

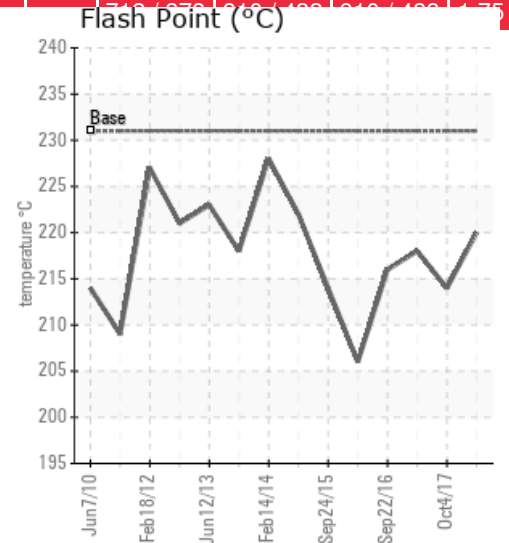
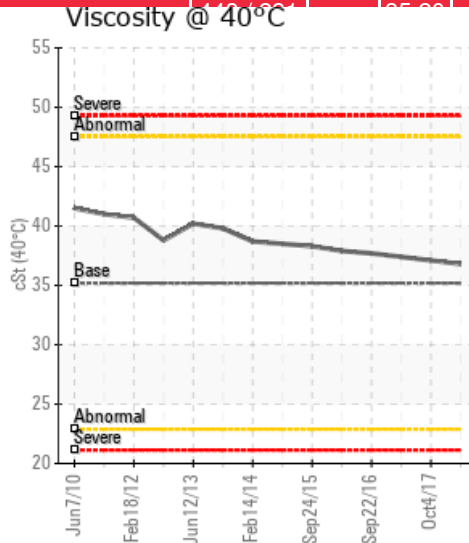
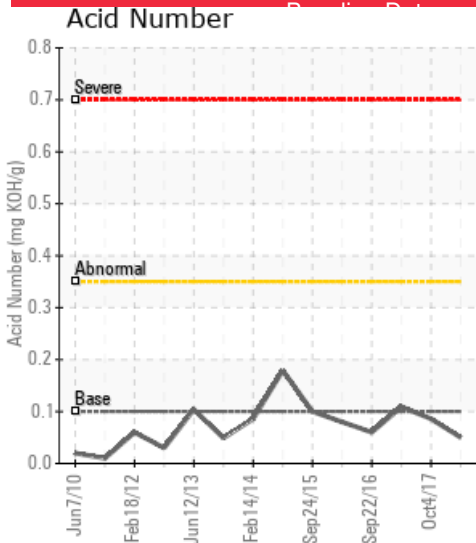
## NORTH HEATER

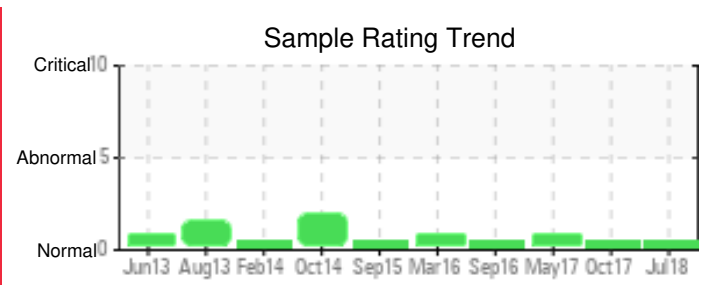
Customer: PTRHTF10043	System Information	Sample Information
MALARKY ROOFING PRODUCTS 3131 N. COLUMBIA BLVD PORTLAND, OR 97217 USA Attn: SCOTT MCDANIEL Tel: (503)283-1191 E-Mail: smcdaniel@malarkeyroofing.com	System Volume: 1500 gal Bulk Operating Temp: 620F / 327C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO HTF Make: AMERICAN HEATING	Lab No: 02232580 Analyst: Ron LeBlanc Sample Date: 07/26/18 Received Date: 08/08/18 Completed: 08/10/18 To discuss this report contact Ron LeBlanc at (541)678-7044

Recommendation: Sample appears normal. Pentane insoluble are elevated. Resample at normal interval and review the report for Pentane insoluble level.

