

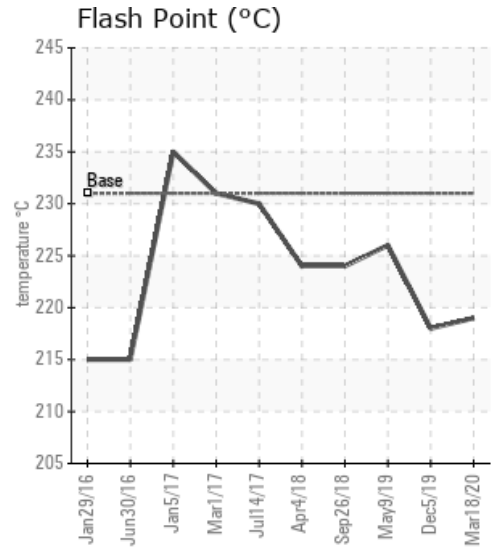
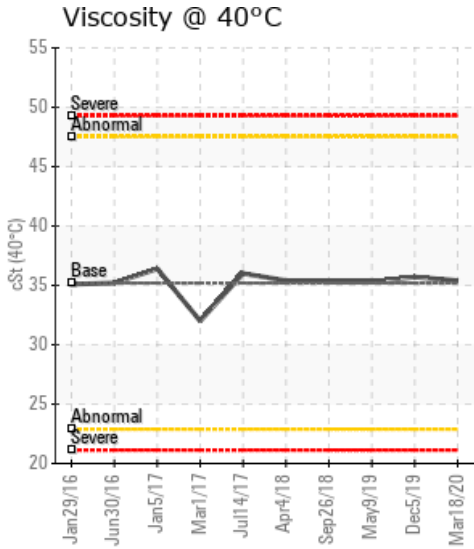
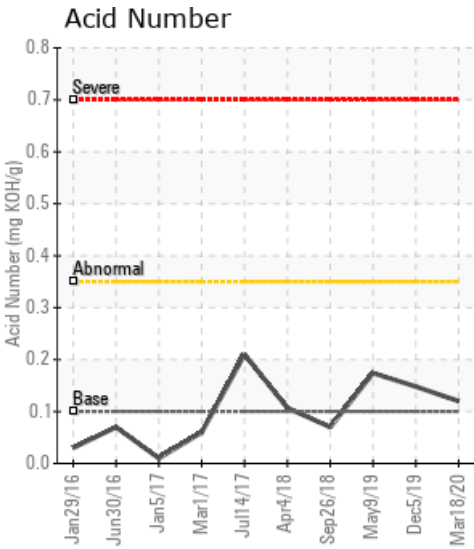
LN01 Filled Sealdown Hot Oil System

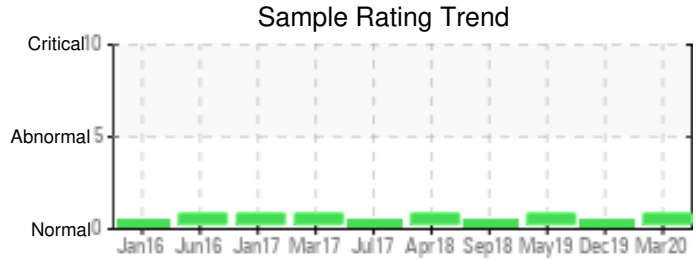
Customer: PTRHTF10141	System Information	Sample Information
TAMKO BUILDING PRODUCTS 2300 35TH ST TUSCALOOSA, AL 35401 USA Attn: Greg Colburn Tel: (205)752-3555 E-Mail: gregory_colburn@tamko.com	System Volume: 110 gal Bulk Operating Temp: 425F / 218C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO HTF Make: Heat Exchanger And T	Lab No: 02345756 Analyst: Jake Finn Sample Date: 03/18/20 Received Date: 03/25/20 Completed: 03/27/20 Jake Finn jake.finn@petrocanadalsp.com

Recommendation: Fluid is suitable for continued use. Please remember to include time on oil and resubmit in one year for testing.

