

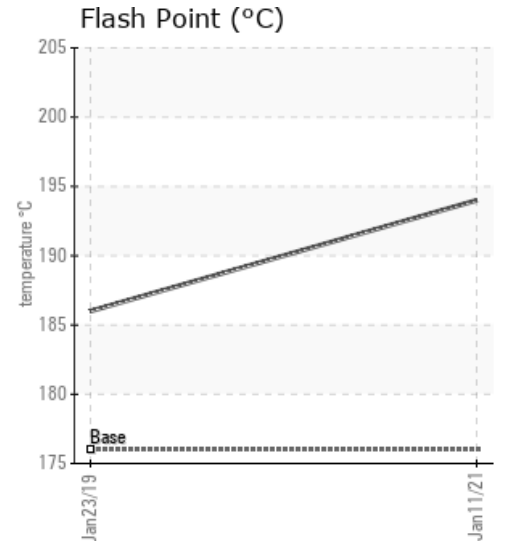
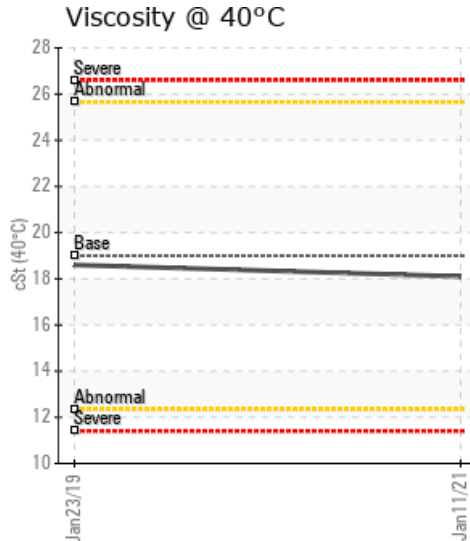
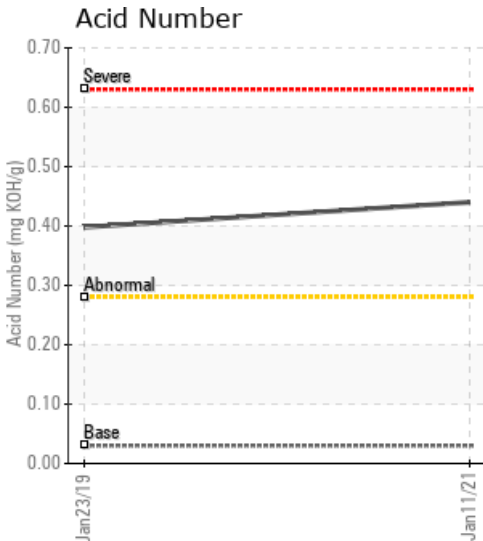
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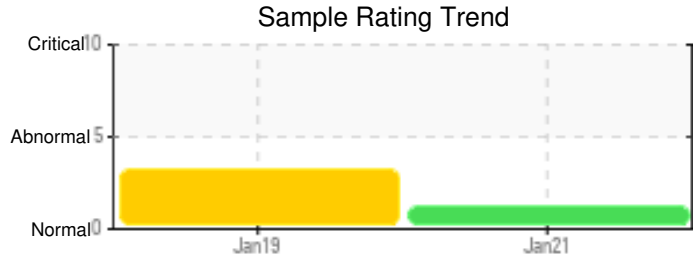
Customer: PTRHTF60010	System Information	Sample Information
SYNLUBE INTERNATIONAL CO LTD 76/1 MOO.7 THACHIN MUANG SAMUTSAKHON, 74000 THAILAND Attn: CHERNPORN CHOBKUI Tel: 034421290 E-Mail: chernporn@synlube.co.th	System Volume: 6000 ltr Bulk Operating Temp: 482F / 250C Heating Source: Blanket: Fluid: EASTMAN THERMINOL 55 Make:	Lab No: 02399576 Analyst: Philip Riley Sample Date: 01/11/21 Received Date: 01/25/21 Completed: 02/08/21 Philip Riley philip.riley@hollyfrontier.com

Recommendation: Competitor Fluid, again not best to add comments based on the chemistry of the fluid. There looks to be thermal cracking y the GCD graph.

Comments:

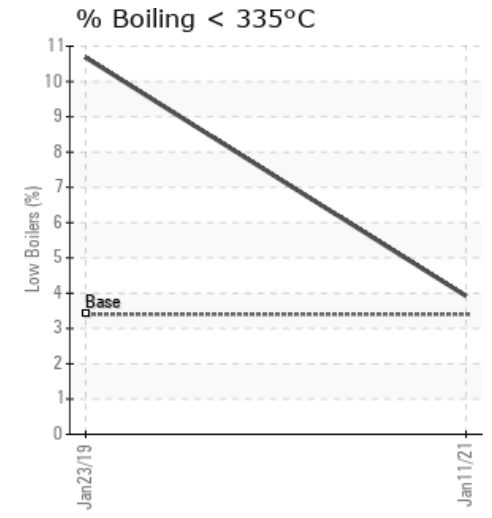
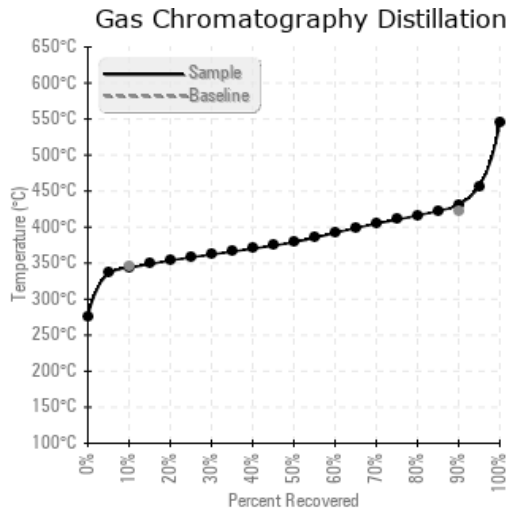
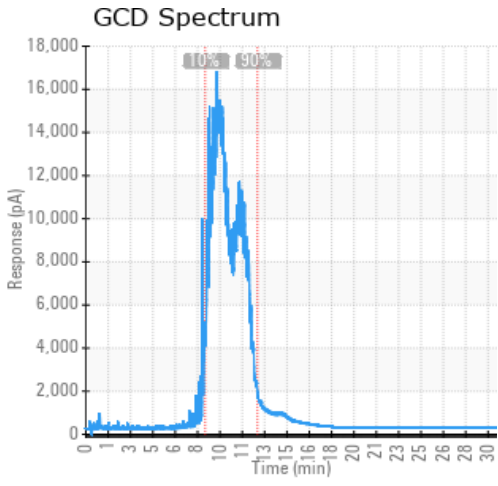
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/11/21	01/25/21	4y		381 / 194	49.8	18.1	0.44	0.087	650 / 344	714 / 379	808 / 431	3.92
01/23/19	02/27/19	3y	SUPPLY RETURN	367 / 186	14.9	18.6	0.398	0.063	632 / 334	693 / 367	791 / 422	10.68
Baseline Data				349 / 176		19.0	0.03		655 / 346		790 / 421	3.40





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	
01/11/21	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
01/23/19	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Baseline Data			0	0						0			0	0					0				0		

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



Historical Comments

01/23/19	The current fluid has normal viscosity, flash point and distillation point. The contaminant levels are all low. The fluid has experienced moderate oxidation due to the elevated acid number. Please continue to run the fluid and take one sample in 12 months to monitor the conditions. Acid Number (AN) is high. (GCD) % < 335°C is high.

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