

RELUTHERM

Customer: PTRHTF40056
 SOFINE FOODS BV
 SPERWERWEG 7
 LANDGRAAF 6374AG
 LANDGRAAF, 6374AG NL
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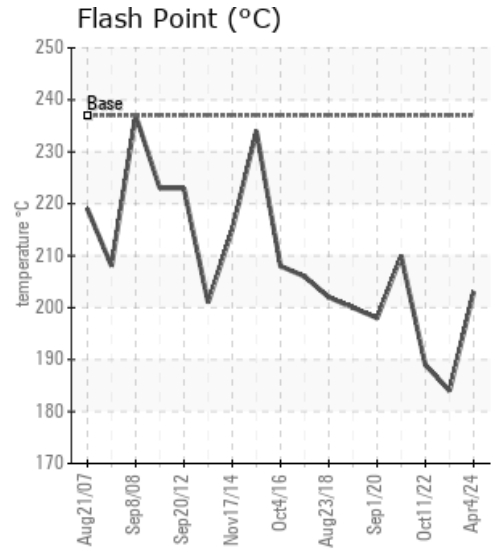
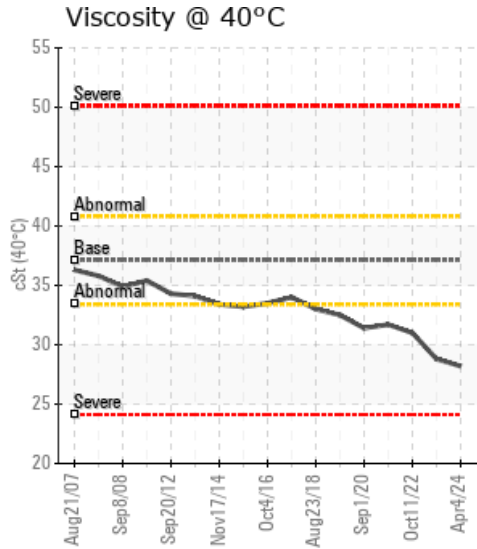
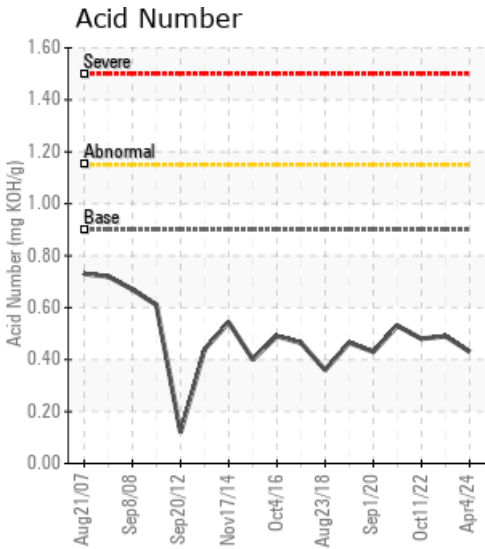
System Information
 System Volume: 1400 ltr
 Bulk Operating Temp: 265F / 129C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID
 Make: RELUTHERM

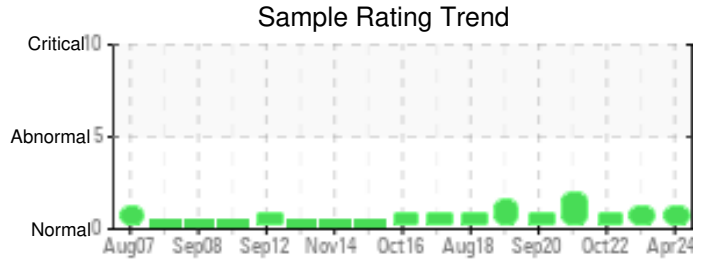
Sample Information
 Lab No: 02627754
 Analyst: Bill Quesnel CLS,OMA II,MLA-III,LLA-I
 Sample Date: 04/04/24
 Received Date: 04/09/24
 Completed: 04/15/24
 Bill Quesnel CLS,OMA II,MLA-III,LLA-I

Recommendation: We recommend that you continue to vent the expansion tank to remove low boilers which assists in restoring the flash point of the fluid. Resample at the next service interval to monitor.

Comments: COC Flash Point is marginally low.