Comments: (GCD) 10% Distillation Point is marginally high. Very light debris noted by lab

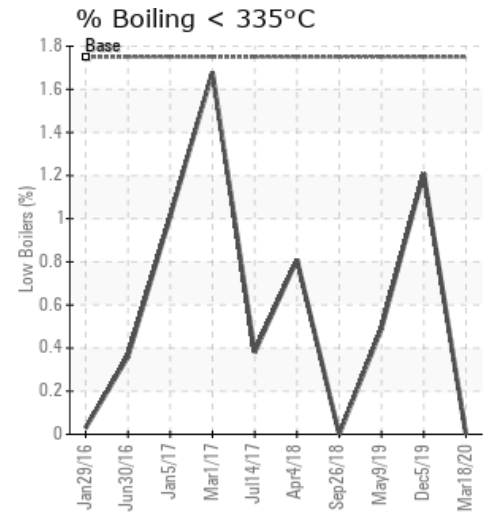
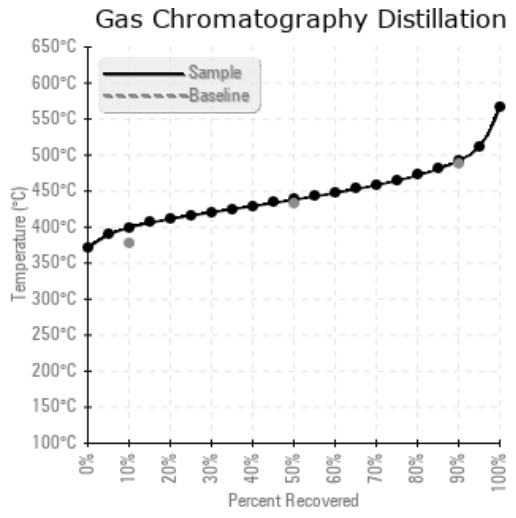
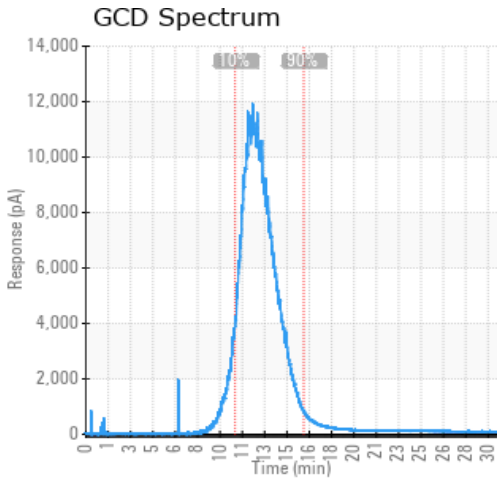
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/18/20	03/25/20	0y	PORT	426 / 219	0.00	35.4	0.12	0.093	750 / 399	820 / 438	918 / 492	0.00
12/05/19	12/13/19	0y	PORT	424 / 218	26.5	35.7	0.148	0.067	704 / 374	794 / 423	906 / 485	1.21
05/09/19	05/17/19	2y	PORT	439 / 226	21.3	35.3	0.174	0.045	728 / 387	816 / 436	930 / 499	0.49
09/26/18	10/09/18	2y		435 / 224	0.00	35.4	0.07	0.042	728 / 387	811 / 433	909 / 487	0.00
04/04/18	04/11/18	9y		435 / 224	8.6	35.4	0.107	0.021	731 / 389	820 / 438	925 / 496	0.81
Baseline Data				448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75





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
03/18/20	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	46	0
12/05/19	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	46	0
05/09/19	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	46	0
09/26/18	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	43	0
04/04/18	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	46	0
Baseline Data			0	0						0			0	0					0				280	

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



Historical Comments	
12/05/19	Oil is suitable for continued use. Remember to please include the time on oil when submitting oil samples for evaluation. Oil can be sent in for testing in one year.N/A
05/09/19	Oil is suitable for continued use. Please re-submit sample in 1 year.(GCD) 90% Distillation Point is marginally high. Acid number is normal, but has risen since the last sample, monitor at next test interval. Very light debris is noted by the lab.
09/26/18	Fluid is suitable for continued use. Please re-submit sample fluid in September 2019.
04/04/18	The fluid is suitable for continued use. 'Venting' the system may assist in bringing down the 90% distillation point. This value has been slightly elevated historically. Please re-submit sample in 12 months. (GCD) 90% Distillation Point is marginally high.

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