

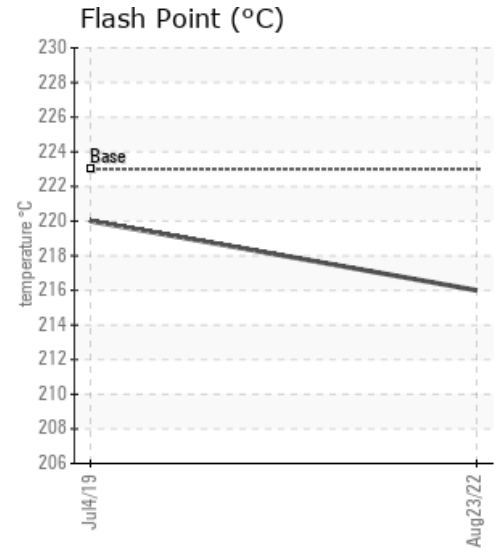
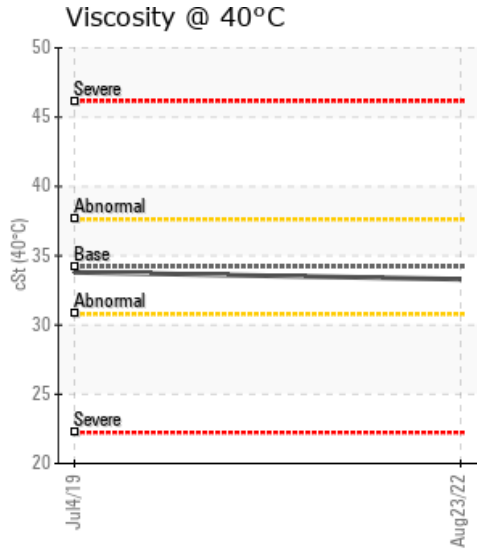
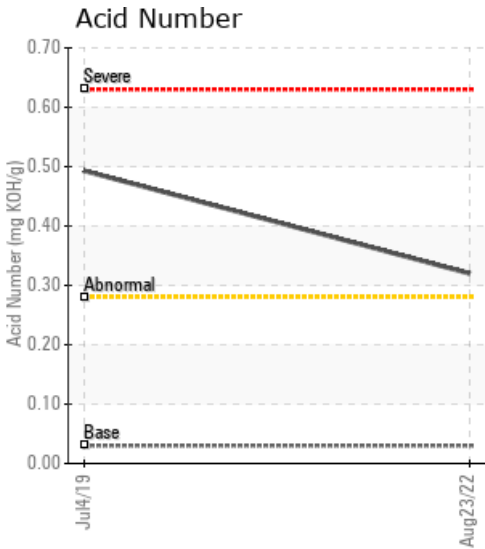
## 451-ACHESON EMULSIONS

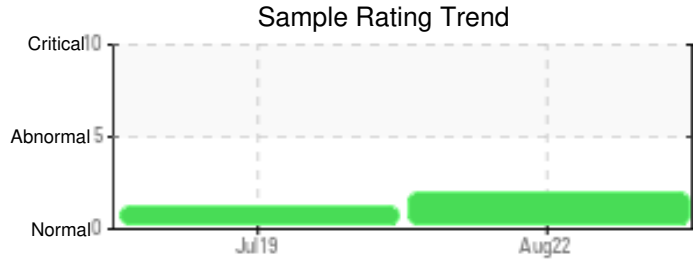
Customer: PTRHTF20056	System Information	Sample Information
McAsphalt 26222 TOWNSHIP ROAD 530A ACHESON, AB T7X 5A7 Canada Attn: Luis Salinas Tel: (780)699-2447 E-Mail: lsalinas@mcasphalt.com	System Volume: 2000 ltr Bulk Operating Temp: Not Specified Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: CEI	Lab No: 02509200 Analyst: Yutong Gao Sample Date: 08/23/22 Received Date: 09/06/22 Completed: 09/13/22 Yutong Gao yutong.gao@HFSinclair.com

Recommendation: The current fluid has normal viscosity, flash point and distillation points. The elevated AN (Acid Number) indicates a moderate oil oxidation. The solid content is higher than the last sample, but still suitable for further operation. Please take one sample in 12 months to monitor the conditions.

Comments: Acid Number (AN) is abnormally high.

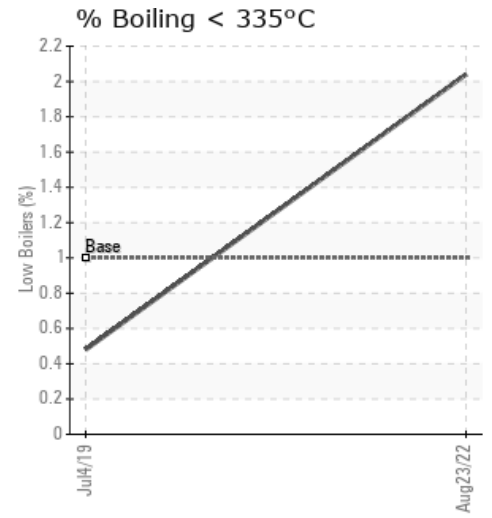
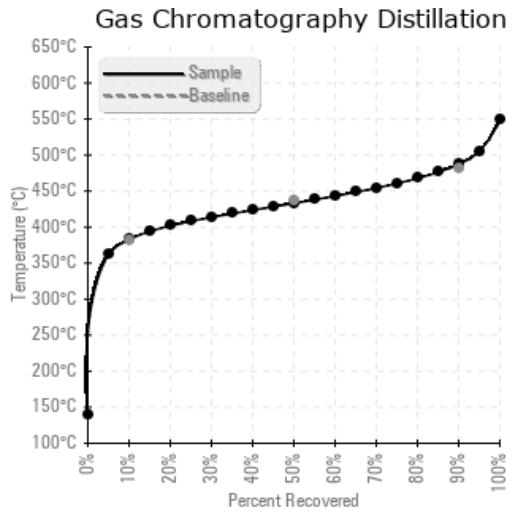
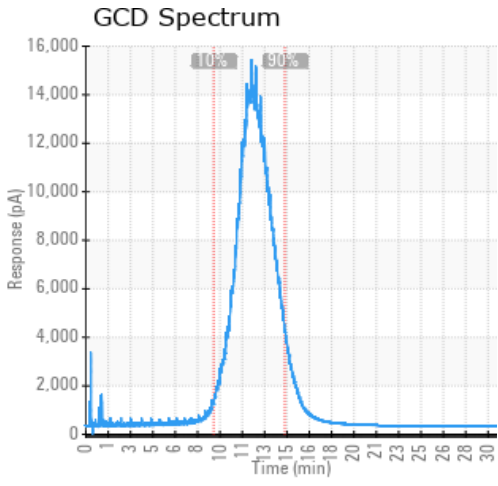
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/23/22	09/06/22	0.0y		421 / 216	77.3	33.3	0.32	0.426	721 / 383	812 / 433	909 / 487	2.04
07/04/19	07/12/19	0.0y		428 / 220	39.1	33.8	0.493	0.248	716 / 380	805 / 429	906 / 485	0.48
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00





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
08/23/22	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	1	1
07/04/19	41	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	19	1	5	8
Baseline Data			0	0						0			0	0					0				0	

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



### Historical Comments

07/04/19	High total acid number indicates the product degradation. at this moment the fluid condition is good but high acid will start the piping corrosion with the risk of creating pinholes. Acid Number (AN) is abnormally high.

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