

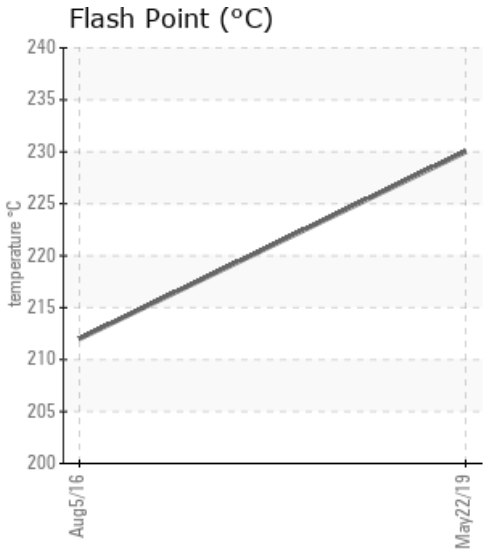
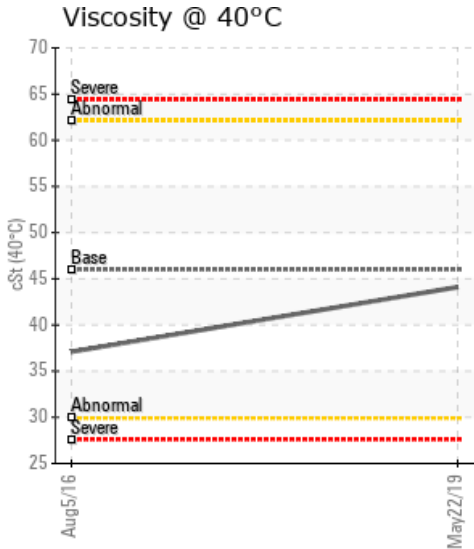
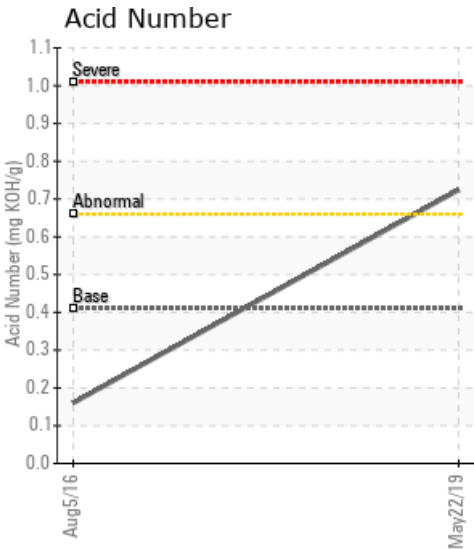
HOT OIL SYSTEM

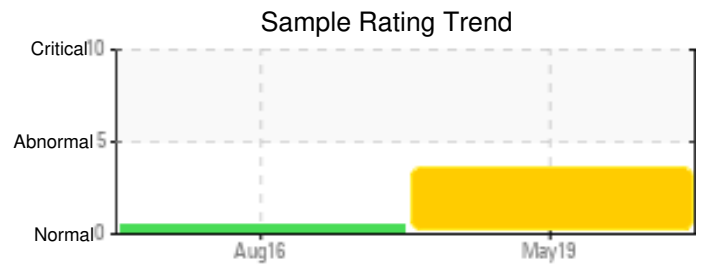
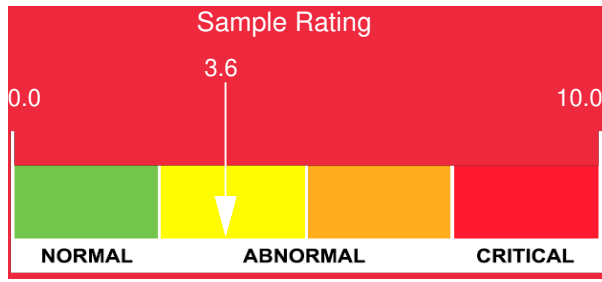
Customer: PTRHTF10140	System Information	Sample Information
PABCO ROOFING PRODUCTS 1718 THORNE RD TACOMA, WA 98421-3207 USA Attn: Aziza Radwan Tel: (253)284-1205 E-Mail: aziza.radwan@pabcoroofing.com	System Volume: 300 gal Bulk Operating Temp: 400F / 204C Heating Source: Blanket: Fluid: HEAT TRANSFER FLUID ISO 46 Make: CEI	Lab No: 02303259 Analyst: Ron LeBlanc Sample Date: 05/22/19 Received Date: 08/19/19 Completed: 08/28/19

