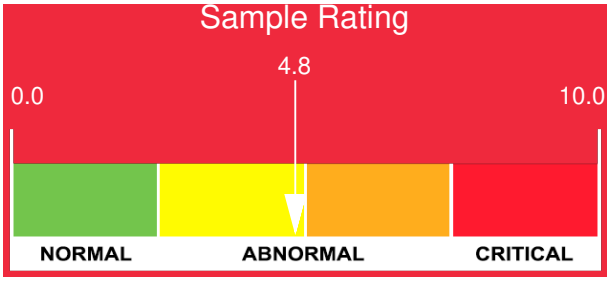
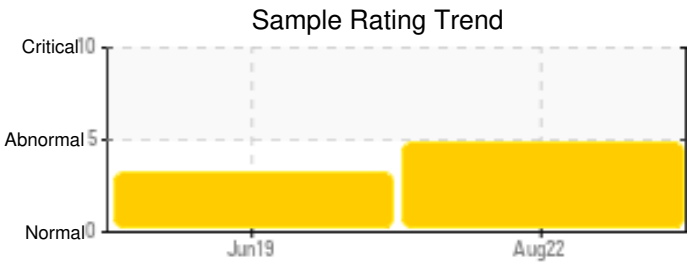




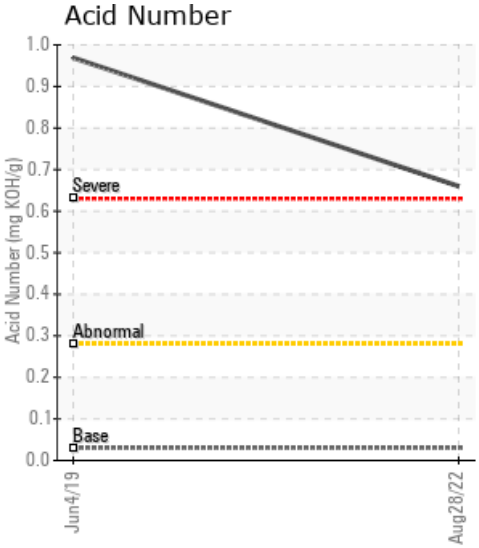
451-ACHESON RAIL

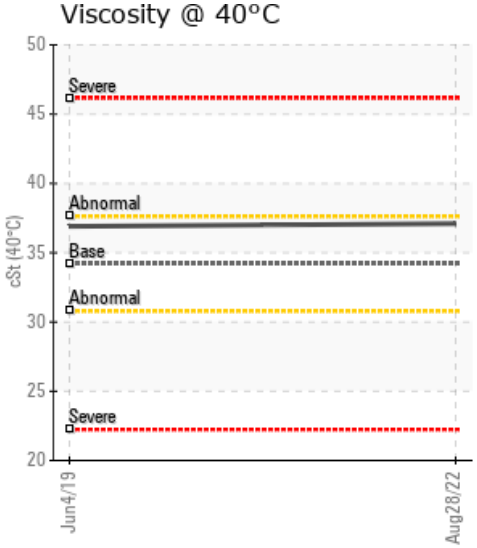
Customer: PTRHTF20056	System Information	Sample Information
McAsphalt 26222 TOWNSHIP ROAD 530A ACHESON, AB T7X 5A7 Canada Attn: Luis Salinas Tel: (780)699-2447 E-Mail: lsalinas@mcasphalt.com	System Volume: 4000 ltr Bulk Operating Temp: Not Specified Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: HEATEC	Lab No: 02509199 Analyst: Yutong Gao Sample Date: 08/28/22 Received Date: 09/06/22 Completed: 09/13/22 Yutong Gao yutong.gao@HFSinclair.com

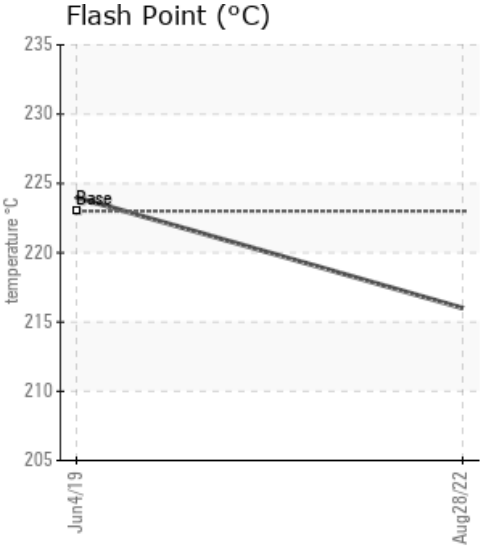
Recommendation: The current fluid has adequate viscosity, flash point and distillation points. However, the high TAN suggests the fluid has oxidation. The 0.9% solid content is extremely high which is most likely resulted from the fluid oxidation. Please find opportunity to filter the solid out in the near future. If the cost of filtration work is too high or there is no time for the filtration work, then please plan a fluid change soon.

