

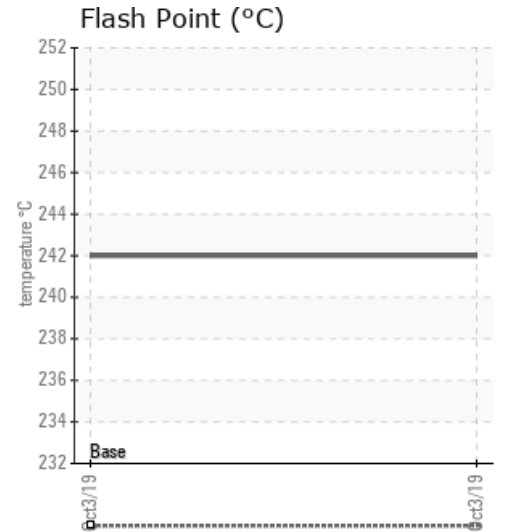
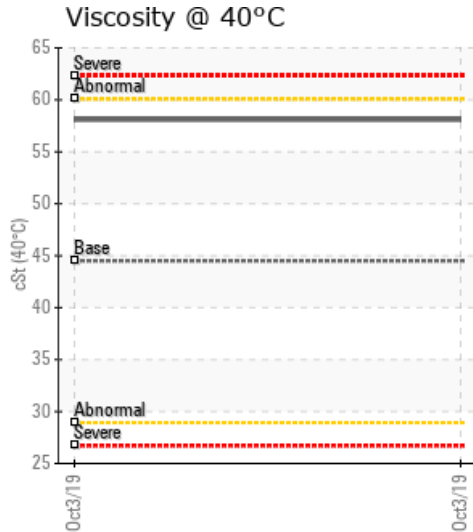
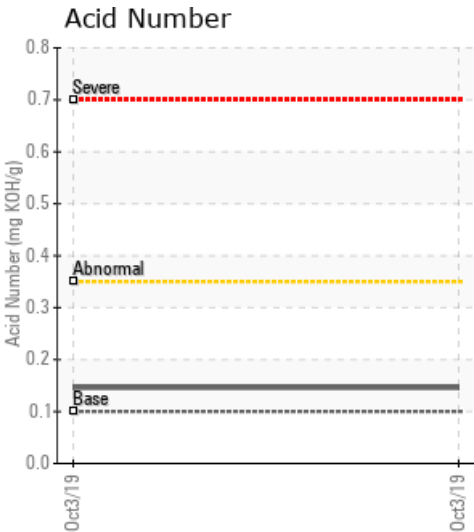
## HEAT TRANSFER

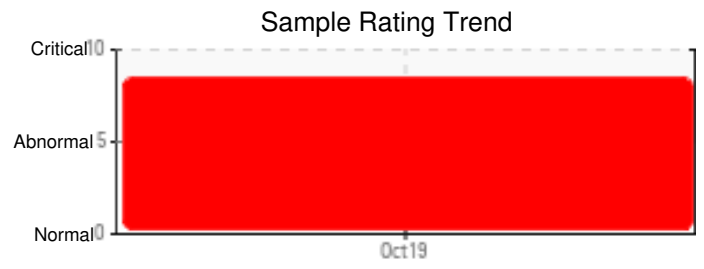
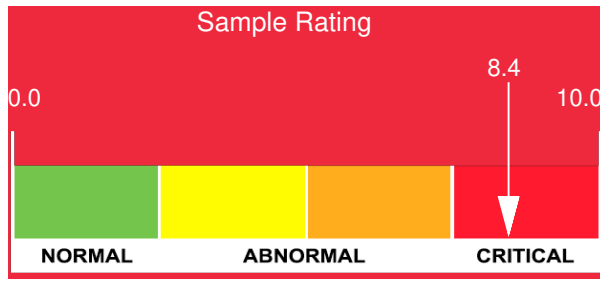
Customer: PTRHTF10221	System Information	Sample Information
ASPHALT PAVING AND SUPPLY 2425 N. GLASSFORD MILL RD PRESCOTT VALLEY, AZ 86314 USA Attn: Dale Kutsch Tel: E-Mail: asphaltplant@nicnd.com	System Volume: 0 gal Bulk Operating Temp: 355F / 179C Heating Source: Blanket: Fluid: SCHAEFFER 281 HEAT TRANSFER OIL Make: CYCLONETIC	Lab No: 02314438 Analyst: Steven Slanker Sample Date: 10/03/19 Received Date: 10/15/19 Completed: 12/03/19

