

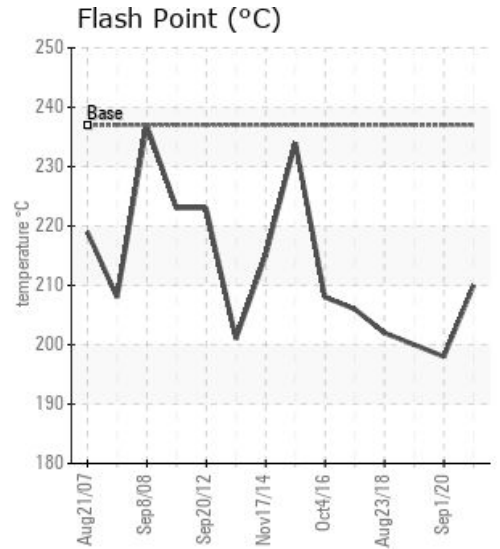
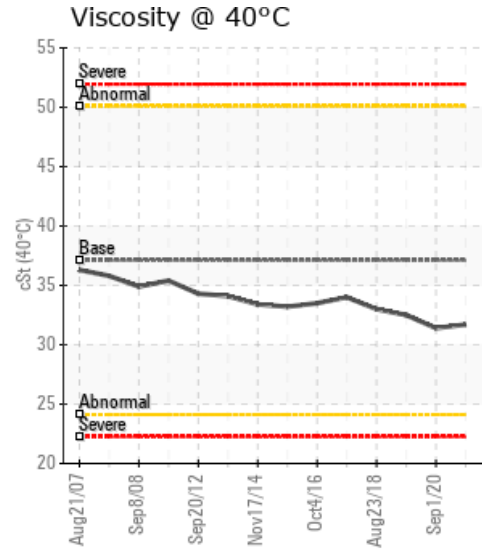
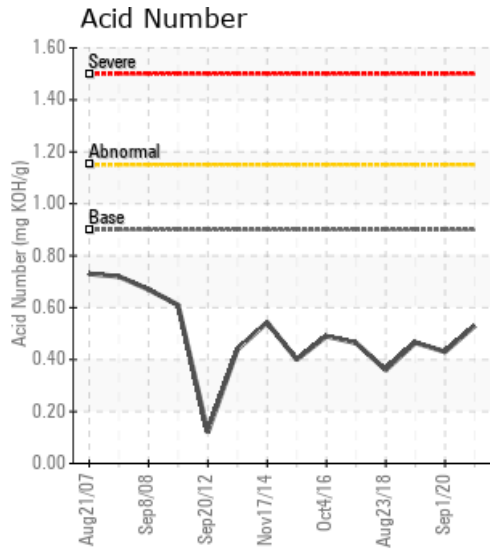
## RELUTHERM

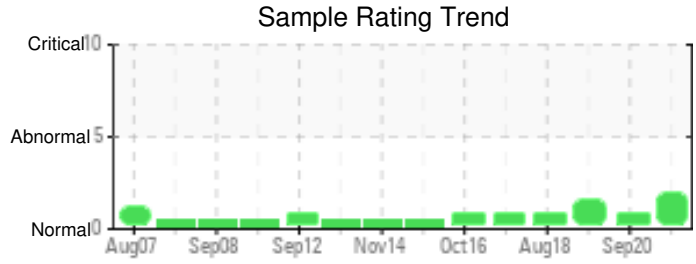
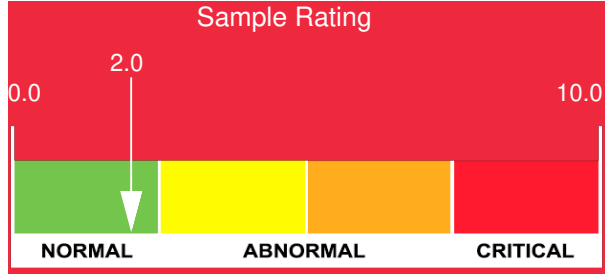
Customer: PTRHTF40056	System Information	Sample Information
SOFINE FOODS BV SPERWERWEG 7 LANDGRAAF 6374AG LANDGRAAF, 6374AG Netherlands Attn: WILBERT SNIJERS Tel: E-Mail: w.snijers@klt.nl	System Volume: 1400 ltr Bulk Operating Temp: 265F / 129C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: RELUTHERM	Lab No: 02446372 Analyst: Luis Rodriguez Sample Date: 09/21/21 Received Date: 09/27/21 Completed: 10/15/21 Luis Rodriguez luis.rodriguez@hollyfrontier.com

Recommendation: 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.

