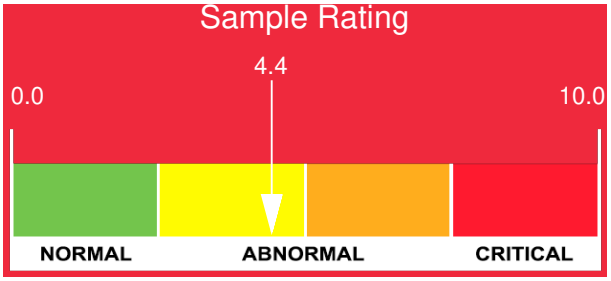
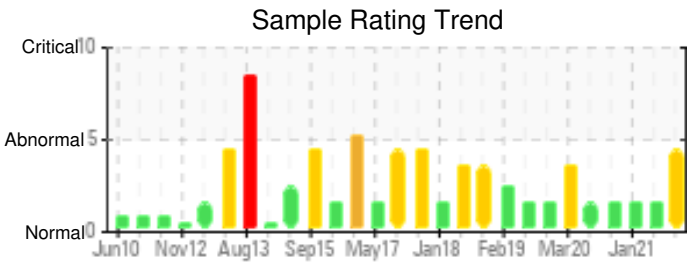




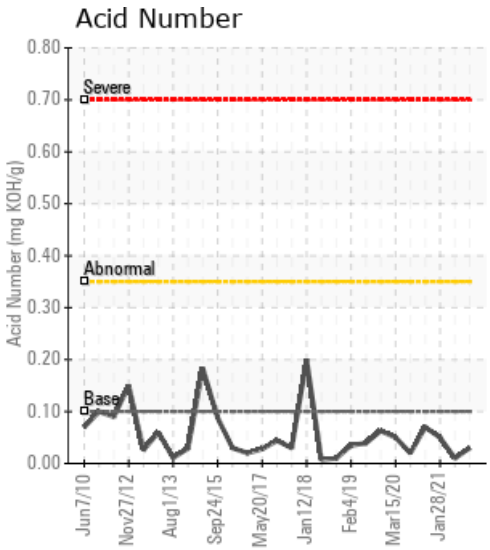
SOUTH HEATER

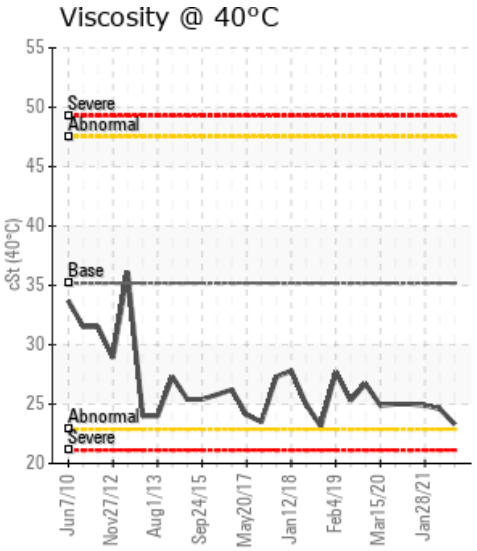
Customer: PTRHTF10043	System Information	Sample Information
MALARKY ROOFING PRODUCTS 3131 N. COLUMBIA BLVD PORTLAND, OR 97217 USA Attn: Jeff Tonn Tel: E-Mail: jtonn@malarkeyroofing.com	System Volume: 1200 gal Bulk Operating Temp: 620F / 327C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO HTF Make: AMERICAN HEATING	Lab No: 02494763 Analyst: Ron LeBlanc Sample Date: 06/03/22 Received Date: 06/14/22 Completed: 06/16/22 Ron LeBlanc Ronald.LeBlancSr@HFSinclair.com

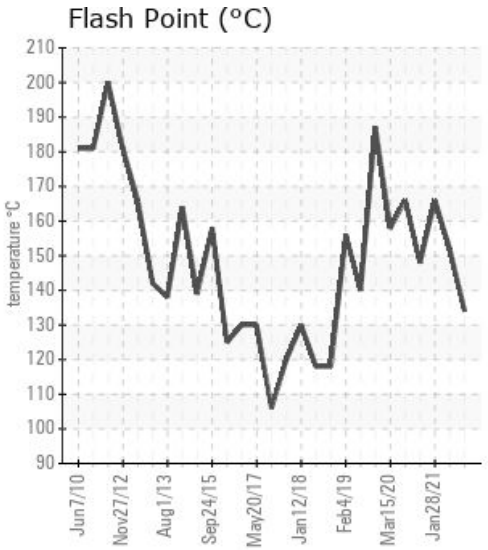
Recommendation: COC Flash Point is severely low. This typically indicates thermal degradation or the possibility of contamination. (GCD) 10% point is abnormally low. Components boiling below the initial boiling point of the fresh fluid. Low boilers can be removed via the expansion tank.

Comments: COC Flash Point is severely low. (GCD) 10% Distillation Point is abnormally low. (GCD) % < 335°C is marginally high.

