

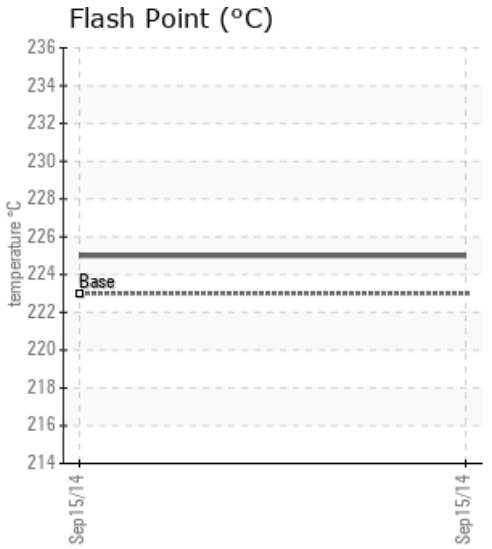
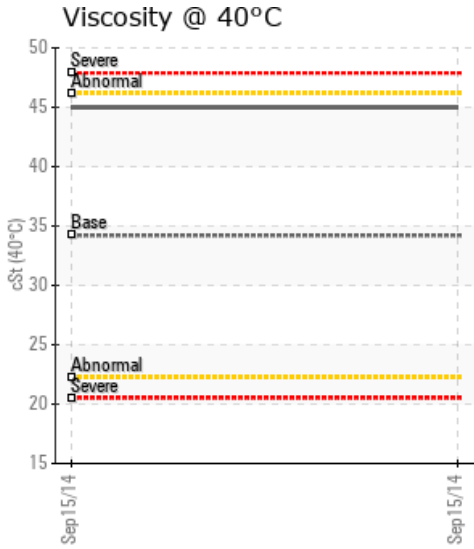
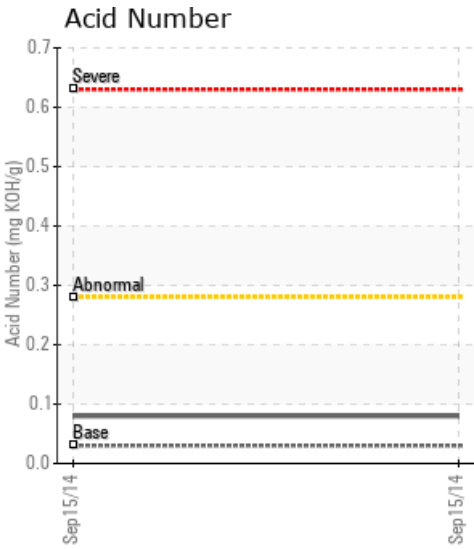
HEAT TRANSFER

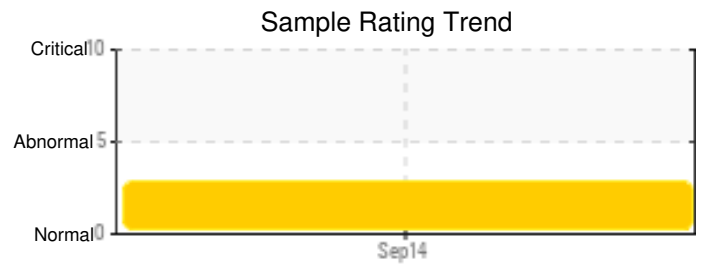
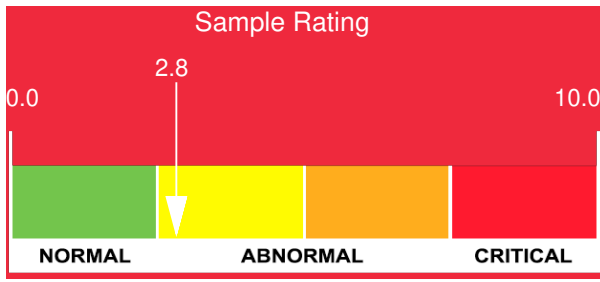
Customer: PTRHTF10140	System Information	Sample Information
PABCO ROOFING PRODUCTS 1718 THORNE RD TACOMA, WA 98421-3207 USA Attn: Andrew Williams Tel: (253)377-0597 E-Mail: andy.williams@paccoast.com	System Volume: 0 gal Bulk Operating Temp: Not Specified Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make:	Lab No: 01946909 Analyst: Ron LeBlanc Sample Date: 09/15/14 Received Date: 09/25/14 Completed: 10/09/14

Recommendation:

Comments: Pentane Insolubles levels are severely high. (GCD) 90% Distillation Point is abnormally high. Visc @ 40°C is 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	%
09/15/14	09/25/14	0y	HEATER COIL	437 / 225	49.1	45.0	0.08	1.46	705 / 374	802 / 428	930 / 499	0.88
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00

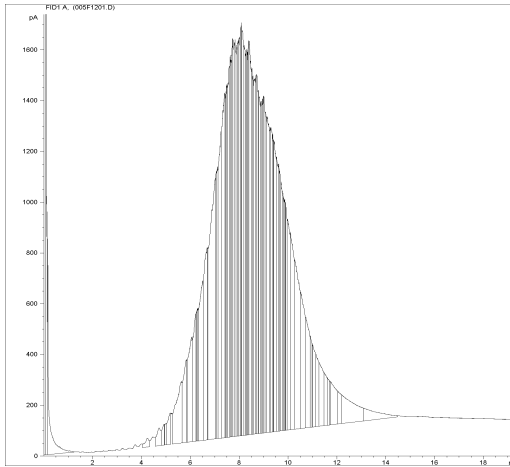




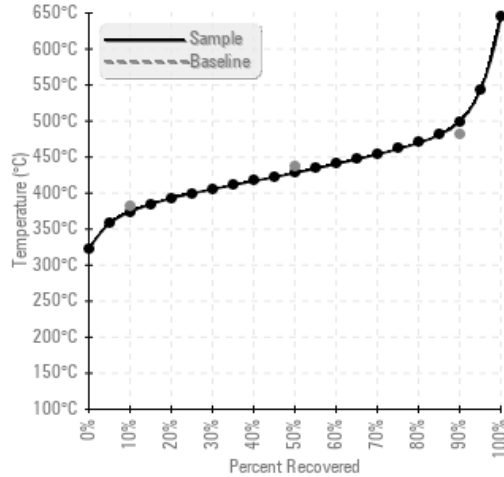
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
09/15/14	132	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Baseline Data			0	0						0			0	0					0				0	

Elemental analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]

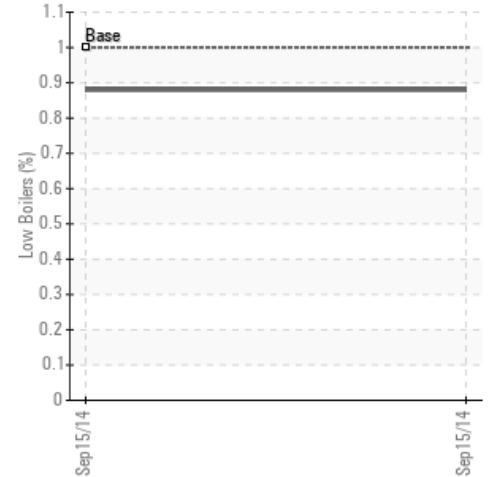
GCD Spectrum



Gas Chromatography Distillation



% Boiling < 335°C



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.