

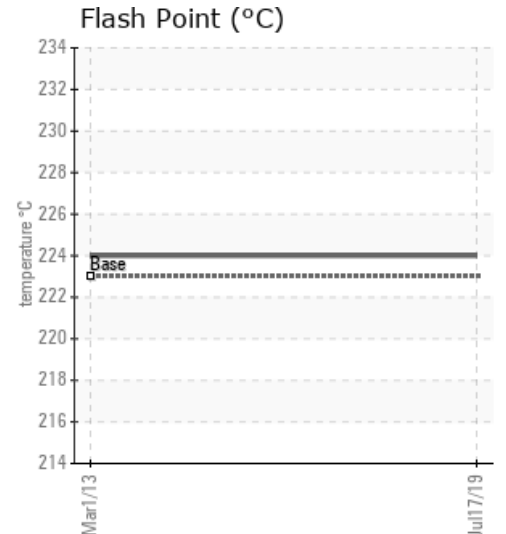
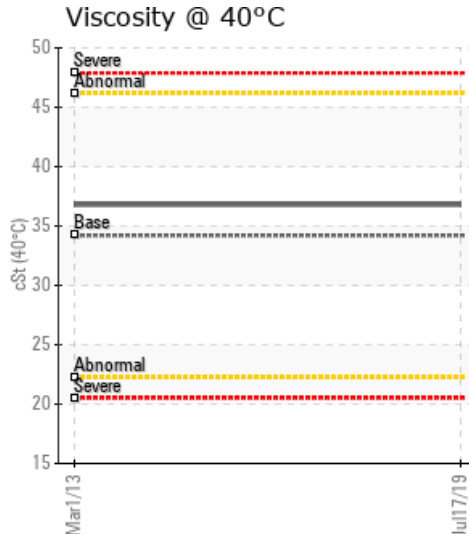
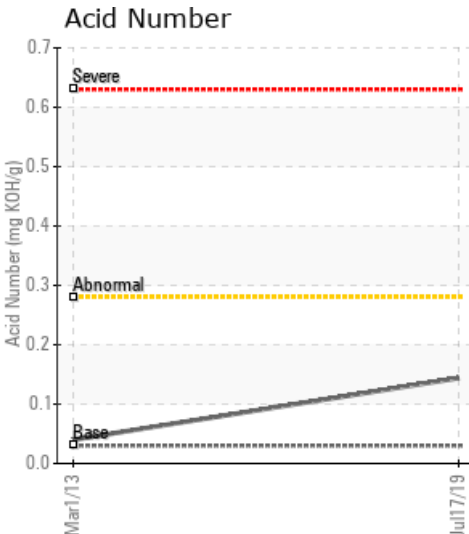
## HEAT TRANSFER FLUID

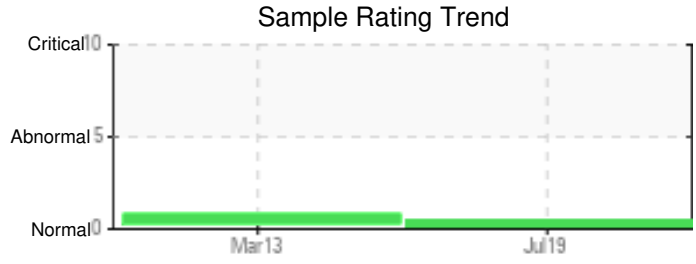
Customer: PTRHTF30059	System Information	Sample Information
MCASPHALT INDUSTRIES LTD 180 PIER 24 GATEWAY HAMILTON, ON L8H 0A3 CANADA Attn: JOHN BISHOP Tel: (416)281-8181 E-Mail: jbishop@mcasphalt.com	System Volume: 40000 ltr Bulk Operating Temp: 475F / 246C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: HEATEC	Lab No: 02297963 Analyst: Adam Koscielak Sample Date: 07/17/19 Received Date: 07/19/19 Completed: 07/26/19

Recommendation: Current sample indicates the fluid is suitable for continued use. No issues with viscosity, Acid Number, Flash point, distillation profile. There was an increase in solids. When sampling please ensure sample point is flushed before sampling to ensure any solids that have accumulated at the valve over time is not introduced into the sample. Please resample in 6 months.

