

# WANSON EPC 2500 ES

**Customer: PTRHTF40020**  
 LE DUC FINE FOOD BV  
 MEESTER SNIJDERWEG 18  
 ZUID-HOLLAND  
 STELLENDAM, ZUI NETHERLANDS  
 Attn: Wilbert Snijers  
 Tel:  
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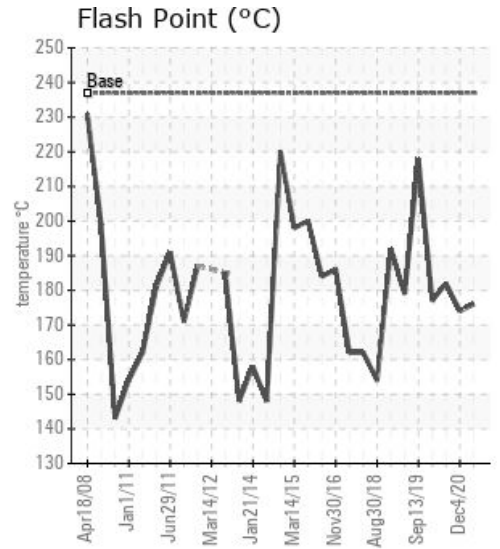
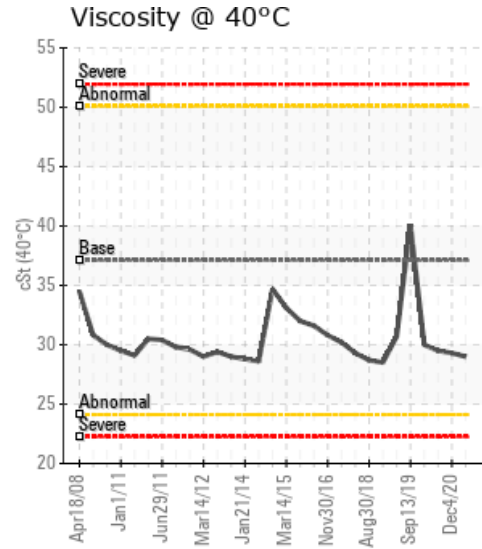
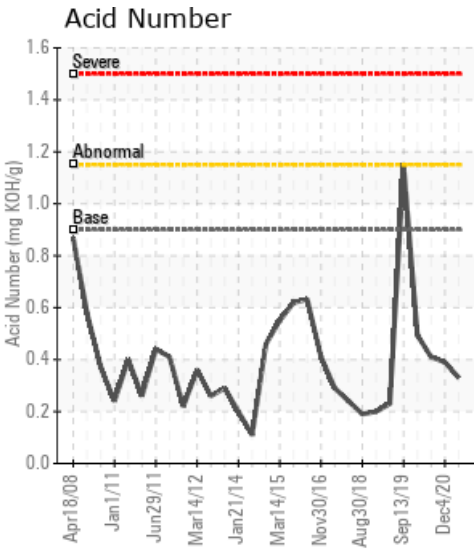
**System Information**  
 System Volume: 1500 ltr  
 Bulk Operating Temp: 265F / 129C  
 Heating Source:  
 Blanket:  
 Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID  
 Make: WANSON

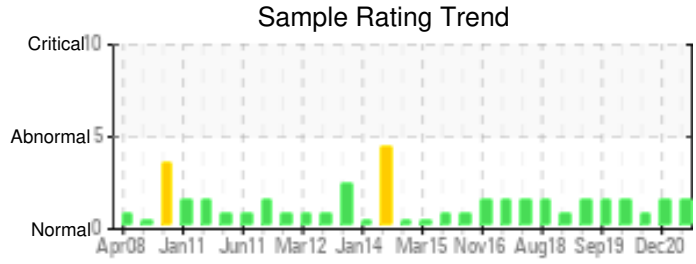
**Sample Information**  
 Lab No: 02428112  
 Analyst: Luis Rodriguez  
 Sample Date: 06/15/21  
 Received Date: 06/18/21  
 Completed: 06/21/21  
 Luis Rodriguez  
 luis.rodriguez@hollyfrontier.com

Recommendation: Although the parameters of the HTF are very constant during the last year the flash point continues to be severely low. Levels of low weight hydrocarbons recommend to monitor the low boilers and do some venting, that may help to recover the flash point.

Comments: COC Flash Point is severely low.

