

# 451-ACHESON AC

**Customer: PTRHTF20056**  
 McAsphalt  
 26222 TOWNSHIP ROAD 530A  
 ACHESON, AB T7X 5A7 Canada  
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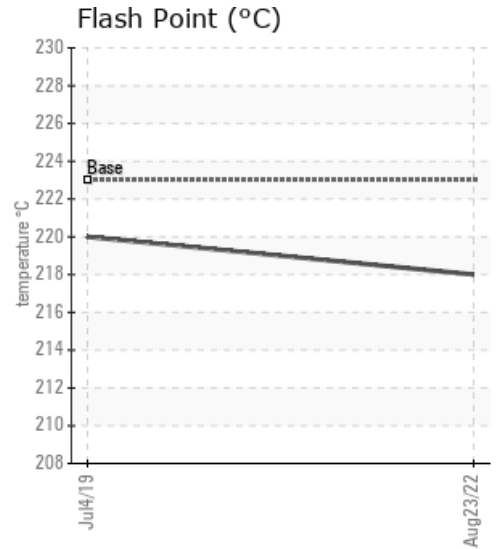
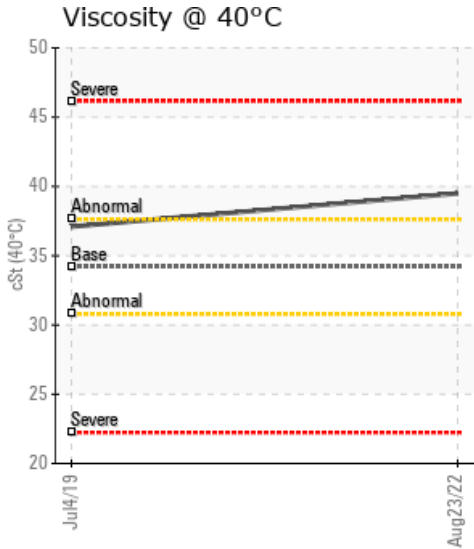
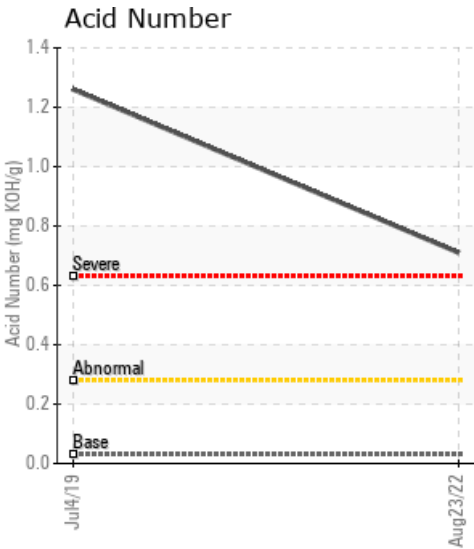
**System Information**  
 System Volume: 18000 ltr  
 Bulk Operating Temp: Not Specified  
 Heating Source:  
 Blanket:  
 Fluid: PETRO CANADA PETRO-THERM  
 Make: HEATEC

**Sample Information**  
 Lab No: 02509202  
 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 elevated AN (Acid Number) and higher viscosity at 40C and extremely high solid contents all indicate the fluid oxidation. The 296ppm Fe is considered as third party contamination. If the fluid filtration can be managed in the near future, then please filter the solids or particles as much as possible, and then take one more sample to verify the filtration effectiveness. Otherwise, it is better to plan a complete fluid change. The system inspection is recommended to decide if there is a need for system cleaning and flushing.

Comments: Iron ppm levels are abnormal. Solid levels are severely high. Acid Number (AN) is severely high. Visc @ 40°C is abnormally high.

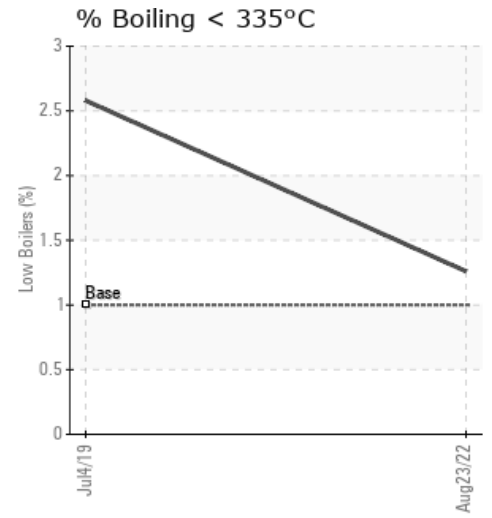
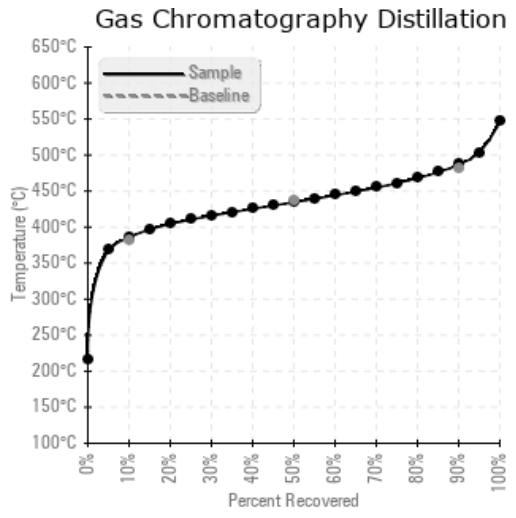
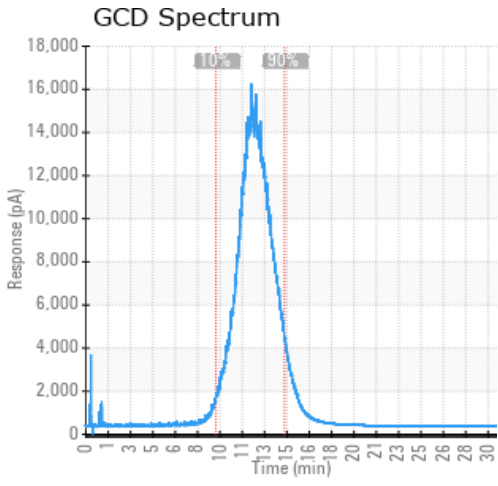
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/23/22	09/06/22	6.0y		424 / 218	69.9	39.5	0.71	1.13	726 / 386	814 / 435	908 / 487	1.26
07/04/19	07/12/19	2.5y		428 / 220	62.4	37.1	1.26	1.17	702 / 372	799 / 426	897 / 480	2.58
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	296	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	5	0	0	0	5	0	6	0
07/04/19	414	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	8	0	0	0
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 Acid Number and Pentane insoluble show high oxidation. the oxidation by-products will corrode the piping system including Steel parts. the high Iron content confirms this corrosion.Iron ppm levels are severe. PQ levels are severe. Pentane Insolubles levels are severely high. Acid Number (AN) is severely high.

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