Recommendation: Sample rating is very poor. Pentane insoluble, 90% distillation point and viscosity are severely high. Acid number is also high. Fluid has been heavily oxidized. Recommend drain, clean, flush and recharge.

Comments: Pentane Insolubles levels are severely high. Acid Number (AN) is severely high. (GCD) 90% Distillation Point is severely high. (GCD) 10% Distillation Point is abnormally high. (GCD) 50% Distillation Point is marginally high.

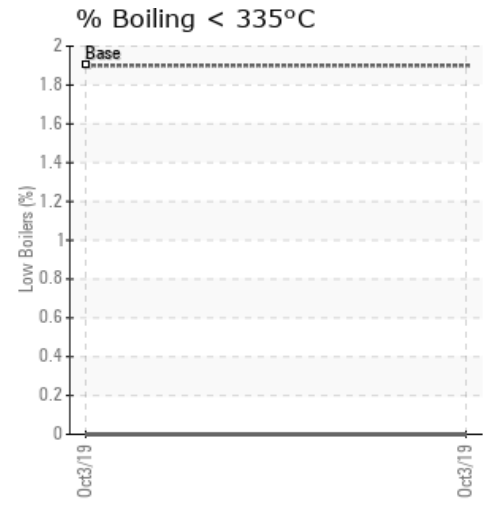
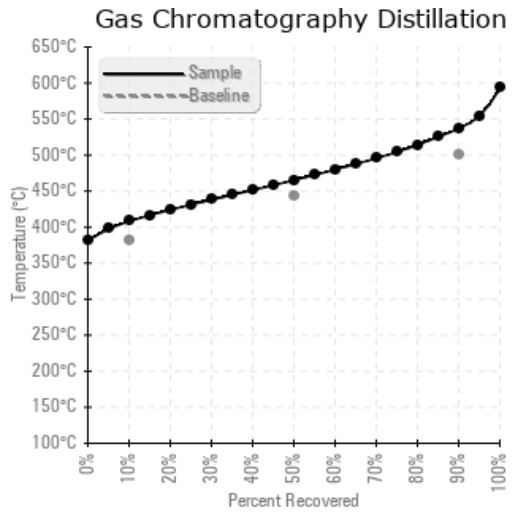
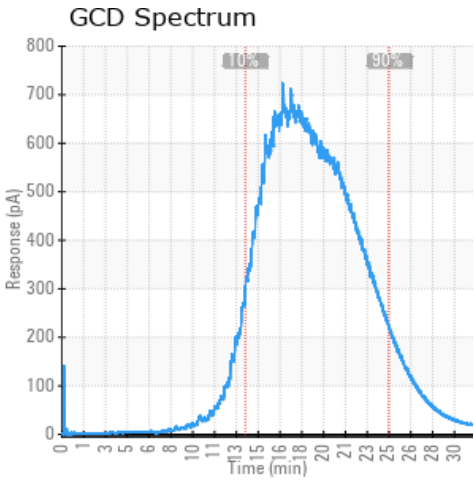
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
10/03/19	10/15/19	2y	8FT FROM EXPAN TANK	468 / 242	27.4	58.1	0.146	2.63	766 / 408	869 / 465	998 / 537	0.00
Baseline Data				444 / 229		44.5	0.1		720 / 382	828 / 442	934 / 501	1.9





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
10/03/19	85	0	1	0	1	0	0	0	0	3	1	0	1	0	0	0	0	0	0	0	11	0	4	7
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


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.