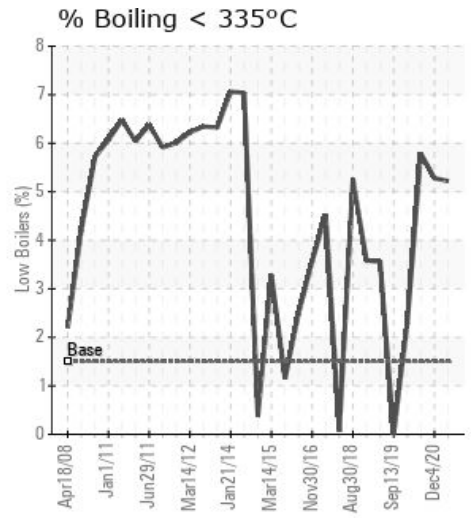
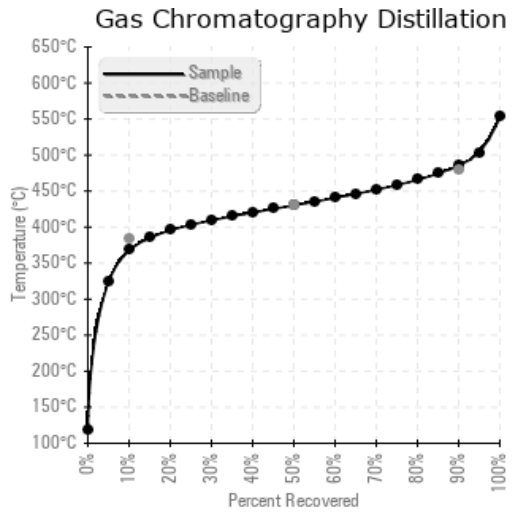
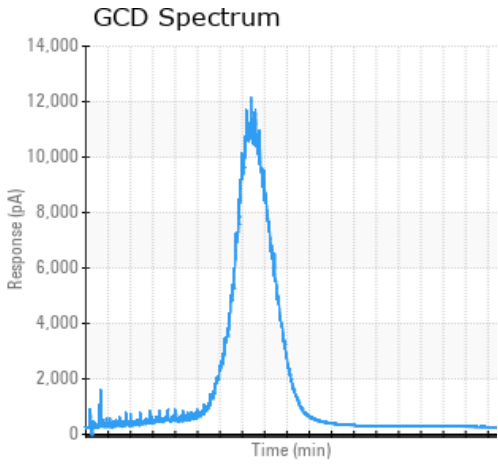
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
06/15/21	06/18/21	6.8y		349 / 176	15.4	29.0	0.33	0.105	694 / 368	806 / 430	906 / 486	5.22
12/04/20	12/11/20	6.3y		345 / 174	11.3	29.3	0.39	0.162	692 / 367	805 / 430	903 / 484	5.28
06/02/20	06/09/20	5.8y		360 / 182	55.0	29.5	0.41	0.289	683 / 362	804 / 429	906 / 486	5.79
10/12/19	12/23/19	5.3y		351 / 177	40.4	30.0	0.494	0.304	698 / 370	789 / 421	884 / 473	2.29
09/13/19	09/19/19	5.0y		424 / 218	33.5	40.1	1.15	0.960	729 / 387	812 / 433	888 / 476	0.00
<b>Baseline Data</b>				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
06/15/21	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0
12/04/20	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	0
06/02/20	98	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	78	0
10/12/19	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	0
09/13/19	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68	3
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

12/04/20	Flash Point is severely low, but GCD % <335 is still on an acceptable level. Monitor trend and take action if number of low boilers further increase and flash point further decreases.
06/02/20	No action required. Send in next oil sample in 6-12 month. COC Flash Point is slightly low.
10/12/19	Going through the history of this sample it raises some concerns. In this current sample there has been a loss in viscosity of 10cSt from previous, and a significant drop in flash point to a level that is severely low. The curve shows a little evidence of cracking, but levels of low weight hydrocarbons look fairly low. Some venting, if it can be done safely, may recover the flash point. I would attempt safe venting and re-sample. If it cannot be done a confirmation or another sample would be recommended as the step downwards in viscosity and flash point shows a worrying trend. COC Flash Point is severely low.
09/13/19	Was this an oil change? All parameters around Flash Point and viscosity seem to have recovered to normal levels, but the insoluble are very high. Try some filtration to remove insoluble matter and check at normal oil sample interval. Pentane Insolubles levels are severely high.

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