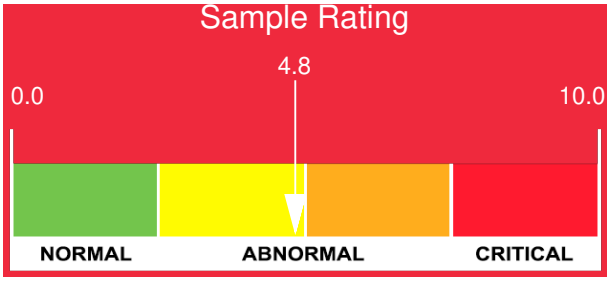
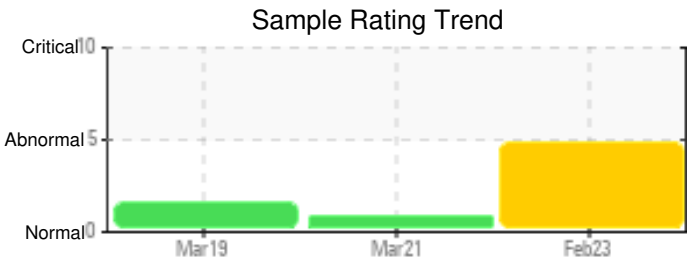




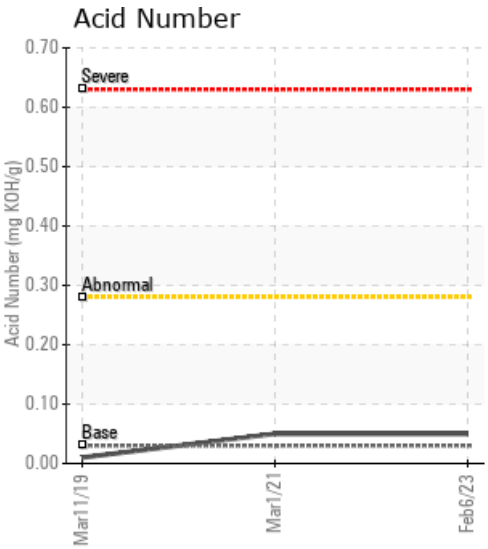
PUMP

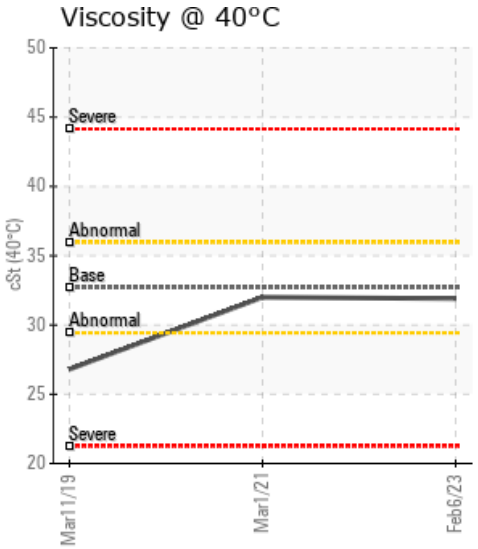
Customer: PTRHTF10039	System Information	Sample Information
Piedmont Chemical Industries 331 BURTON AVE. HIGH POINT, NC 27261 USA Attn: JUSTIN RUSSELL Tel: (336)885-5131 E-Mail: JRUSSELL@PIEDMONTCHEMICAL.COM	System Volume: 250 gal Bulk Operating Temp: 554F / 290C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: GAUMER PROCESS	Lab No: 02539377 Analyst: Manny Garcia Sample Date: 02/06/23 Received Date: 02/14/23 Completed: 02/24/23 Manny Garcia manuel.garcia@HFSinclair.com

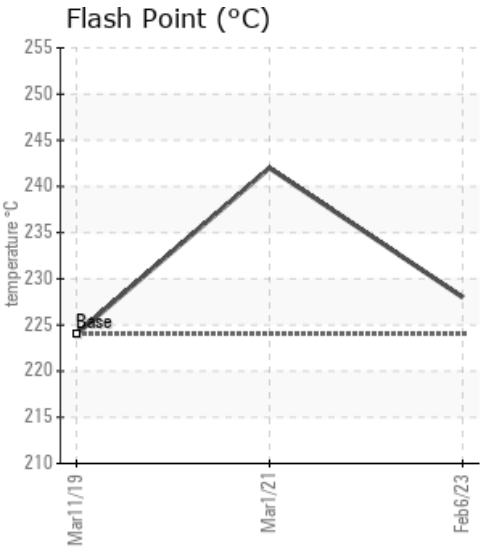
Recommendation: NOTE: GCD (Simulated Distillation) analysis not performed due to high water content present in the sample. Please find the source of water and mitigate this uncommon contaminant in your systems.

