

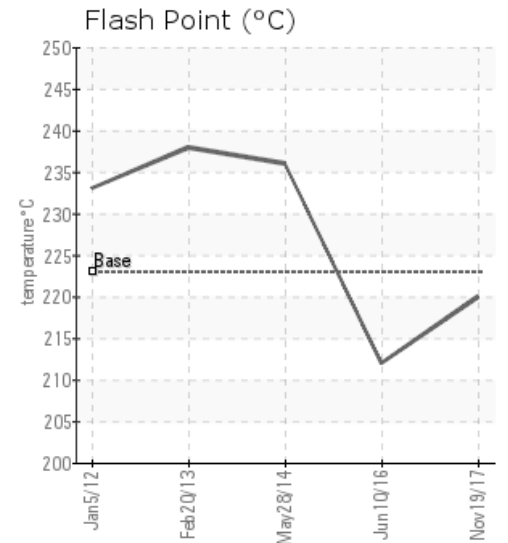
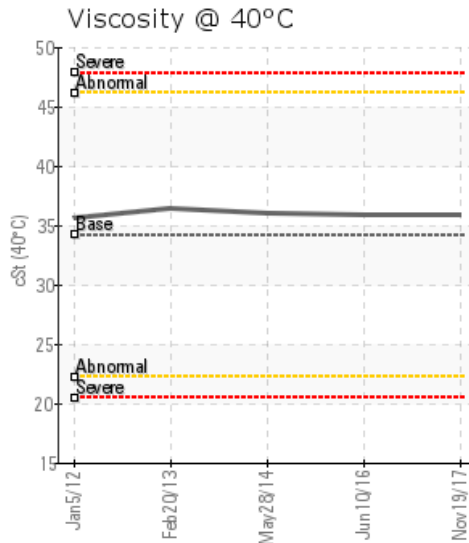
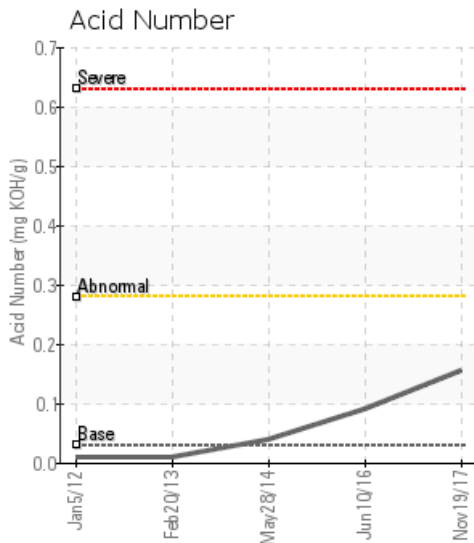
CLAIRMONT TERMINAL (NEW COMPONENT HMO)

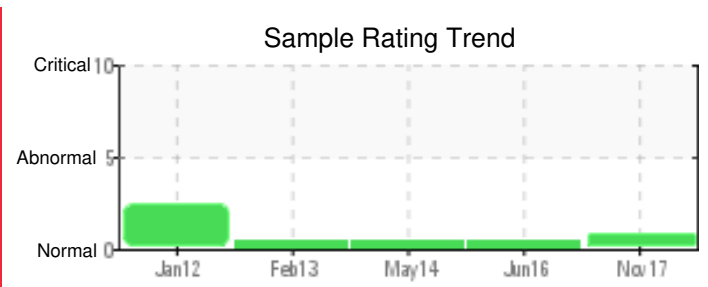
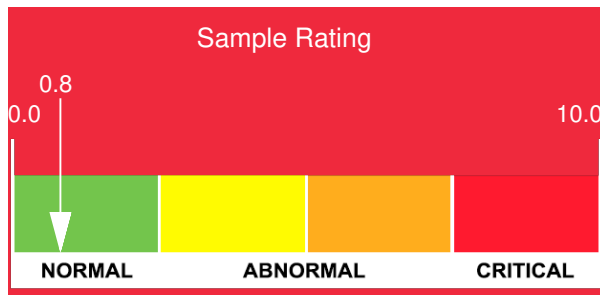
Customer: PTRHTF20056	System Information	Sample Information
COLASPHALT 26222 TOWNSHIP ROAD 530A ACHESON, AB T7X 5A7 Canada Attn: Luis Salinas Tel: (780)699-2447 E-Mail: luis.salinas@colasphalt.ca	System Volume: 20000 ltr Bulk Operating Temp: 428F / 220C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: HEATEC	Lab No: 02185302 Analyst: Gordon Susinski Sample Date: 11/19/17 Received Date: 12/01/17 Completed: 12/05/17 To discuss this report contact Gordon Susinski at (587)582-4118

