

## [THAILAND] CARGILL SUPPLY AND RETURN

**Customer: PTRHTF60010**  
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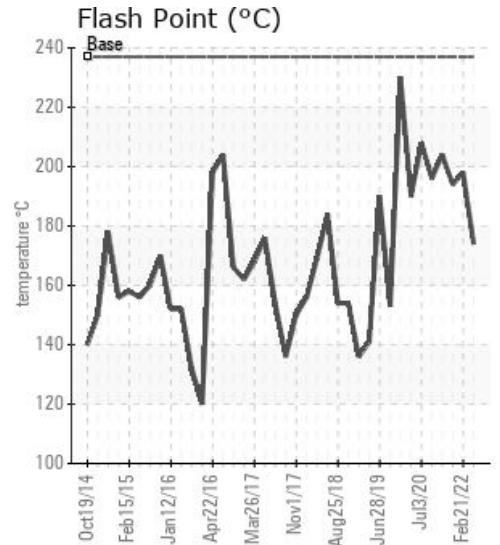
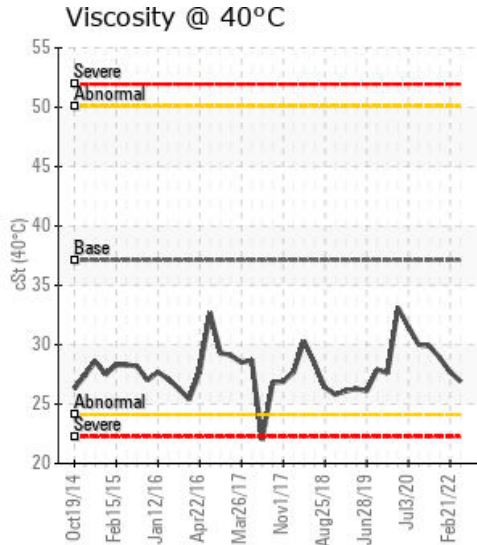
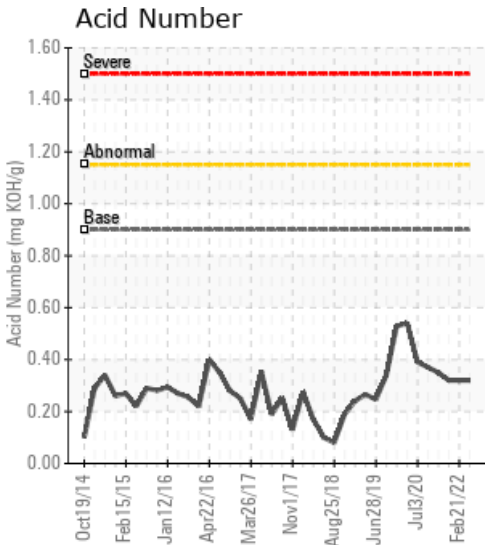
**System Information**  
 System Volume: 11275 ltr  
 Bulk Operating Temp: 554F / 290C  
 Heating Source:  
 Blanket:  
 Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID  
 Make: WANSON

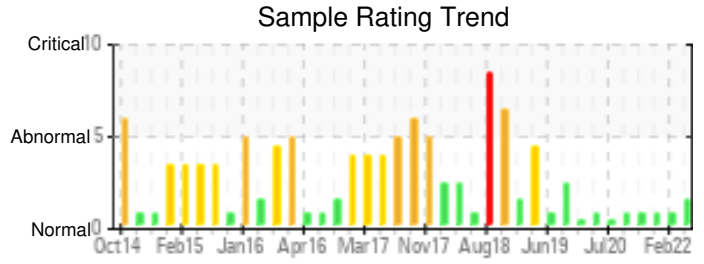
**Sample Information**  
 Lab No: 02490269  
 Analyst: Bill Quesnel CLS,OMA II,MLA-III,LLA-I  
 Sample Date: 05/07/22  
 Received Date: 05/24/22  
 Completed: 05/27/22  
 Bill Quesnel CLS,OMA II,MLA-III,LLA-I

Recommendation: Flash point has decreased. Recommend that you vent the expansion tank to reduce low boilers. Resample at next interval to monitor.

Comments: COC Flash Point is severely low.

