

Laminate Storage/Delivery Hot Oil System

Customer: PTRHTF10141
 TAMKO BUILDING PRODUCTS
 2300 35TH ST
 TUSCALOOSA, AL 35401 USA
 Attn: Greg Colburn
 Tel: (205)752-3555
 E-Mail: gregory_colburn@tamko.com

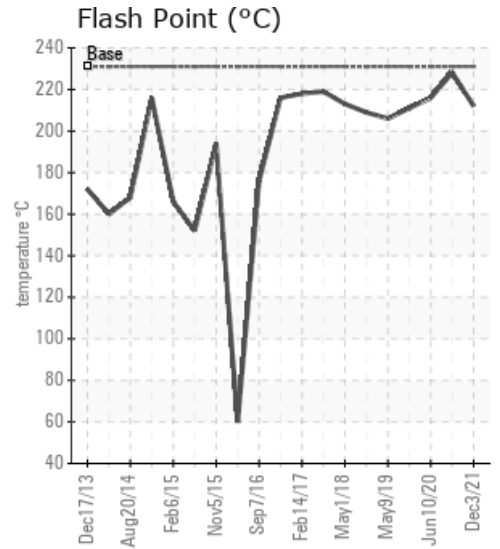
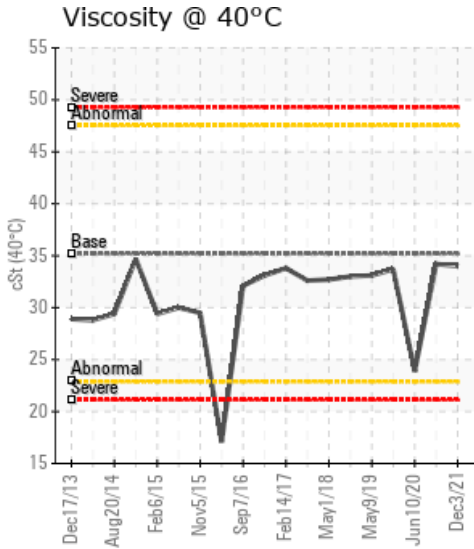
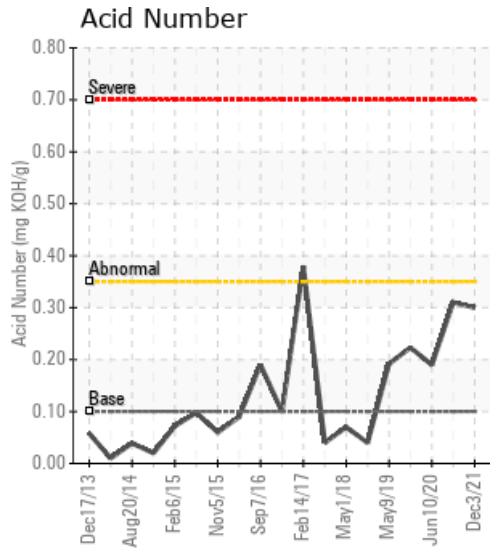
System Information
 System Volume: 110 gal
 Bulk Operating Temp: 450F / 232C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA CALFLO HTF
 Make: Hy-Way

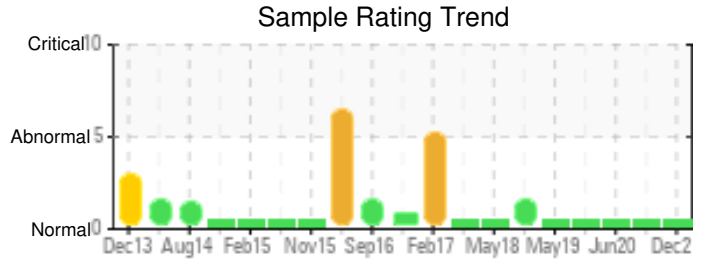
Sample Information
 Lab No: 02461604
 Analyst: Jake Finn
 Sample Date: 12/03/21
 Received Date: 12/13/21
 Completed: 12/16/21
 Jake Finn
 jake.finn@hollyfrontier.com

Recommendation: Sample is in good condition and indicates oil is suitable for continued use. Please resubmit for testing in one year.