Recommendation: It appears the oil has been over heated. Lighter fractions are present as the GCD 90% distillation point is low. Pentane insolubles could be present due to a sample taken without purging oil before sample drawn. Take another sample in 1 month to review.

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

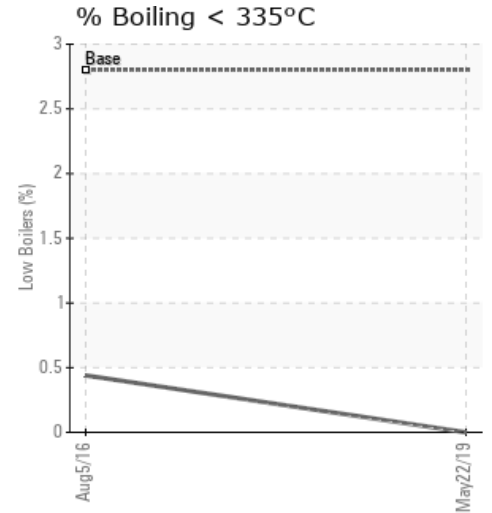
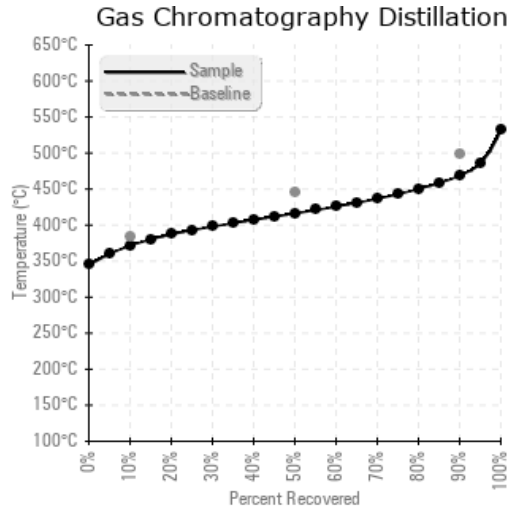
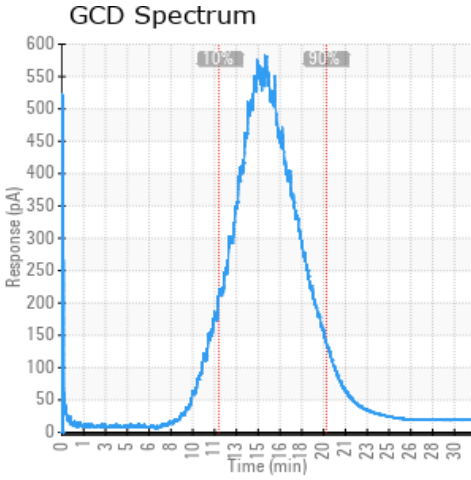
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/22/19	08/19/19	3y	MIXING SKID	446 / 230	48.9	44.1	0.724	1.95	701 / 371	781 / 416	876 / 469	0.00
08/05/16	09/22/16	2y	TANK LOOP AIR BLEED	414 / 212	22.8	37.1	0.16	0.250	717 / 381	814 / 434	916 / 491	0.44
Baseline Data				32 / 0		46	0.41		721 / 383	835 / 446	930 / 499	2.8





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
05/22/19	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
08/05/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Baseline Data			0	0						0			0	0					5				250	

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



Historical Comments	
08/05/16	Sample appears normal. Resample in 6 months.

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