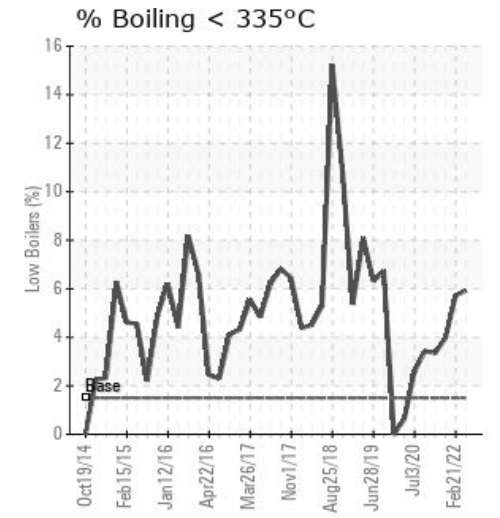
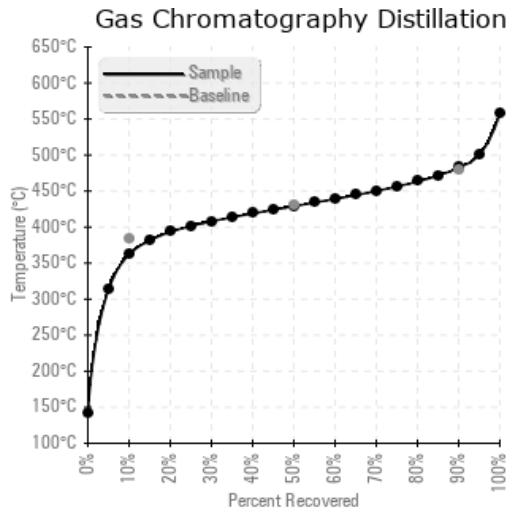
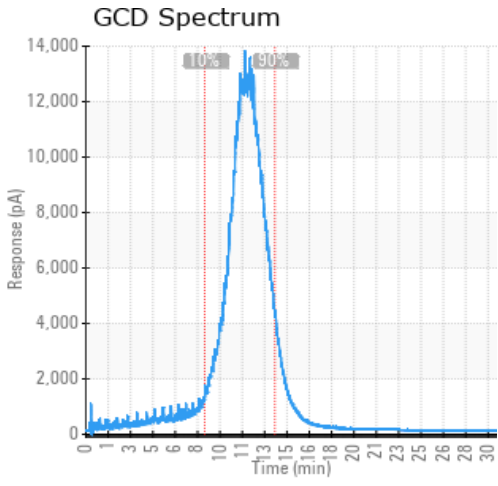
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/07/22	05/24/22	27.0m		345 / 174	8.6	26.9	0.32	0.030	684 / 362	804 / 429	900 / 482	5.93
02/21/22	03/15/22	26.0m		388 / 198	13.3	27.7	0.32	0.027	687 / 364	805 / 430	900 / 482	5.73
08/21/21	09/17/21	20.0m		381 / 194	14.3	28.9	0.32	0.037	705 / 374	808 / 431	899 / 482	3.97
02/12/21	02/26/21	14.0m	Supply and return	399 / 204	13.6	29.9	0.35	0.111	708 / 376	810 / 432	902 / 483	3.35
10/27/20	11/10/20	10.0m		385 / 196	8.0	30.0	0.37	0.084	709 / 376	811 / 433	902 / 483	3.43
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
05/07/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
02/21/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0
08/21/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1
02/12/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0
10/27/20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	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	
02/21/22	With exception of the COC Flash Point that is marginally low, all other parameters remain within acceptable limits. Please re-sample at normal frequency, oil if fit for further use COC Flash Point is marginally low.
08/21/21	COC Slightly low vs expectation, although no concern. If it can be done safely, please vent system to recover the flash point. Fluid fit for further use, please resample at normal frequency COC Flash Point is marginally low.
02/12/21	COC Flash Point is slightly low but within acceptable range. All parameters within acceptable limits. Fluid fit for further use and please re-sample at normal frequency COC Flash Point is marginally low.
10/27/20	Flash Point marginally low and some evidence of light end fluid cracking that would create low boiling point products to explain that. If the system can be safely vented then please look to do this. All other parameters are as expected and fluid fit for further use. Please re-sample at normal frequency COC Flash Point is marginally low.

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