Comments: N/A

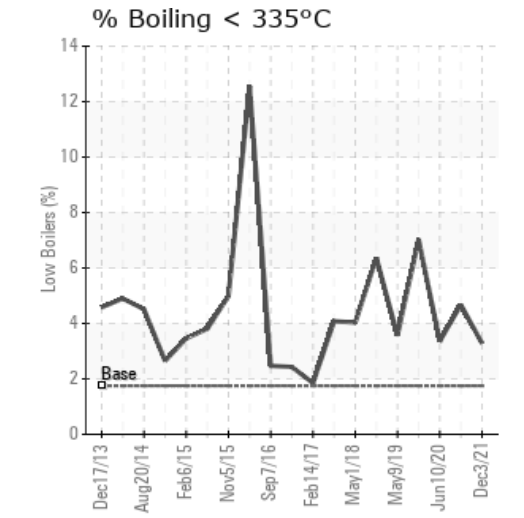
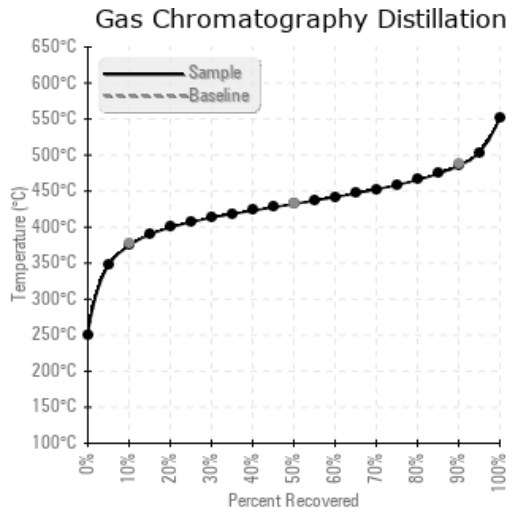
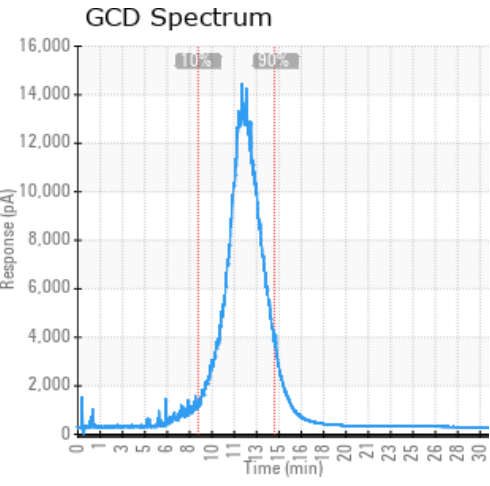
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/03/21	12/13/21	0.0m		414 / 212	36.5	34.0	0.30	0.134	706 / 374	810 / 432	905 / 485	3.29
06/18/21	06/24/21	0.0m		442 / 228	39.8	34.2	0.31	0.103	686 / 363	795 / 424	905 / 485	4.67
06/10/20	06/29/20	0.0m		421 / 216	13.2	23.9	0.19	0.277	706 / 374	811 / 433	904 / 484	3.36
12/05/19	12/13/19	0.0m	PORT	412 / 211	27.3	33.7	0.223	0.110	662 / 350	788 / 420	904 / 485	7.03
05/09/19	05/17/19	6.0m	PORT	403 / 206	31.6	33.1	0.192	0.048	700 / 371	809 / 432	914 / 490	3.58
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	
12/03/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	0	
06/18/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	0
06/10/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0
12/05/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0
05/09/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0
Baseline Data			0	0						0			0	0				0	0					280	

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



Historical Comments	
06/18/21	Results indicate that this system and fluid are in good condition, and the fluid is suitable for continued use. Please resubmit sample in 12 months for testing.N/A
06/10/20	Fluid is suitable for continued use. Please resubmit for testing in one year.Very light white metal, silt and debris noted by lab. Consider checking system filters and changing them if necessary.
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.Acid number is normal, but has risen since the last sample, monitor at next test interval. Very light debris is noted by the lab.

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.