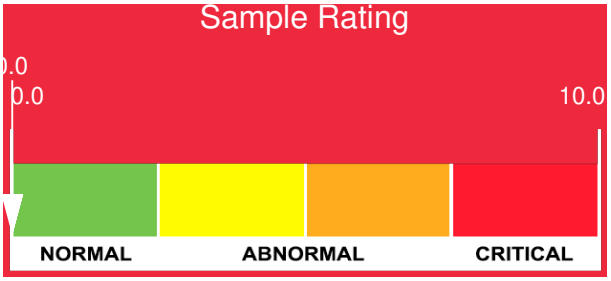
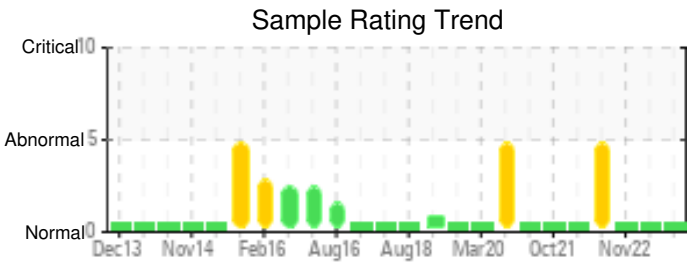




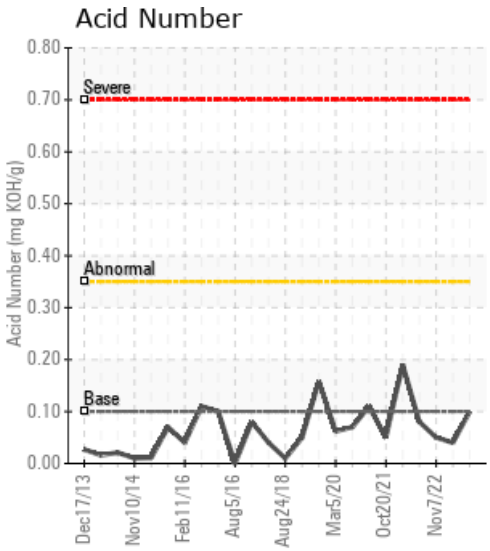
LN02 Laminator Hot Oil System

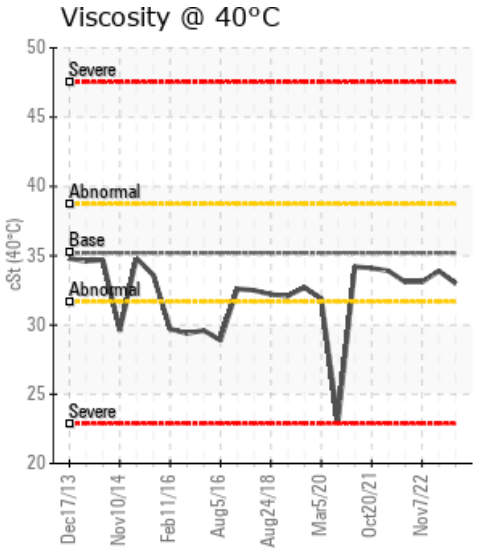
Customer: PTRHTF10141	System Information	Sample Information
TAMKO BUILDING PRODUCTS 2300 35TH ST TUSCALOOSA, AL 35401 US Attn: Eric Foote Tel: x: E-Mail: eric_foote@tamko.com	System Volume: 110 gal Bulk Operating Temp: 350F / 177C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO HTF Make: Heat Exchanger And T	Lab No: 02591205 Analyst: Jake Finn Sample Date: 10/12/23 Received Date: 10/23/23 Completed: 10/27/23 Jake Finn jake.finn@HFSinclair.com

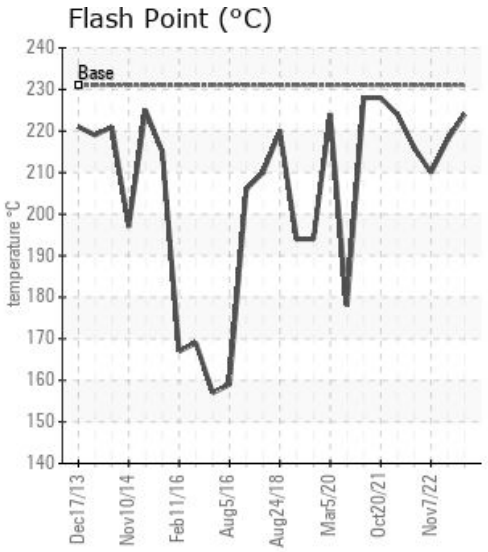
Recommendation: The sample had a darker, hazy appearance compared to previous samples. Otherwise, it appears to be in great shape. When tested, the sample shows no signs of component wear, contamination or fluid degradation.

