

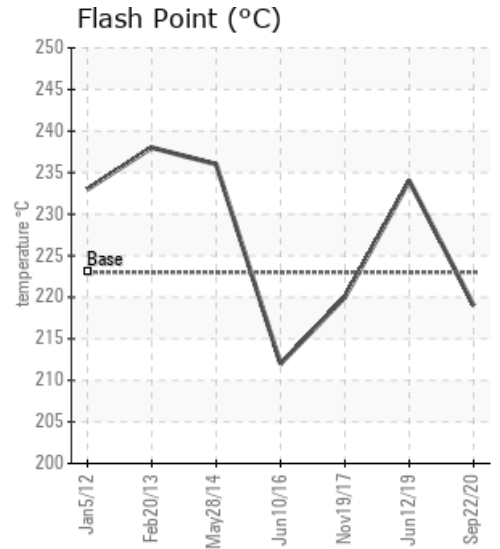
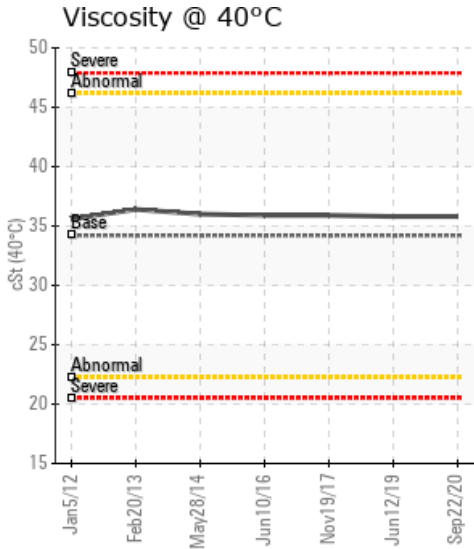
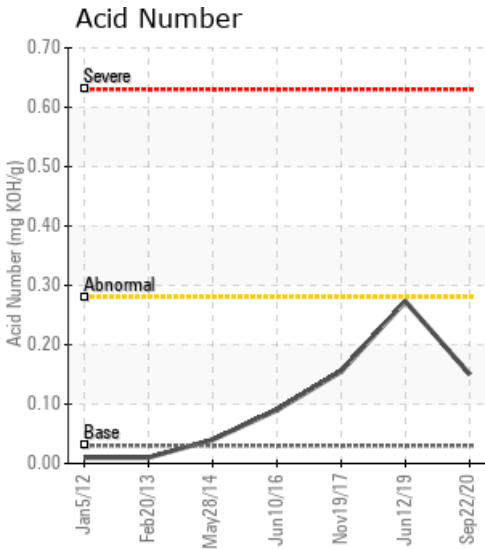
450-CLAIRMONT

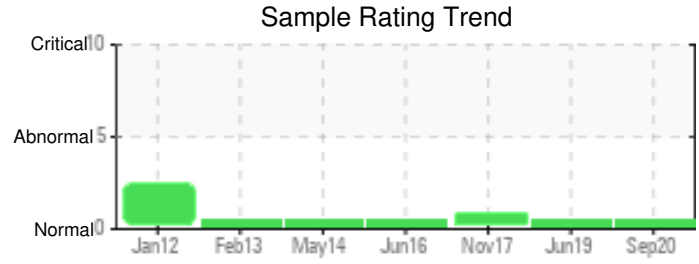
Customer: PTRHTF20218	System Information	Sample Information
McAsphalt Industries 61065 TWP 730 Clairmont, AB T8X 0T8 Canada Attn: Jim Reid Tel: (780)567-2145 E-Mail: jreid@mcasphalt.com	System Volume: 12000 ltr Bulk Operating Temp: 375F / 191C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: CEI	Lab No: 02378569 Analyst: Clinton Buhler Sample Date: 09/22/20 Received Date: 09/29/20 Completed: 10/16/20 Clinton Buhler Clinton.Buhler@PetroCanadaLSP.com

