

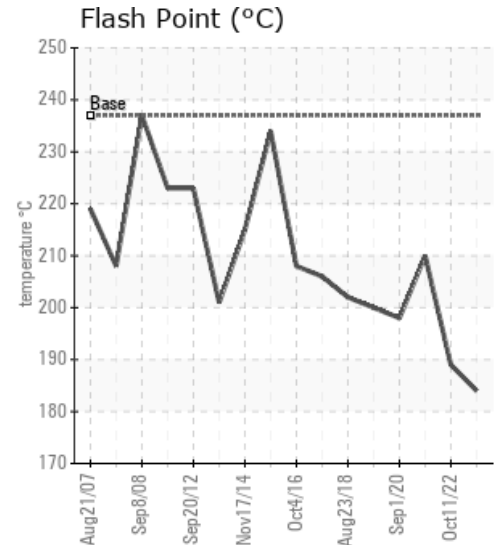
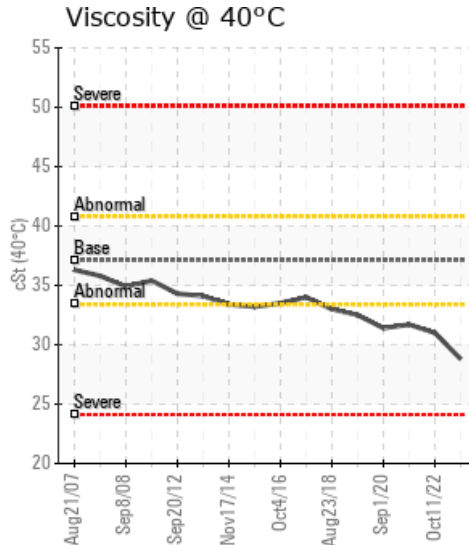
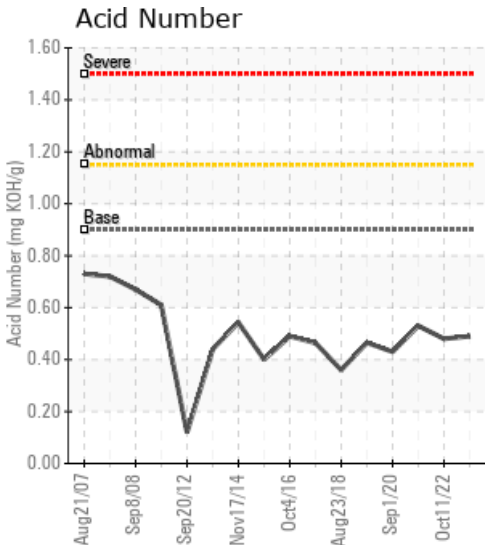
RELUTHERM

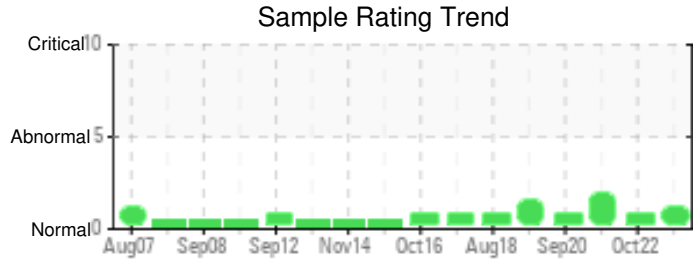
Customer: PTRHTF40056	System Information	Sample Information
SOFINE FOODS BV SPERWERWEG 7 LANDGRAAF 6374AG LANDGRAAF, 6374AG Netherlands Attn: WILBERT SNIJERS Tel: E-Mail: w.snijers@klt.nl	System Volume: 1400 ltr Bulk Operating Temp: 265F / 129C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: RELUTHERM	Lab No: 02536793 Analyst: Bill Quesnel CLS,OMA II,MLA-III,LLA-I Sample Date: 01/26/23 Received Date: 01/31/23 Completed: 02/15/23 Bill Quesnel CLS,OMA II,MLA-III,LLA-I

Recommendation: COC Flash Point is low, consider venting the expansion tank. All other parameters within expected limits. Check required at normal period.

Comments: COC Flash Point is marginally low. Viscosity is lower than typical.

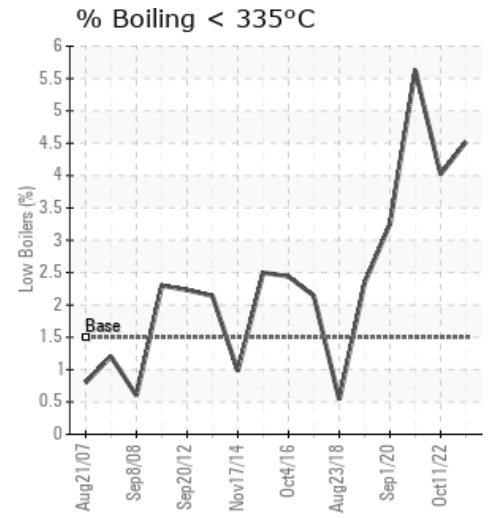
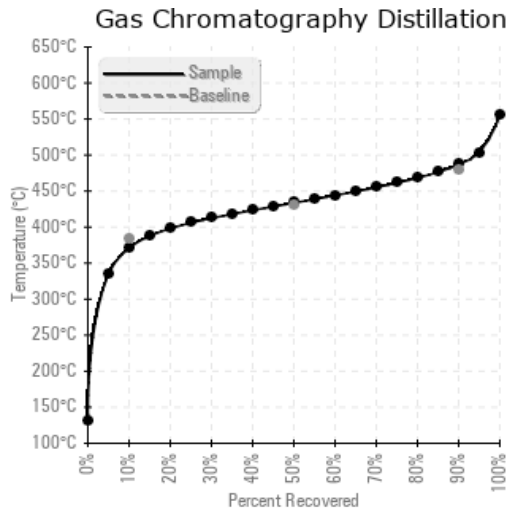
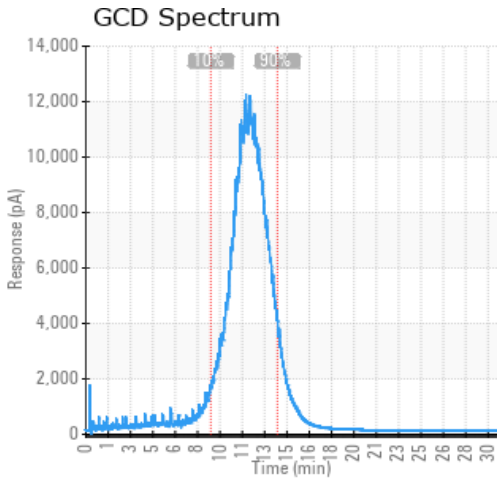
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/26/23	01/31/23	15.3y		363 / 184	17.0	28.8	0.49	0.042	700 / 371	812 / 434	908 / 487	4.52
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
09/05/19	09/11/19	12.0y		392 / 200	20.5	32.5	0.465	0.081	717 / 380	819 / 437	911 / 488	2.34
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
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
09/05/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	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	
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.
09/05/19	COC creeping downwards but no step change from last sample and little evidence on the GC of light molecules present. Re-sample at normal frequency (GCD) 90% Distillation Point is marginally high. COC Flash Point is marginally low.

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