

B300 GROEN

Customer: PTRHTF10078
 WEST FORK CREATIONS
 15 PEPSI DRIVE
 RED LODGE, MT 59068 USA
 Attn: Becky Rietz
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 E-Mail: foodsafety@kingscupboard.com

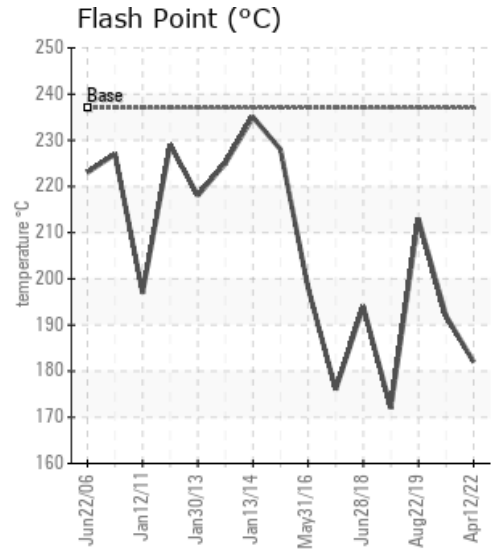
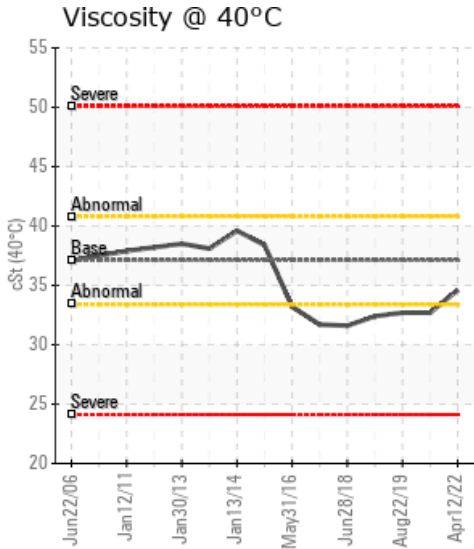
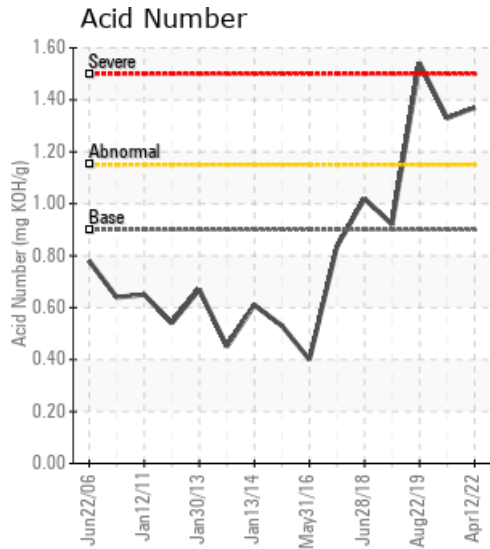
System Information
 System Volume: 70 gal
 Bulk Operating Temp: 475F / 246C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID
 Make: STERLCO

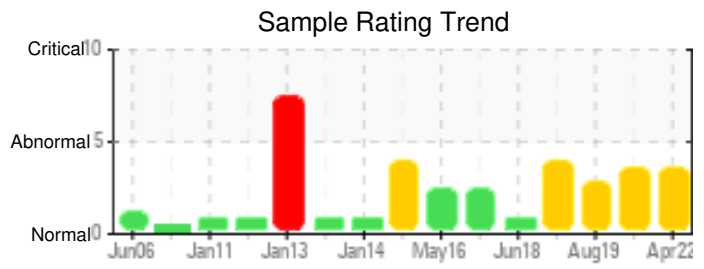
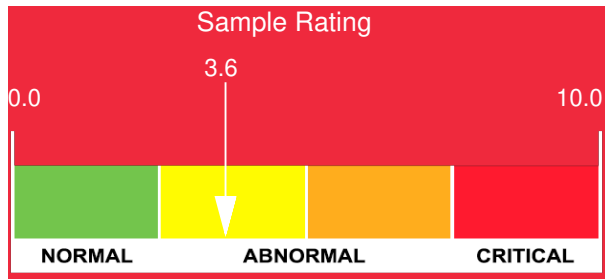
Sample Information
 Lab No: 02503193
 Analyst: Ron LeBlanc
 Sample Date: 04/12/22
 Received Date: 08/03/22
 Completed: 08/04/22
 Ron LeBlanc
 Ronald.LeBlancSr@hollyfrontier.com

Recommendation: Pentane Insolubles levels are severely high. ORGANIC AND INORGANIC SOLIDS ARE DETERMINED Organic solids usually come from oxidation. Inorganic solids such as iron (rust, corrosion or erosion of piping) or contamination Acid Number (AN) is abnormally high. Measure of acidic compounds in the oil. These acids would normally come from oil oxidation unless an acidic contaminant enters the oil. COC Flash Point is abnormally low. Resample in 1 month: Be sure to purge a good amount of oil before collecting sample.

Comments: Pentane Insolubles levels are severely high. Acid Number (AN) is abnormally high. COC Flash Point is abnormally low.