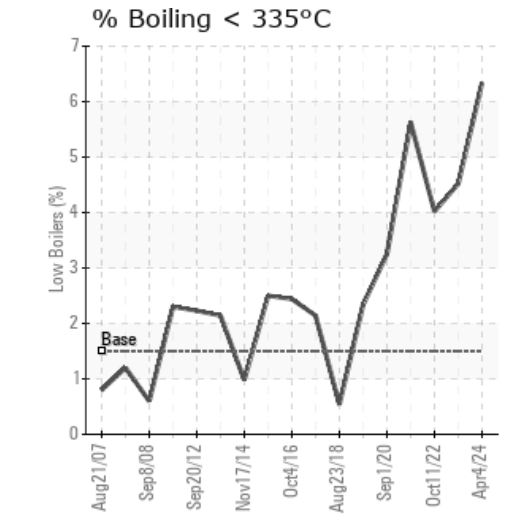
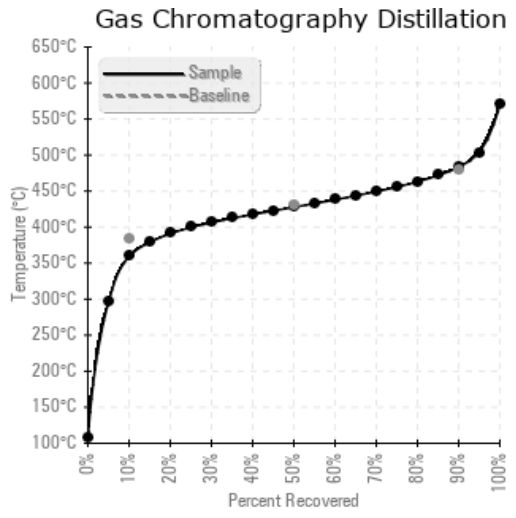
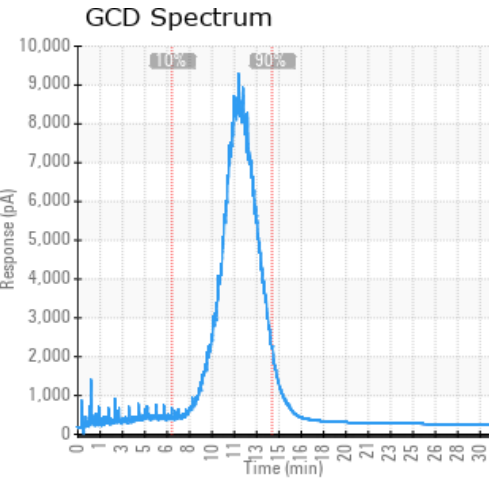
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/04/24	04/09/24	16.3y		397 / 203	7	28.2	0.43	0.037	679 / 360	802 / 428	902 / 483	6.34
01/26/23	01/31/23	15.3y		363 / 184	17.0	28.8	0.49	0.042	700 / 371	812 / 434	908 / 487	4.52
10/11/22	10/17/22	15.0y		372 / 189	8.7	31.0	0.48	0.086	705 / 374	812 / 433	904 / 485	4.02
09/21/21	09/27/21	14.0y		410 / 210	15.2	31.7	0.53	0.095	674 / 357	790 / 421	934 / 501	5.63
09/01/20	09/09/20	13.0y		388 / 198	9.3	31.4	0.43	0.084	712 / 378	814 / 435	906 / 485	3.25
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5





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
04/04/24	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	0
01/26/23	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0
10/11/22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
09/21/21	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0
09/01/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0
Baseline Data			0	0						0			0	0				0	0				230	

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



Historical Comments	
01/26/23	COC Flash Point is low, consider venting the expansion tank. All other parameters within expected limits. Check required at normal period. COC Flash Point is marginally low. Viscosity is lower than typical.
10/11/22	COC Flash Point is low, consider venting the expansion tank. All other parameters within expected limits. Check required at normal period. COC Flash Point is marginally low.
09/21/21	Increase of low boilers compared to the previous samples and GC also shows increase of heavier molecules indicating start of thermal cracking. All other parameters are in a normal range and oil is fit for further use. If low boilers continue to raise prepare to take actions. (GCD) 90% Distillation Point is severely high.
09/01/20	Marginally low COC Flash Point, but hasn't changed from previous samples. All other parameters within expected limits. Check required at normal period. COC Flash Point is marginally low.

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