

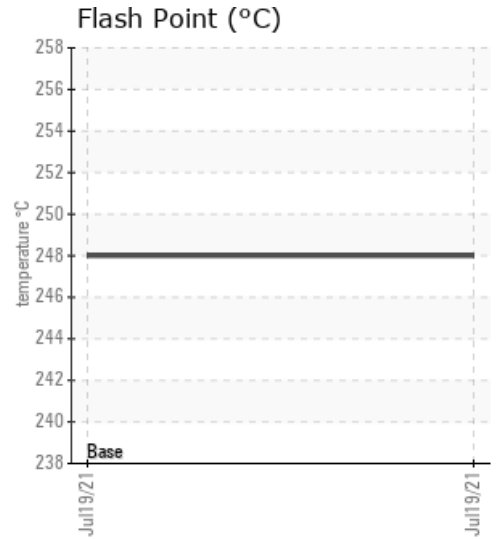
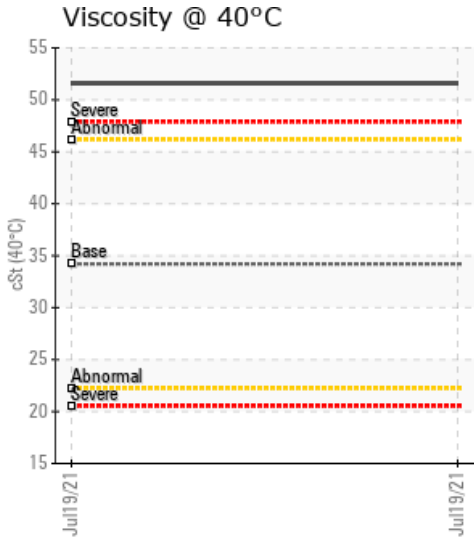
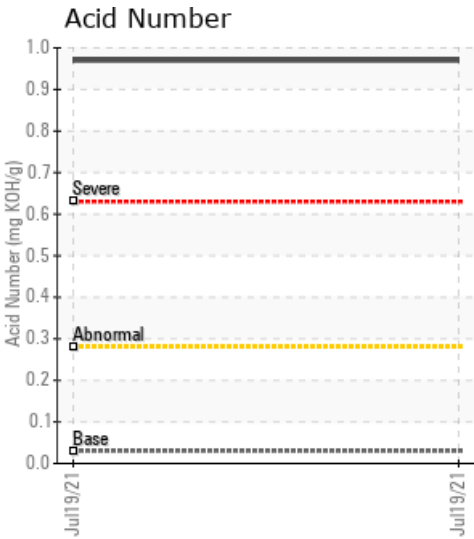
ASPHALT TANK FARM

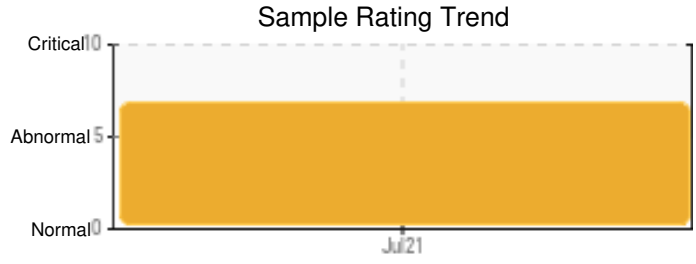
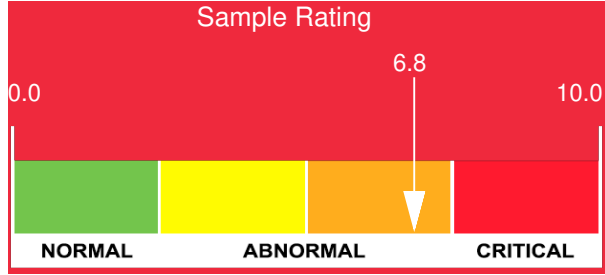
Customer: PTRHTF10051	System Information	Sample Information
SUPERIOR READY MIX 1508 MISSION RD ESCONDIDO, CA 92029 USA Attn: MARK STROMEYER Tel: (760)745-0556 E-Mail: purchasing@superiorrm.com	System Volume: 500 gal Bulk Operating Temp: 380F / 193C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: HEATEC	Lab No: 02436778 Analyst: Ron LeBlanc Sample Date: 07/19/21 Received Date: 08/04/21 Completed: 08/10/21 Ron LeBlanc Ronald.LeBlancSr@hollyfrontier.com