Comments:

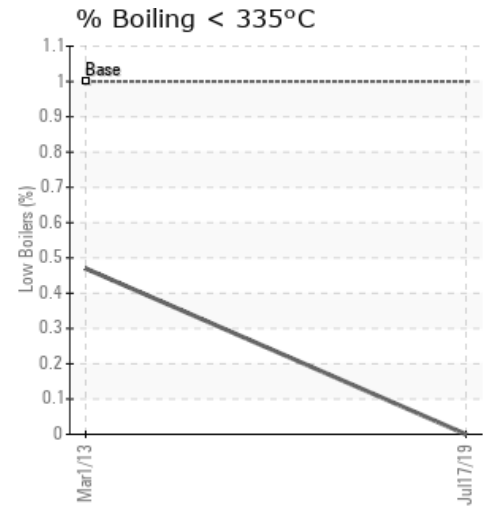
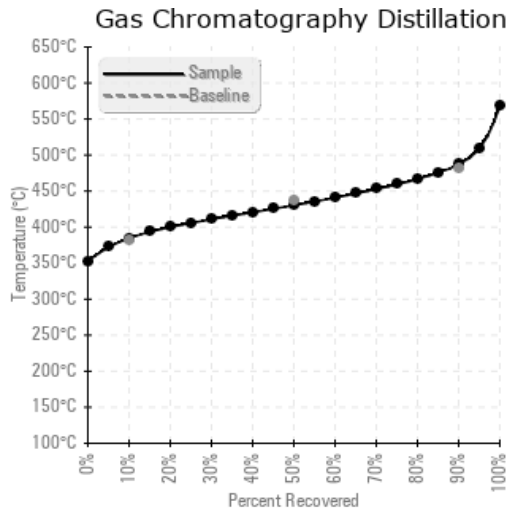
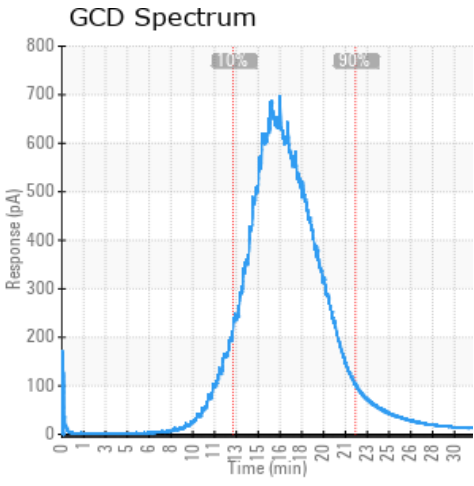
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
07/17/19	07/19/19	7y	ABOVE	435 / 224	14.1	36.8	0.144	0.251	724 / 385	807 / 430	909 / 487	0.00
03/01/13	03/04/13	0y	CIRC PUMP DISCHARGE	435 / 224	22.5	36.8	0.04	0.035	719 / 382	808 / 431	919 / 493	0.47
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
07/17/19	8	0	0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0	5	0	2	2
03/01/13	13	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	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

03/01/13	Besides the dark appearance, test results on this sample seem to indicate the oil is definitely suitable for further service. Please let us know if you wish to be placed on automatic reminders for yearly or semi-annual sampling. (GCD) 90% Distillation Point is abnormally high.

Petro-Canada makes no representation or warranty of any kind, either express or implied, as to the accuracy or completeness of the analysis and assumes no responsibility and shall have no liability whatsoever with respect to such analysis, or a party's use of it. Petro-Canada is a division of HollyFrontier Corporation.