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	%
10/12/23	10/23/23	0.0m		435 / 224	29.4	33.0	0.10	0.053	715 / 379	814 / 434	916 / 491	3.00
03/16/23	03/31/23	0.0m		424 / 218	15.2	33.9	0.04	0.029	718 / 381	815 / 435	924 / 495	1.98
11/07/22	11/15/22	0.0m		410 / 210	24.7	33.1	0.05	0.178	724 / 385	815 / 435	921 / 494	1.40
09/30/22	10/12/22	0.0m		421 / 216	0.9	33.1	0.08	0.234				
04/08/22	04/21/22	0.0m		435 / 224	64.8	33.9	0.19	0.073	723 / 384	817 / 436	927 / 497	1.47
Baseline Data				448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75







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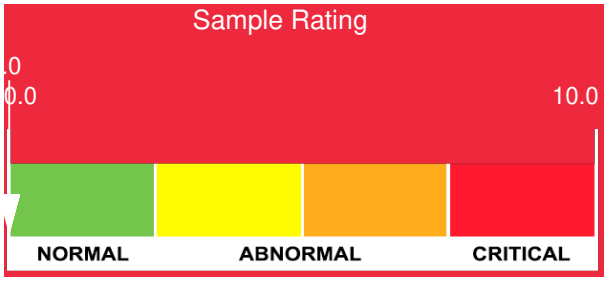
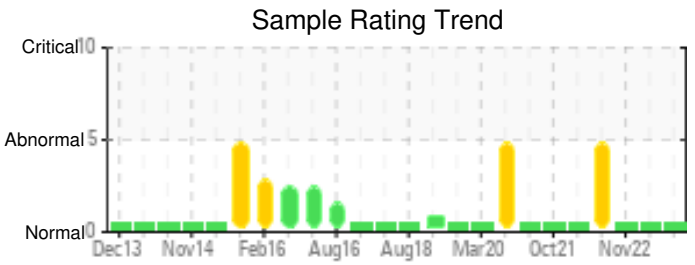
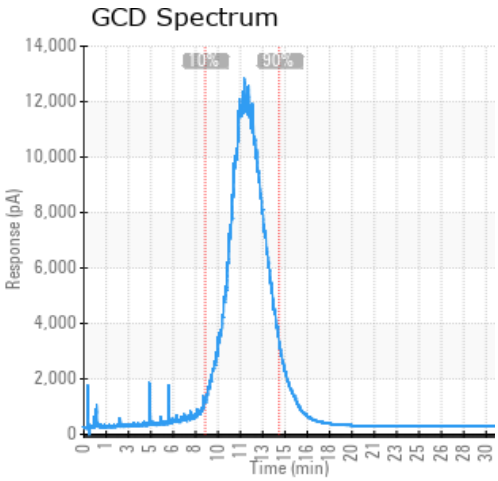
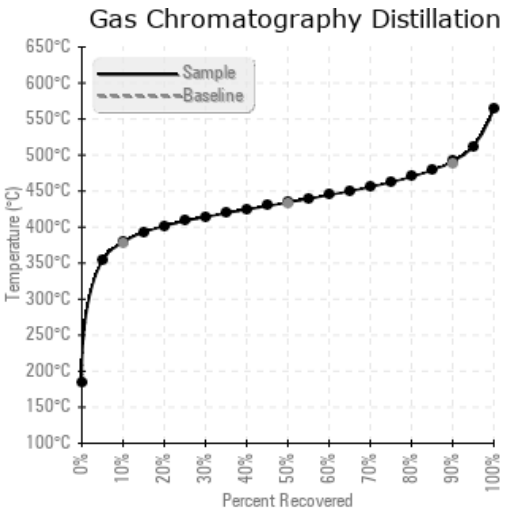


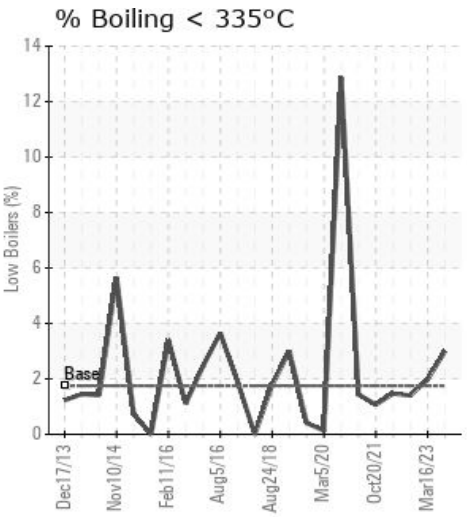


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
10/12/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	0
03/16/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0
11/07/22	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0
09/30/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0
04/08/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0
Baseline Data			0	0						0			0	0				0	0				280	

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







Historical Comments

03/16/23	Sample indicates that the system fluid is in great condition and suitable for continued use. There are no signs of wear, contamination or fluid degradation from testing.N/A
11/07/22	Everything looks normal in this sample. Last sample from September showed free water, but it is no longer present indicating the problem has been resolved. No other signs of wear, fluid degradation or contamination at this time. Fluid is suitable for continued use. Please resample unit in 12 months.
09/30/22	Sample contains very high levels of free water, which is inconsistent with previous samples. High levels of free water could result in safety risks and component risks, like pump cavitation. However, the rest of the tests that could be performed do not indicate any severe degradation or component wear at the time of sampling. Running the system above water boiling point and venting may help to remove water, or an external water removal system can be used to remove free water from sample. I recommend taking a second sample to eliminate possibility of a misrepresentative first sample. Depending on the condition of second sample, preventative measures may be necessary to remove water from the system fluid.*** SimDist could not be conducted due to the high water content of the sample ***
04/08/22	Sample indicates no significant wear, contamination or fluid degradation. This fluid is suitable for continued use, please resample and submit for testing in 12 months.N/A

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