Recommendation: The calcium content is very high. Acid Number is very high indicating oxidation which can cause sludge deposits and system corrosion. Oxidation is confirmed by the viscosity increase reported. Viscosity increase indicates the presence of high boilers (oxidation) which reduces the fluids ability to transfer heat. The pentane insolubles indicate deposits that are in the oil. The (GCD) 90% indicates components boiling above the fresh fluid limits which can foul heat exchanger surfaces. This oil is at the end of useful life and should be cleaned, flushed and refilled with new oil.

Comments: Pentane Insolubles levels are severely high. Acid Number (AN) is severely high. Calcium ppm levels are severely high. Visc @ 40°C is severely high. (GCD) 90% Distillation Point is abnormally high.

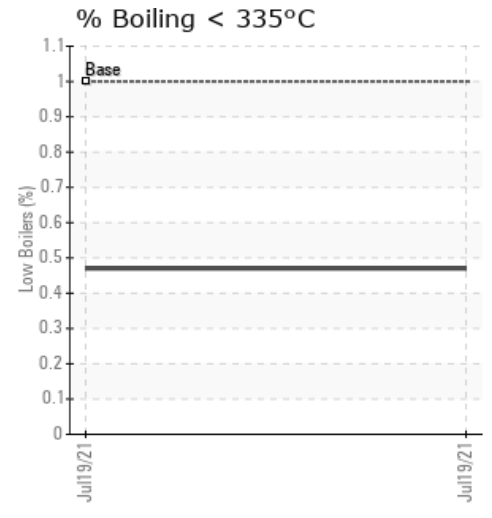
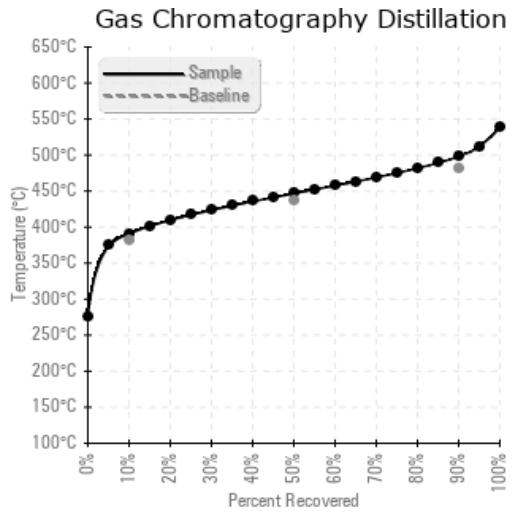
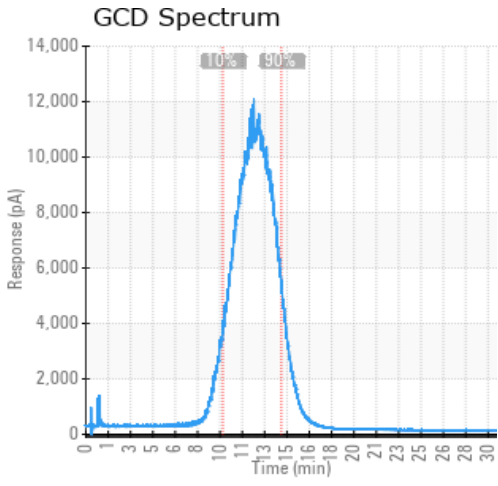
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
07/19/21	08/04/21	0.0h		478 / 248	100.9	51.6	0.97	0.858	735 / 391	836 / 447	929 / 498	0.47
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
07/19/21	28	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	74	0	0	2
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

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