Recommendation: Sample results indicate that the heat transfer fluid is suitable for continued service. Please re-sample in 12 months

Comments:

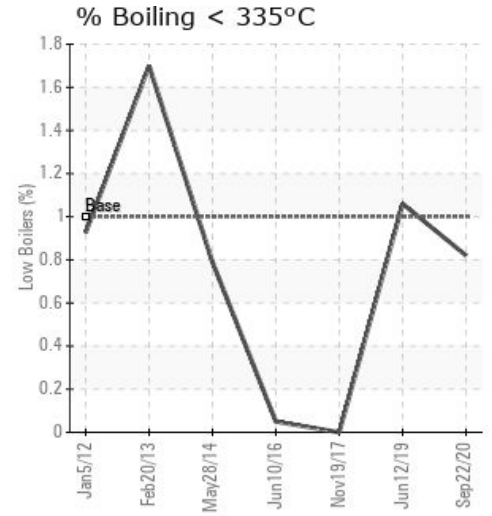
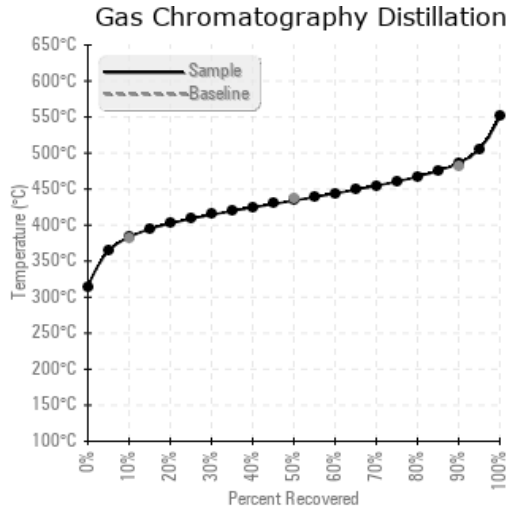
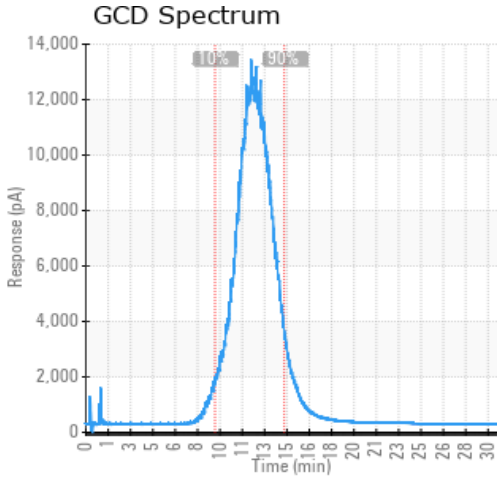
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
09/22/20	09/29/20	10y	Sampling Valve	426 / 219	14.7	35.8	0.15	0.039	722 / 383	813 / 434	907 / 486	0.82
06/12/19	07/12/19	8y		453 / 234	0.00	35.8	0.273	0.269	704 / 374	802 / 428	900 / 482	1.06
11/19/17	12/01/17	775y		428 / 220	0.00	35.9	0.155	0.067	710 / 377	790 / 421	880 / 471	0.00
06/10/16	07/28/16	6y	AFTER STRAINER	414 / 212	45.0	35.9	0.09	0.110	722 / 383	816 / 436	909 / 487	0.05
05/28/14	07/24/14	4y	INLET TO HEATER	457 / 236	0.00	36.0	0.04	0.030	715 / 380	811 / 433	907 / 486	0.79
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
09/22/20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06/12/19	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/19/17	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
06/10/16	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/28/14	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	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

06/12/19	the oil dose not have issues.
11/19/17	Note the 90% distillation result is slightly lower than expected. Otherwise, all other results appear to be within normal guidelines. (GCD) 90% Distillation Point is marginally low.
06/10/16	The fluid is in good condition and suitable for further use. Please re-sample in 12 months.
05/28/14	All test parameters are testing normal, no issues at this time. Resample again in one year.

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