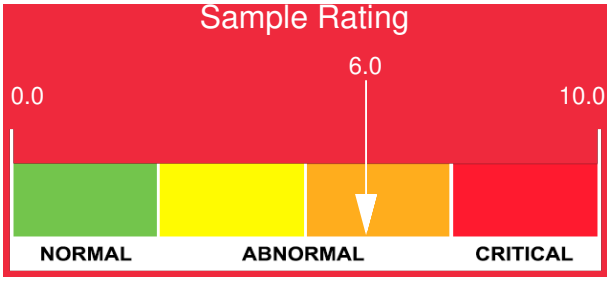
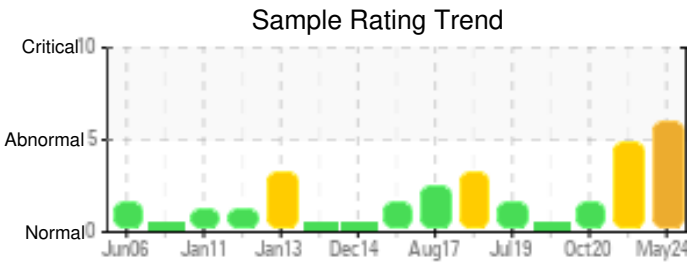




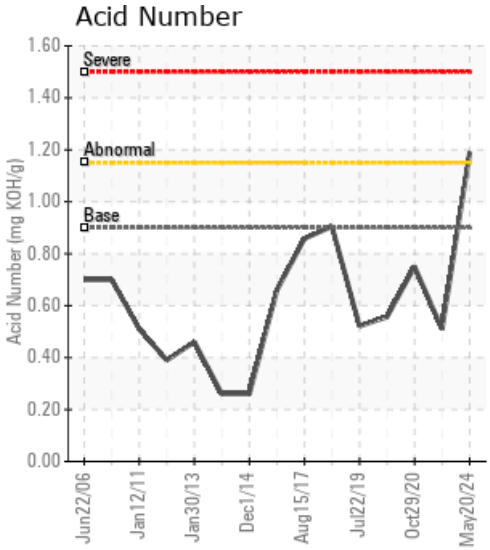
[Kings Cupboard] B150 GROEN

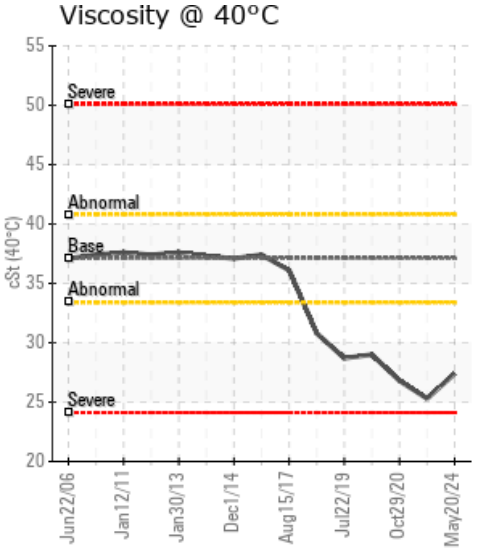
Customer: PTRHTF10078	System Information	Sample Information
WEST FORK CREATIONS 15 PEPSI DRIVE RED LODGE, MT 59068 US Attn: Becky Rietz Tel: (406)426-3060 E-Mail: foodsafety@kingscupboard.com	System Volume: 55 gal Bulk Operating Temp: 475F / 246C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: STERLCO	Lab No: 02639038 Analyst: Ron LeBlanc Sample Date: 05/20/24 Received Date: 05/30/24 Completed: 06/25/24 Ron LeBlanc Ronald.LeBlancSr@HFSinclair.com

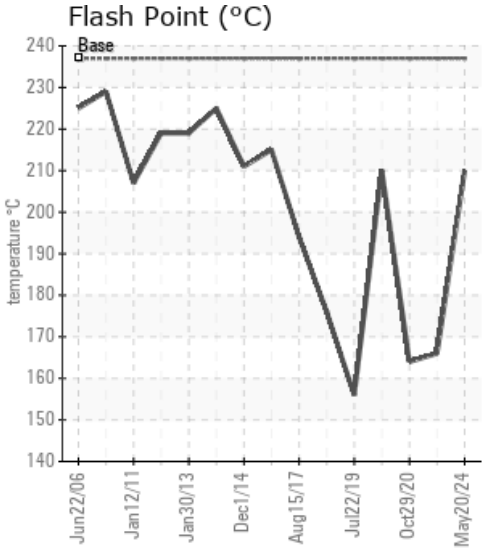
Recommendation: Sample shows oil degradation. Pentane insolubles indicate sludge forming. AN is elevated indicating oxidation. Check strainer or filter if the system has one. Drain a portion of old oil and refill with new Petro-Therm. Re-sample in 3 months.

Comments: Pentane Insolubles levels are severely high. Acid Number (AN) is abnormally high. Visc @ 40°C is abnormally low. (GCD) % < 335°C is marginally high. (GCD) 10% Distillation Point is marginally low.