Recommendation: Note the 90% distillation result is slightly lower than expected. Otherwise, all other results appear to be within normal guidelines.

Comments: (GCD) 90% Distillation Point is marginally low.

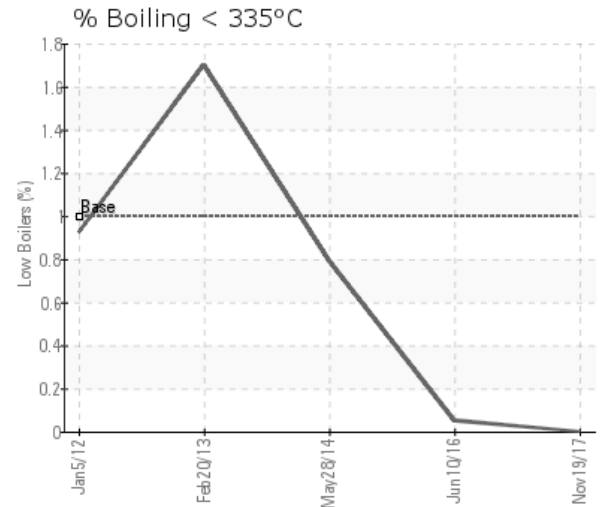
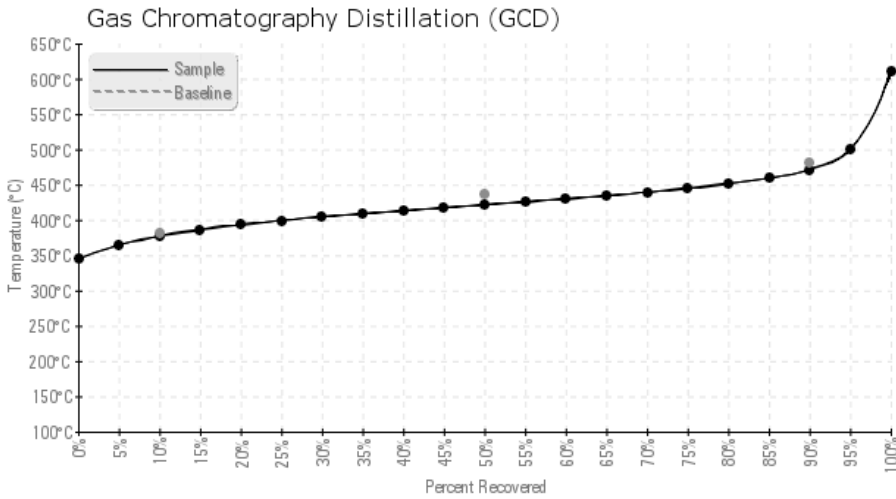
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
11/19/17	12/01/17	775y		428 / 220	0.00	35.9	0.155	0.067	710 / 377	790 / 421	880 / 471	0.00
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
02/20/13	03/20/13	0y	VALVE AFTER STRAINER	460 / 238	30.5	36.4	0.01	0.151	709 / 376	807 / 431	903 / 484	1.70
01/05/12	01/31/12			451 / 233	18	35.6	0.01	0.007	718 / 381	808 / 431	900 / 482	0.926
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
11/19/17	3	0	0	0	0	0	1	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	1	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	1	0	0	0	1	0
02/20/13	2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0
01/05/12	0	0	0	0	0	0	0	0	0	0	0	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

06/10/16	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.
02/20/13	Despite the dark appearance, this oil looks brand new judging by the oil analysis results. Keep up the good work and re-sample yearly.
01/05/12	We can not compare the results with fresh oil as we do not seem to have the oil's name. The condition overall looks acceptable based on contamination or

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