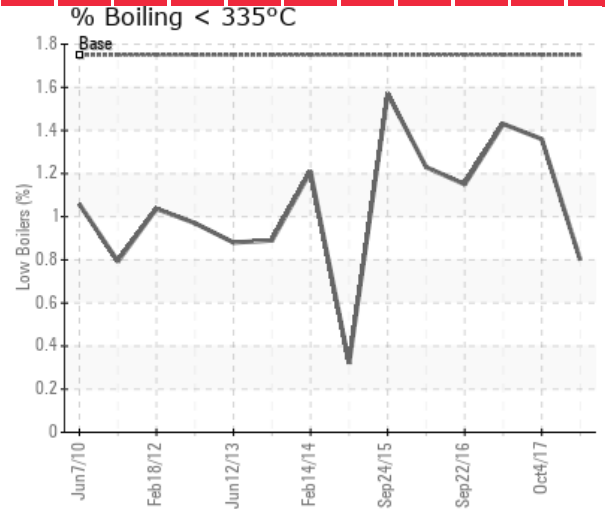
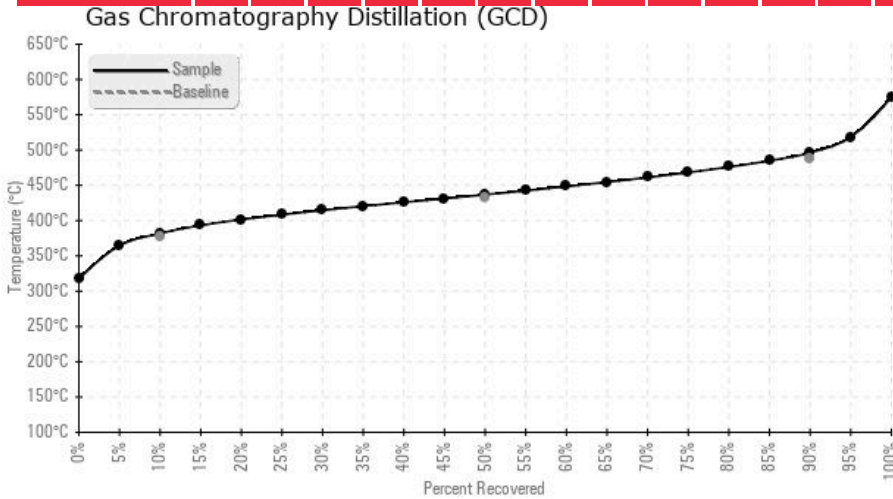
Comments:

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	%
07/26/18	08/08/18	0y	NORTH CECO ROOM	428 / 220	8.5	36.8	0.05	0.115	719 / 382	818 / 437	925 / 496	0.80
10/04/17	10/17/17	0y		417 / 214	14.9	37.1	0.086	0.041	715 / 380	818 / 437	926 / 497	1.36
05/20/17	06/05/17	0y	NORTH HEATER ROOM	424 / 218	93.3	37.4	0.109	0.034	714 / 379	820 / 438	941 / 505	1.43
09/22/16	10/04/16	0y	NORTH OIL HEATER RM	421 / 216	2.5	37.7	0.06	0.040	717 / 381	817 / 436	918 / 492	1.15
03/04/16	03/16/16	0y	NORTH CECO ROOM	403 / 206	8.5	37.9	0.08	0.080	715 / 380	818 / 436	929 / 498	1.23
09/24/15	10/13/15	0y	BY NORTH OIL HEATER	417 / 214	7.6	38.3	0.100	0.053	710 / 377	812 / 434	921 / 494	1.57
10/08/14	10/23/14	0y	OIL HEADER IN NORTH	432 / 222	25.9	38.5	0.179	0.047	707 / 375	806 / 430	936 / 502	0.32





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
07/26/18	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	94	0
10/04/17	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99	0
05/20/17	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	102	0
09/22/16	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	111	0
03/04/16	2	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	128	0
09/24/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104	0
10/08/14	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	98	0
Elemental analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	280	0



### Historical Comments

10/04/17	Sample is normal. Resample at next scheduled interval.
05/20/17	(GCD) 90% Distillation Point is abnormally high. Water ppm has elevated significantly. Remove water and resample in 3 months. (GCD) 90% Distillation Point is abnormally high.
09/22/16	Sample is normal. Resample in 6 months.
03/04/16	Sample appears normal compared to past samples. Sample again in 6 months. (GCD) 90% Distillation Point is marginally high.
09/24/15	Sample appears normal. Sample again in 6 months.
10/08/14	(GCD) 90% Distillation Point is marginally high. It has come down compared to the last sample. Consider topping a small amount of new oil to lower the GCD 90% distillation point. H2O (ppm) has increased over time. Resample at normal interval. (GCD) 90% Distillation Point is marginally high.

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