.	System Volume: 8000 ltr	Lab No: 02506464
LEISMER DEMONSTRATION PLANT	Bulk Operating Temp: 212F / 100C	Analyst: Terry Veenstra
LSD2-79-10-W4M	Heating Source:	Sample Date: 07/20/22
NEAR CONKLIN, AB CA	Blanket:	Received Date: 08/22/22
Attn: George Ball	Fluid: PETRO CANADA CALFLO LT	Completed: 08/24/22
Tel: (587)233-1312	Make: TORNADO TECHNOLOGIES	Terry Veenstra
E-Mail: gball@atha.com		terry.veenstra@HFSinclair.com

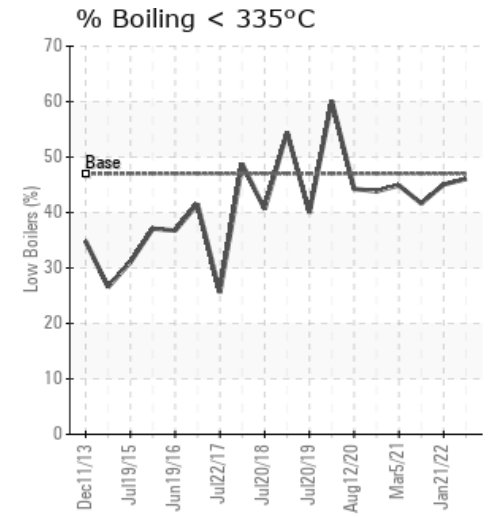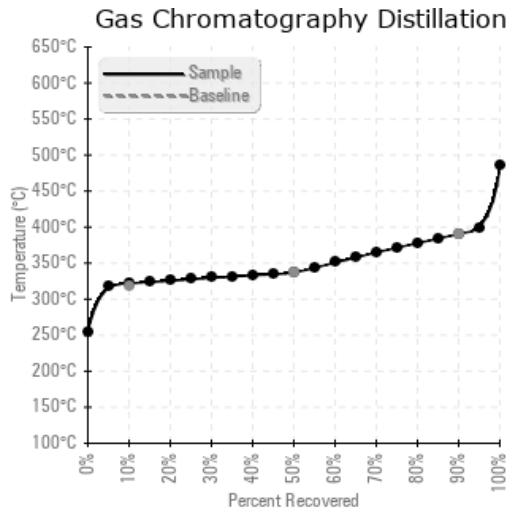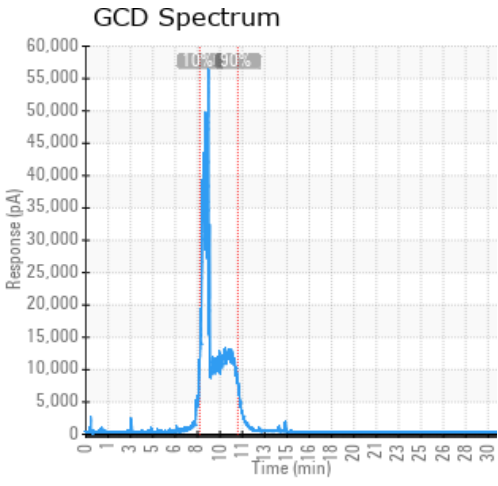Recommendation: Results Normal. No action needed at this time. Resample at next scheduled date.

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	%
07/20/22	08/22/22	9.0y	16-21-078-10W4M L1 A	352 / 178	0.00	7.5	0.08	0.032	611 / 322	639 / 337	735 / 391	46.05
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
Baseline Data				349 / 176		7.52	0.1		604 / 318	640 / 338	734 / 390	47.0

Acid Number

Viscosity @ 40°C

Flash Point (°C)
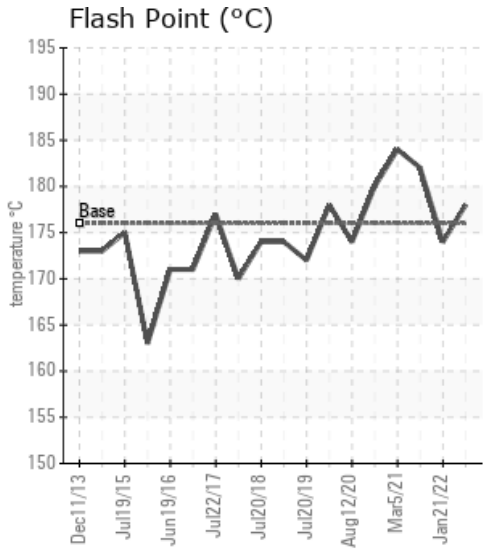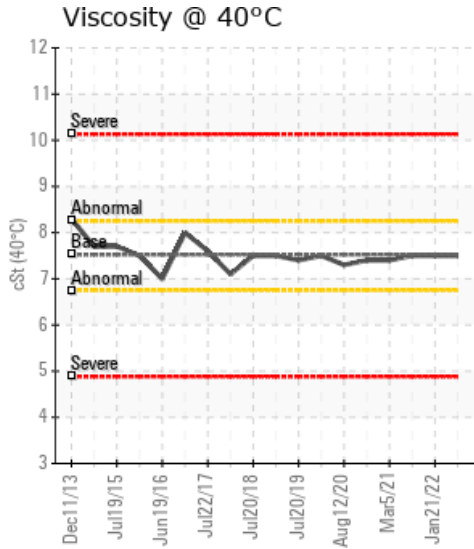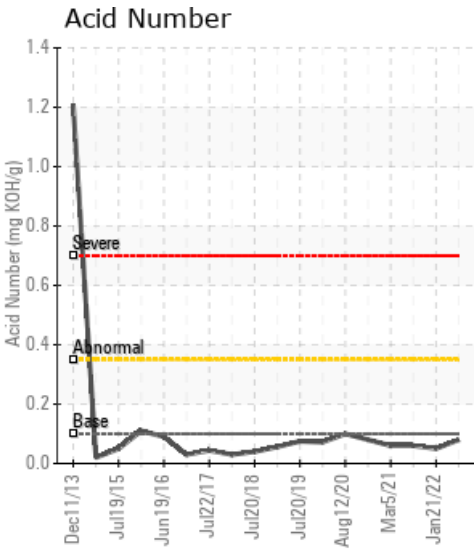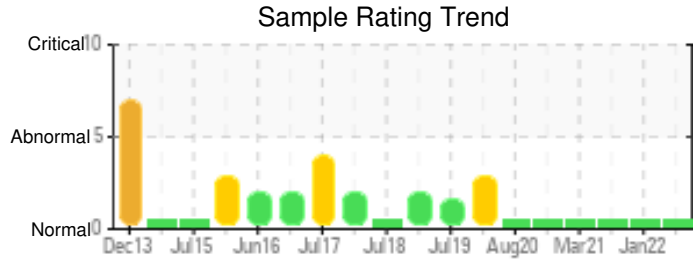
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
07/20/22	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	161	0
01/21/22	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	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
Baseline Data			0	0						0			0	0				0	0				270	

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

Historical Comments

01/21/22	Fluid is in good condition and suitable for continued use. Resample in 6 months.
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