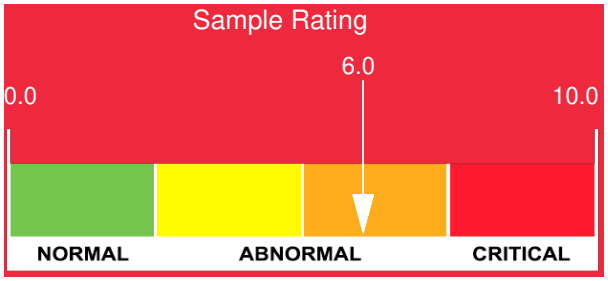
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/20/24	05/30/24	0.0m	Back drain plug	410 / 210	33	27.4	1.19	0.592	650 / 343	799 / 426	900 / 482	8.41
04/12/22	08/03/22	12.0m	drain plug	331 / 166	38.4	25.3	0.51	0.328	655 / 346	798 / 426	893 / 478	8.10
10/29/20	11/11/20	0.0m	Drain	327 / 164	31.6	26.8	0.75	0.250	667 / 353	800 / 427	888 / 475	7.26
08/22/19	09/06/19	6.0m	DRAIN	410 / 210	0.00	29.0	0.557	0.223	690 / 366	803 / 429	888 / 476	4.50
07/22/19	08/01/19	0.8m	DRAIN VALVE	313 / 156	20.9	28.7	0.521	0.185	690 / 366	801 / 427	885 / 474	4.31
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5

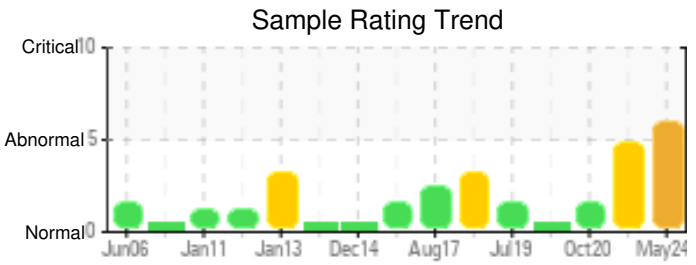






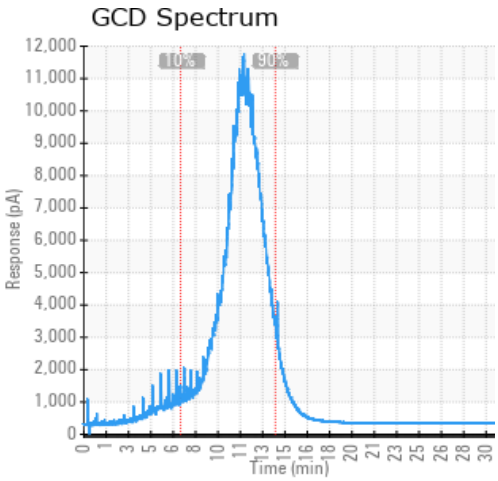
PETRO-CANADA LUBRICANTS

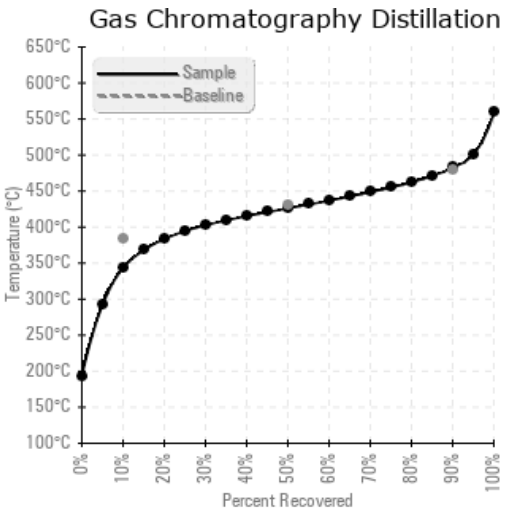


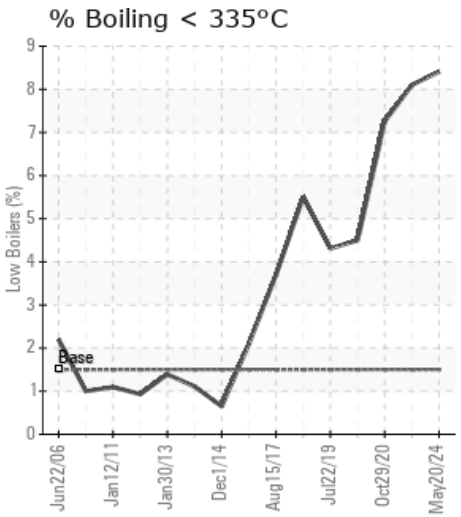


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
05/20/24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112	1
04/12/22	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	84	0
10/29/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	0
08/22/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95	0
07/22/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	1
Baseline Data			0	0						0			0	0				0	0				230	

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







Historical Comments

04/12/22	Decreased Viscosity:Lower viscosity oil added possibly.Indicates thermal degradation.IMPROVES THE FLUID'S ABILITY TO TRANSFER HEATBUT often reduces flash, fire and auto-ignition pointsThe GCD profile indicates cracking of the fluid. The lowered flash point coincides with cracking. You might try venting the expansion tank to remove the lighter fractions. Sample in 1 month. COC Flash Point is severely low. Visc @ 40°C is abnormally low. (GCD) % < 335°C is marginally high. (GCD) 10% Distillation Point is marginally
10/29/20	COC Flash Point is very low. The boiling point is low which correlates with the flash point low. The severely low flash point is concerning. Taking a sample before purging enough oil can cause the indications reported. If a good sample was drawn then adding some fresh oil can raise both Flash Point and Boiling Point. Resample in 3 months. COC Flash Point is severely low.
08/22/19	Sample is improved from previous sample. Sample looks normal. Re-sample in 3 months.
07/22/19	The COC Flash Point has dropped over the last 2 samples. It might be due to where the sample is being taken or not purging enough oil before sample is drawn. The oil could have been overheated or severely taken up to operating temperature rapidly. Viscosity has dropped significantly in the last 2 samples. If possible add fresh oil to bring viscosity and COC Flash Point up. Take another sample and send in to verify results. COC Flash Point is severely low.