

KAONA FUTHER 5

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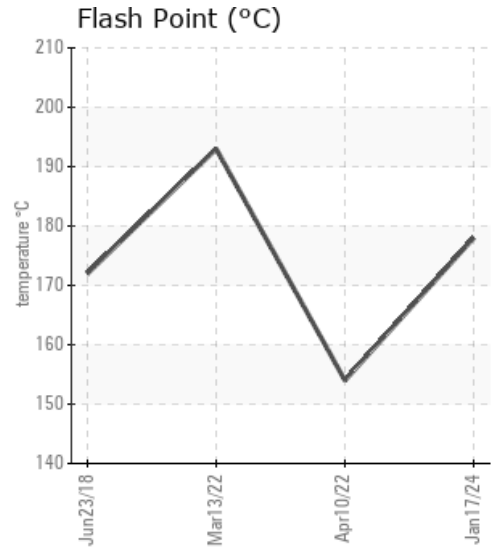
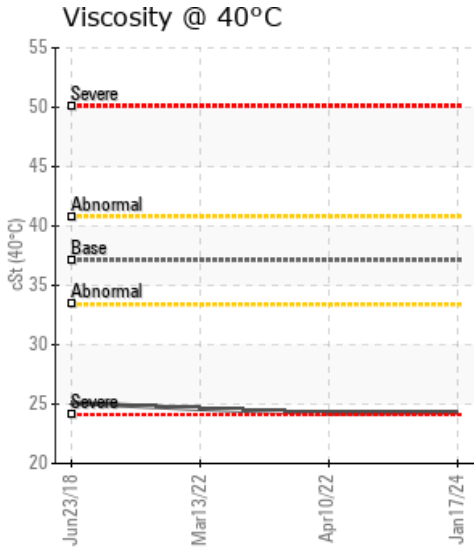
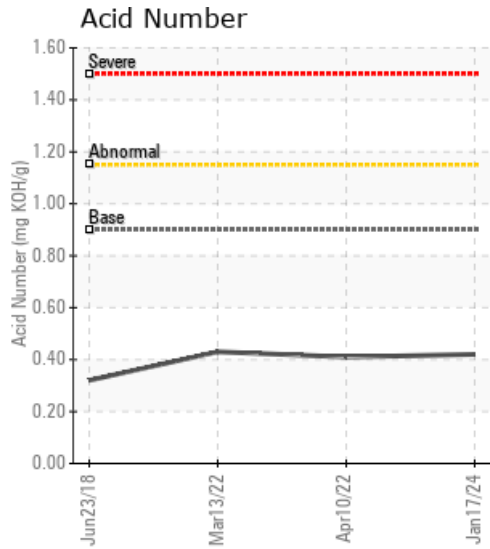
System Information
 System Volume: 4400 ltr
 Bulk Operating Temp: 545F / 285C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID
 Make:

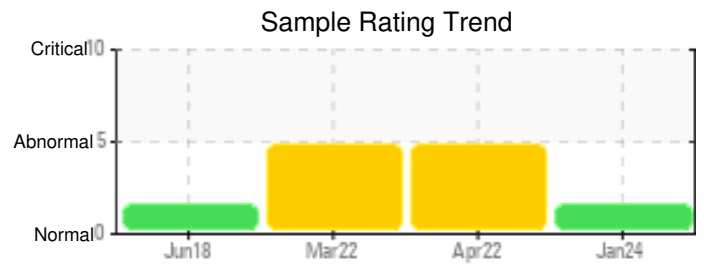
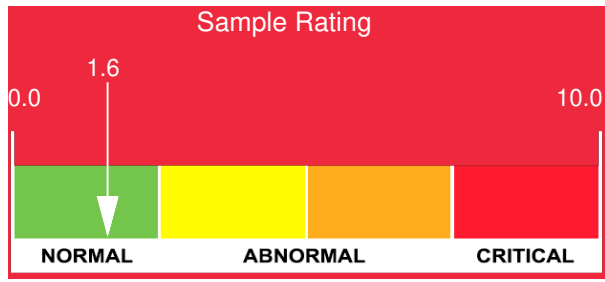
Sample Information
 Lab No: 02619420
 Analyst: Bill Quesnel CLS,OMA II,MLA-III,LLA-I
 Sample Date: 01/17/24
 Received Date: 03/01/24
 Completed: 03/06/24
 Bill Quesnel CLS,OMA II,MLA-III,LLA-I

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. The fluid is suitable for further service. We recommend an early resample to monitor this condition.