Comments: Solid levels are severely high. Acid Number (AN) is severely high.

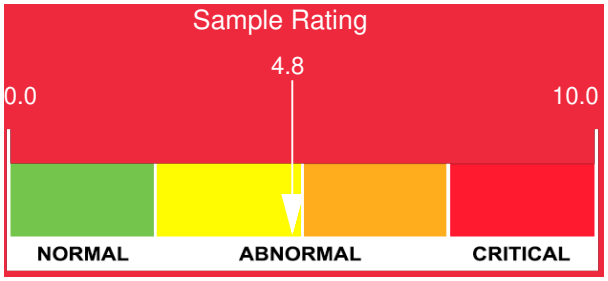
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/28/22	09/06/22	0.0y		421 / 216	125.0	37.1	0.66	0.900	731 / 388	815 / 435	911 / 488	0.72
06/04/19	07/12/19	2.5y		435 / 224	23.1	36.9	0.969	0.120	722 / 384	808 / 431	906 / 486	0.00
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00

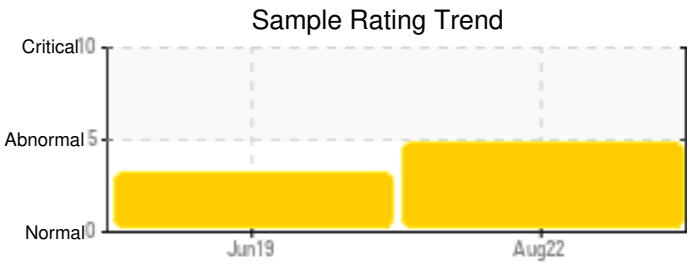






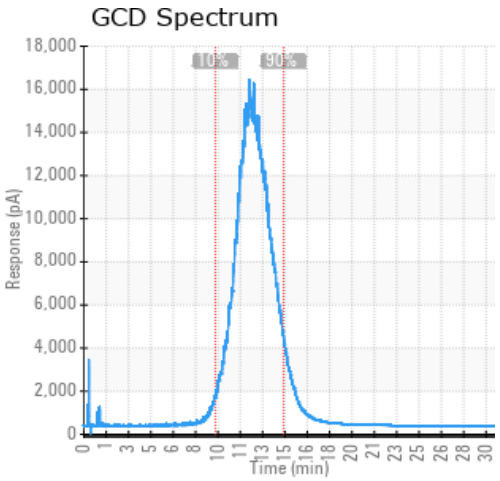
PETRO-CANADA LUBRICANTS

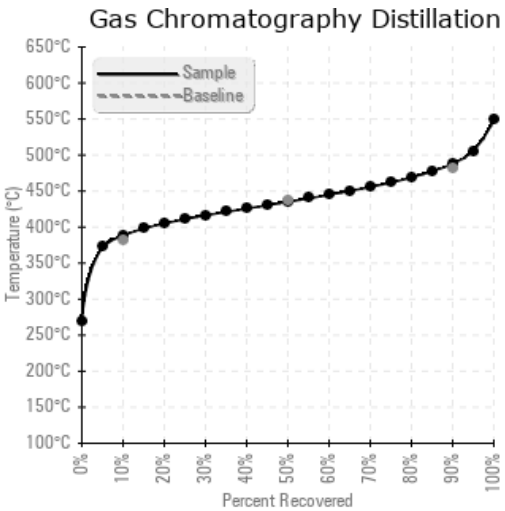


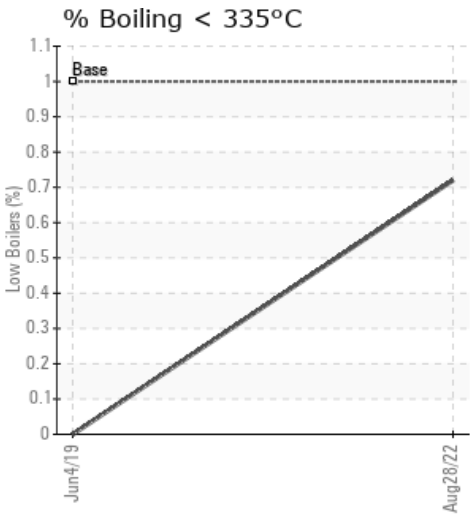


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
08/28/22	87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	4	0
06/04/19	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	2	0
Baseline Data			0	0						0			0	0					0				0	

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







Historical Comments

06/04/19	the Acid Number and Pentane insoluble are slightly high, and as result, the viscosity at 40 is higher than the ISO 32. need to monitor the iron level in the oil closely and make sure there is no internal corrosion. Acid Number (AN) is severely high.