Comments: (GCD) 90% Distillation Point is severely high.

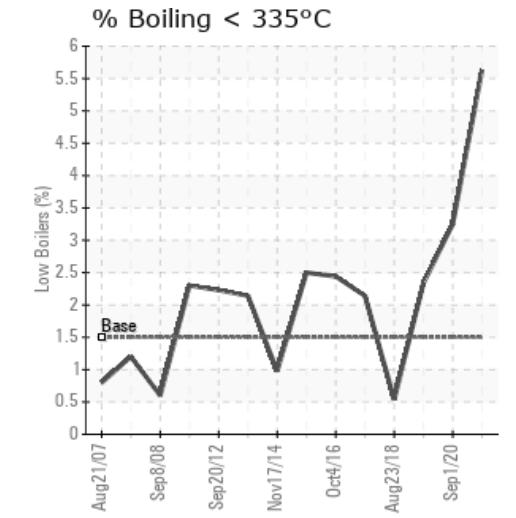
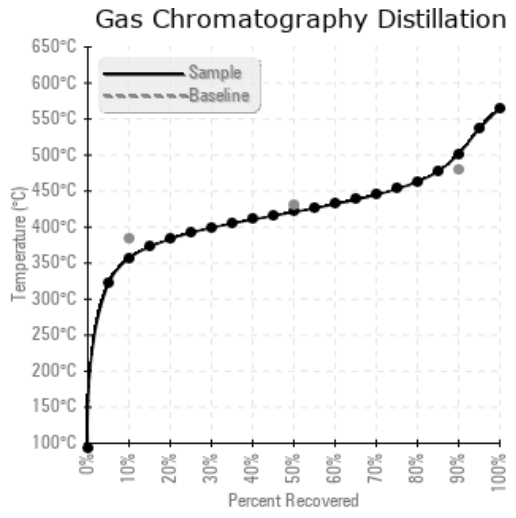
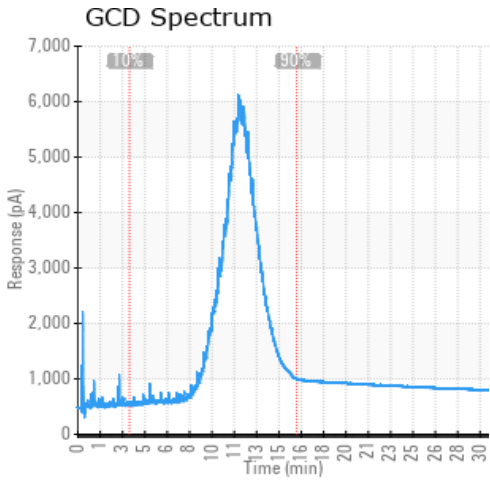
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
09/21/21	09/27/21	14.0y		410 / 210	15.2	31.7	0.53	0.095	674 / 357	790 / 421	934 / 501	5.63
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
08/23/18	08/28/18	11.0y		396 / 202	15.4	33.0	0.36	0.040	710 / 376	805 / 430	903 / 484	0.54
10/05/17	10/12/17	10.0y		403 / 206	6.0	34.0	0.464	0.082	715 / 379	814 / 434	903 / 484	2.14
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	
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	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	0	10	0
08/23/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
10/05/17	4	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					230	

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



Historical Comments	
09/01/20	Marginal 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.
08/23/18	Marginal low COC Flash Point which has trended slightly downwards over previous annual samples. All other parameters within expected limits. Check required at normal period and be prepared to take action if the COC Flash Pt slips further COC Flash Point is marginally low.
10/05/17	COC slightly down and highlighted as caution. Small top up would elevate to spec. All other parameters look OK COC Flash Point is marginally low.

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.