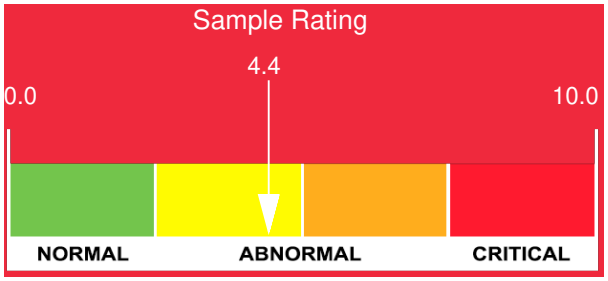
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
06/03/22	06/14/22	0.0m		273 / 134	18.8	23.3	0.03	0.175	639 / 337	799 / 426	911 / 488	9.29
06/24/21	07/05/21	0.0m		306 / 152	17.2	24.6	0.01	0.056	660 / 349	802 / 428	916 / 491	7.95
01/28/21	02/17/21	36.0m	North heat exchanger	331 / 166	2.8	24.9	0.05	0.039	672 / 355	803 / 428	913 / 490	7.05
07/10/20	07/23/20	0.0m	DRAINED 200G MAY 10	298 / 148	13.9	25.0	0.07	0.019	666 / 352	801 / 427	909 / 487	7.49
03/18/20	03/27/20	15.0m	NORTH HEAT EXCHANGE	331 / 166	8.9	25.0	0.02	0.045	728 / 387	815 / 435	920 / 493	1.90
Baseline Data				448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75

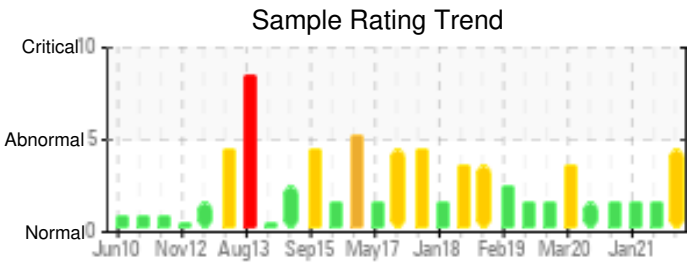






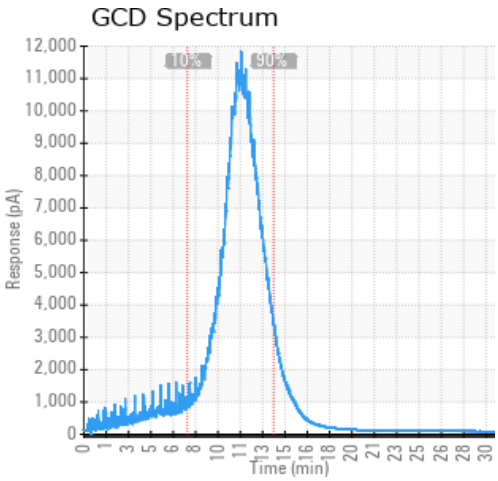
PETRO-CANADA LUBRICANTS

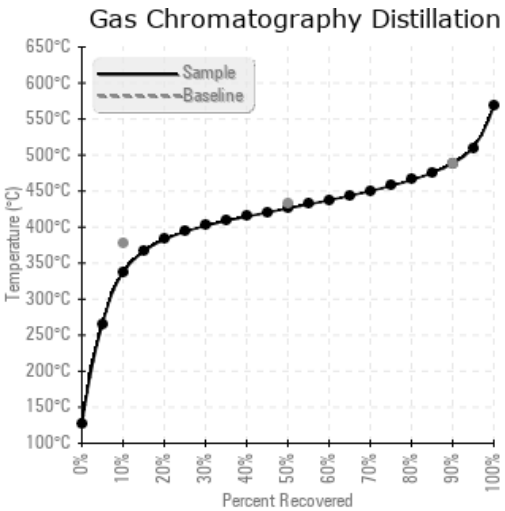


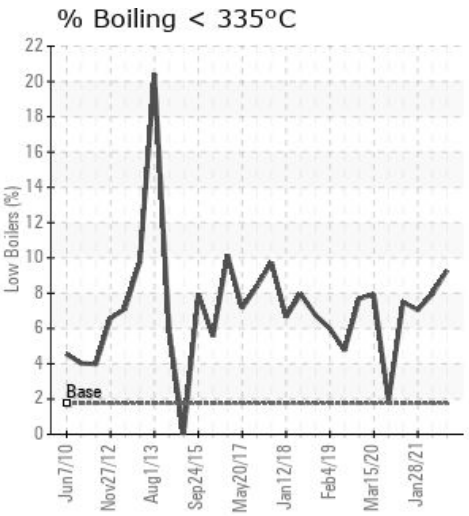


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
06/03/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0
06/24/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	16	0
01/28/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0
07/10/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0
03/18/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
Baseline Data			0	0						0			0	0				0	0				280	

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







Historical Comments

06/24/21	It appears the fluid is being stressed. The flash point is very. Adding fresh oil can help. Sample again and purge a gallon before capturing sample. COC Flash Point is severely low. (GCD) % < 335°C is marginally high.
01/28/21	(GCD) 10% is low which can cause the flash point to lower significantly indicating low boilers. The low boilers can be removed via the expansion tank. Re-sample in 6 months. COC Flash Point is severely low.
07/10/20	COC Flash point is low which indicates thermal degradation or possible contamination. Be sure the sample port was purged sufficiently before capturing sample oil. COC Flash Point is severely low.
03/18/20	The COC flash point is low again compared to the previous sample. All other typicals remain normal. Could the reported sample have been pulled without proper purging? Adding some new oil would bring up the flash point. Resample in 30 days and purge at least 2 gallons from sample point to evaluate the results. COC Flash Point is severely low.