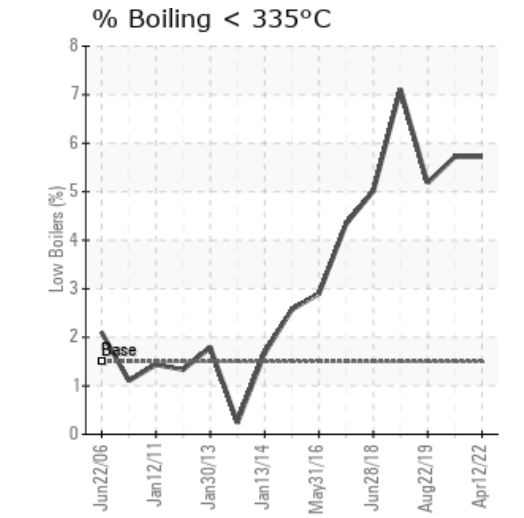
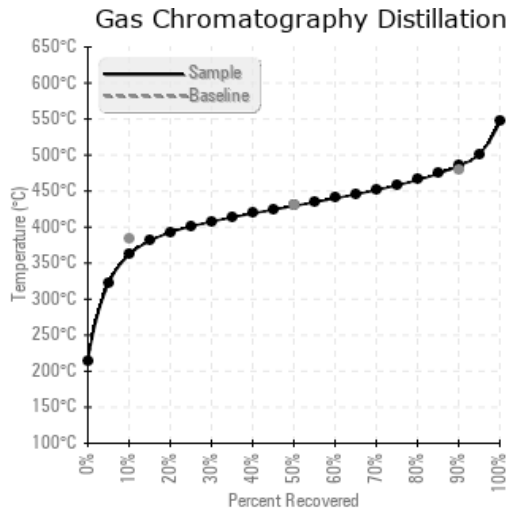
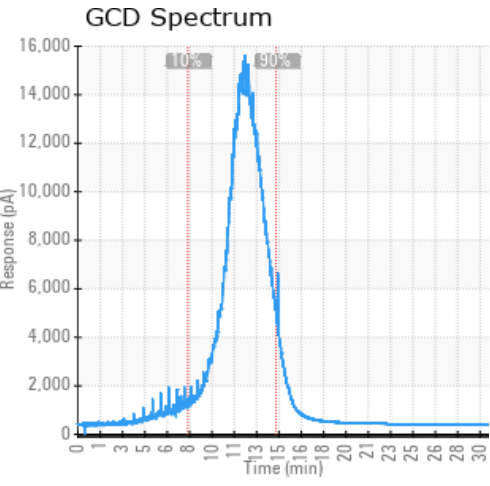
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/12/22	08/03/22	12.0m	drain	360 / 182	117.2	34.6	1.37	2.97	683 / 362	805 / 429	905 / 485	5.72
10/29/20	11/11/20	0.0m	Drain	378 / 192	61.4	32.7	1.33	1.08	686 / 363	804 / 429	905 / 485	5.72
08/22/19	09/06/19	6.0m	DRAIN	415 / 213	64.5	32.7	1.54	0.597	685 / 363	801 / 427	900 / 482	5.18
07/22/19	08/01/19	0.0m	DRAIN VALVE	342 / 172	74.5	32.4	0.920	0.618	664 / 351	792 / 422	895 / 480	7.11
06/28/18	07/23/18	5.0m	OIL DRAIN	381 / 194	23.7	31.6	1.02	0.316	685 / 363	800 / 427	899 / 482	5.01
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
04/12/22	7	0	0	0	0	0	0	0	0	0	5	0	20	0	0	0	0	0	0	0	0	0	166	1
10/29/20	4	0	0	0	0	0	0	0	0	0	4	0	11	0	0	0	0	0	0	0	0	0	158	0
08/22/19	1	0	0	0	0	0	0	0	0	0	4	0	6	0	0	0	0	0	0	0	0	0	161	0
07/22/19	2	0	0	0	0	0	0	0	0	0	4	0	7	0	0	0	0	0	0	0	0	0	159	0
06/28/18	2	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	140	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	
10/29/20	The sample indicates very high pentane insolubles. The flash point has dropped from previous samples. This could be from lighter fractions boiled off. The flash point, Acid Number and insolubles might indicate not enough fluid was purged before the sample was taken. Take another sample and make sure oil is purged before capturing the sample. Pentane Insolubles levels are severely high. Acid Number (AN) is abnormally high. COC Flash Point is abnormally low.
08/22/19	Acid number is elevated. COC Flash Point is rising back to normal. Pentane insoluble stayed about the same as previous sample. Take another sample in 3 months. Pentane Insolubles levels are severely high. Acid Number (AN) is abnormally high.
07/22/19	COC Flash Point is severely low. Pentane insoluble has risen in last 3 samples. Possible process leak? Be sure to purge the system before taking sample. Re sample and check results. Oil could have been heated too high or too quickly if shut down and started back up. Add new oil to bring COC Flash Point back up. Pentane Insolubles levels are severely high. COC Flash Point is severely low. (GCD) 10% Distillation Point is marginally low.
06/28/18	COC Flash Point has come up since previous sample. Pentane Insolubles have dropped significantly from previous sample. Purge more oil out of sample port before taking next sample. COC Flash Point is marginally low.

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