Comments: (GCD) 90% Distillation Point is abnormally high. COC Flash Point is abnormally low.

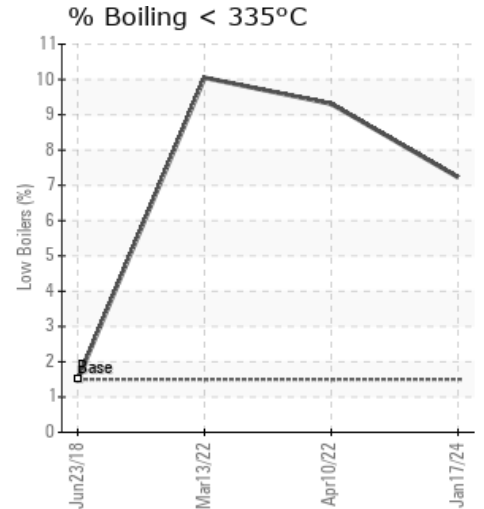
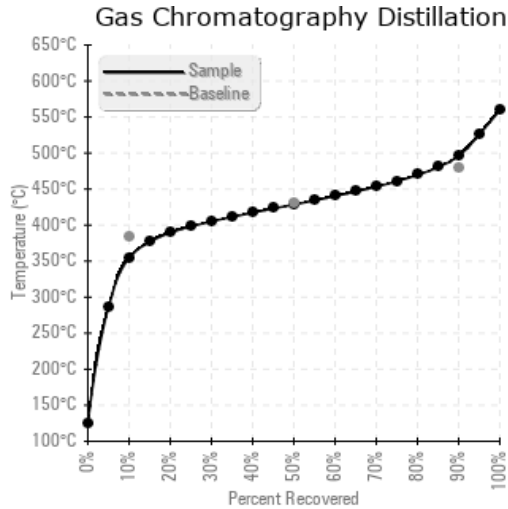
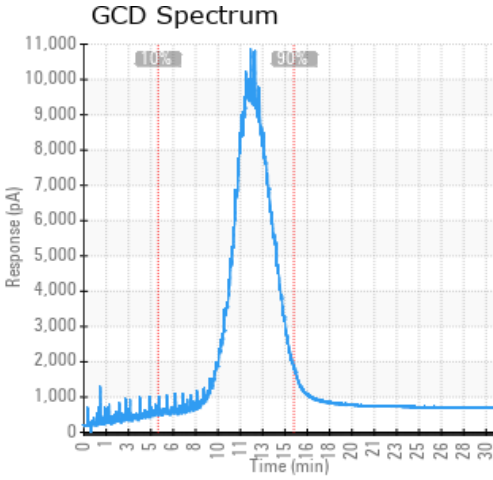
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/17/24	03/01/24	10.0y		352 / 178	16	24.3	0.42	0.035	671 / 355	803 / 429	924 / 496	7.23
04/10/22	04/27/22	8.0y	supply return	309 / 154	25.0	24.2	0.41	0.065	639 / 337	801 / 427	907 / 486	9.31
03/13/22	03/30/22	8.0y	SUPPLY RETURN	379 / 193	68.1	24.6	0.43	0.047	625 / 329	799 / 426	904 / 485	10.05
06/23/18	07/13/18	3.0y	SUPPLY/RETURN	342 / 172	3.0	25.1	0.32	0.029	683 / 362	774 / 412	885 / 474	1.49
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
01/17/24	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0
04/10/22	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0
03/13/22	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0
06/23/18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	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	
04/10/22	GCD analysis indicates light ends present in the fluid. Recommend venting the expansion tank to removal any volatiles present in the fluid to restore the flash point of the fluid. Resample at the next service interval to monitor. COC Flash Point is severely low. (GCD) 10% Distillation Point is abnormally low. (GCD) % < 335°C is marginally high. The condition of the fluid is acceptable for the time in service.
03/13/22	Last sample the recommendation was for venting and it can be seen on the GCD curve the spike of low boiling material has gone. However, and as you will see the viscosity remains low, so this action has bought some time, and the fluid will likely deteriorate again. Recommend another sample in 6 months to monitor, with a view as changing oil, including a clean and flush (GCD) 10% Distillation Point is severely low. (GCD) % < 335°C is marginally high. COC Flash Point is marginally low.
06/23/18	The current fluid has normal distillation points, low acid number, low solid contents. However, the low flash point is a concern due to the high bulk oil temperature. Please do the system venting and release the low boiler as soon as possible. Please take one sample in 6 months to monitor the conditions. COC Flash Point is severely low.

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