

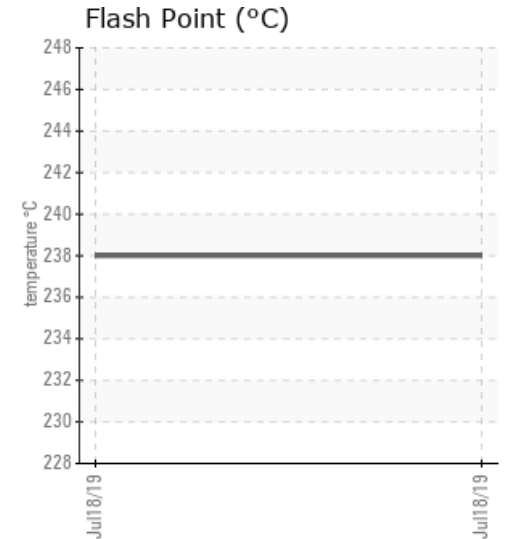
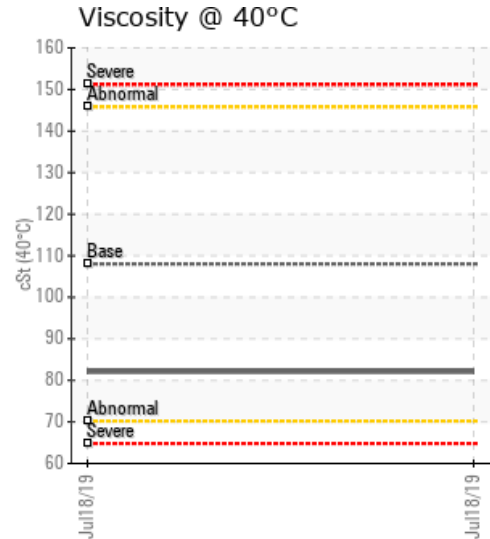
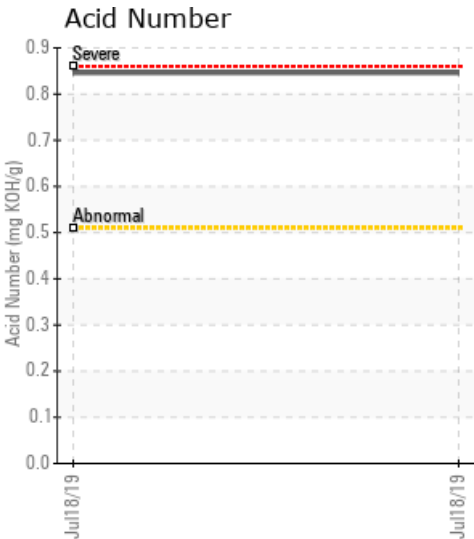
# HEAT TRANSFER

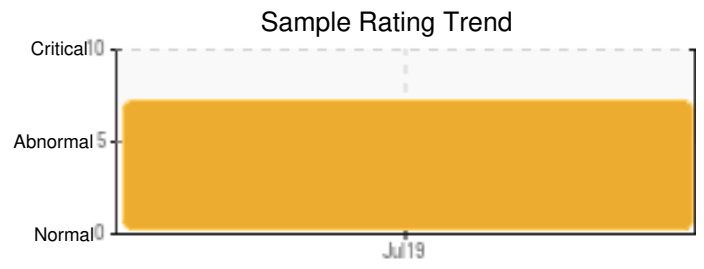
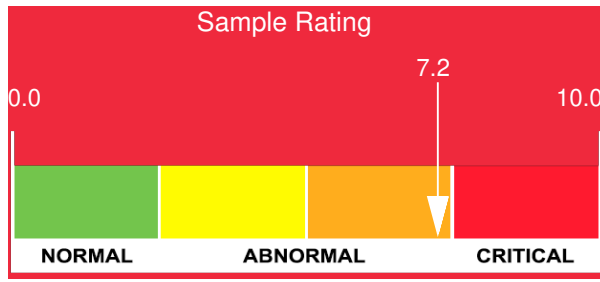
Customer: PTRHTF30133	System Information	Sample Information
McAsphalt Industries LTD 714 Babin Street Dieppe, NB E1A 5M1 Canada Attn: Brent Kinghorn Tel: (506)857-0110 E-Mail: bkinghorn@mcasphalt.com	System Volume: 1700 ltr Bulk Operating Temp: 360F / 182C Heating Source: Blanket: Fluid: ESSO ESSOTHERM N100 Make: HEATEC	Lab No: 02298374 Analyst: Gaston Arseneault Sample Date: 07/18/19 Received Date: 07/22/19 Completed: 08/06/19

Recommendation: High TAN, high viscosity and high pentane insoluble indicate the oil oxidation. the oxidation will create acid which will corrode the piping and the fittings. the distillation results and low and high % are abnormal. the higher viscosity will reduce the heat transfer and system overall efficiency.

Comments: Pentane Insolubles levels are abnormally high. (GCD) 10% Distillation Point is severely low. (GCD) 90% Distillation Point is severely low. Acid Number (AN) is abnormally high. Sodium ppm levels are abnormally high.

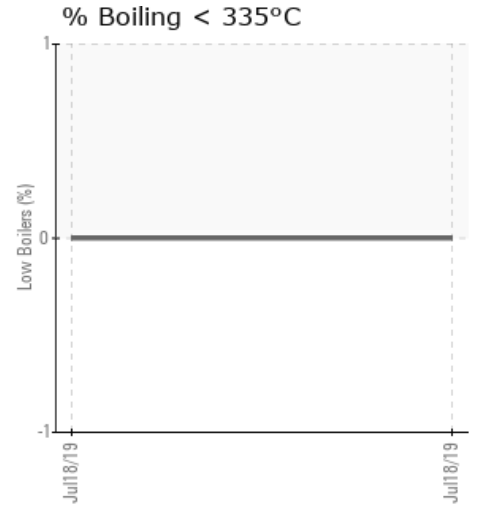
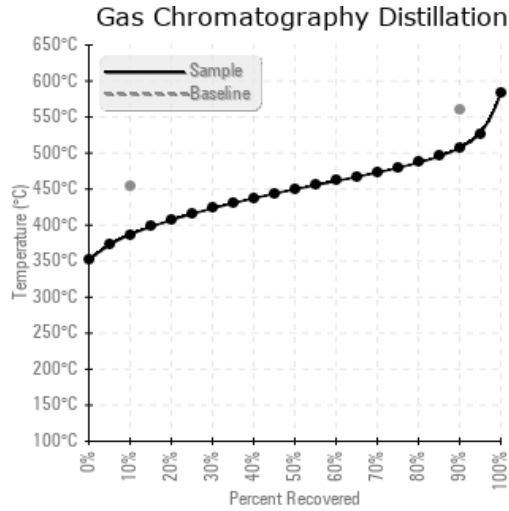
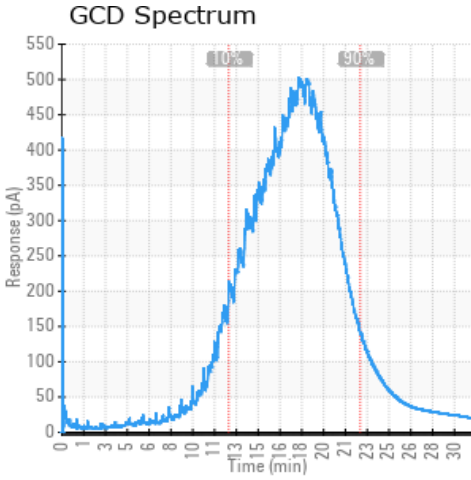
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
07/18/19	07/22/19	32m	CIRCULATING PUMP 1	460 / 238	0.00	82.1	0.846	0.548	728 / 387	842 / 450	945 / 507	0.00
Baseline Data				502 / 261		108			847 / 453		1040 / 560	





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
07/18/19	14	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	5	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


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