Comments:

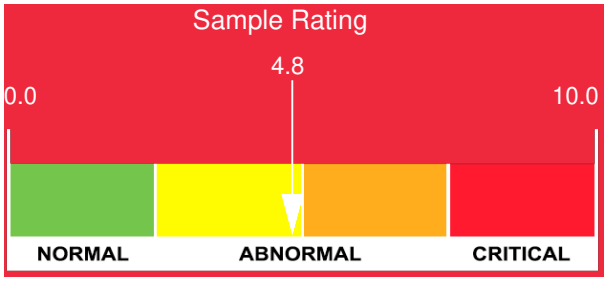
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
02/06/23	02/14/23	6.0y		442 / 228	28.6	31.9	0.05	0.156				
03/01/21	03/04/21	1.0y		468 / 242	11.2	32.0	0.05	0.350	711 / 377	808 / 431	913 / 489	0.49
03/11/19	03/20/19	20.0y		435 / 224	35.3	26.8	0.01	1.00	684 / 362	783 / 417	880 / 471	2.77
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

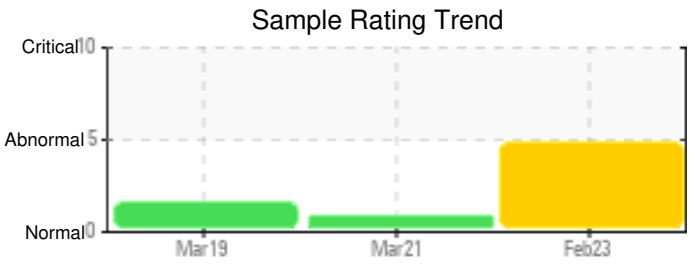






PETRO-CANADA LUBRICANTS

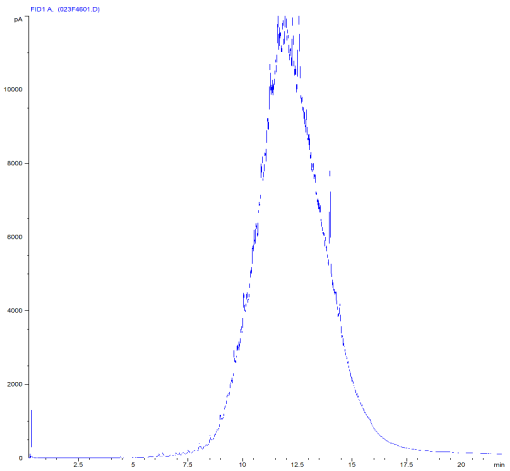


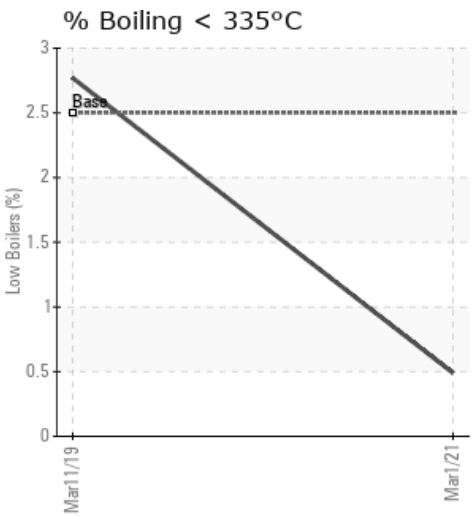


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
02/06/23	16	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	279	0
03/01/21	26	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	253	0
03/11/19	136	0	3	0	2	0	0	0	0	0	5	2	0	0	0	0	2	0	0	2	1	0	204	1
Baseline Data			0	0						0			0	0					0				270	

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

GCD Spectrum





Historical Comments

03/01/21	Venting this system may mitigate the high (GCD) 90% Distillation Point. Filtration of the fluid and changing any system filters will mitigate the silt. Recommend scheduling another sample for March 2022.(GCD) 90% Distillation Point is marginally high. Very Light Silt is evident in this sample & this can be mitigated by changing system filters (if any) and using a kidney loop filtration system to clean the silt during a safe down day. Pentane Insolubles have improved by ~66% reduction - viscosity is back in grade from 2 years ago.
03/11/19	Fluid appears to be safe to continue use in the 250 gallon system. Re-sample in March 2020Pentane Insolubles levels are severely high. Filtration down to 5 microns during an outage `may` reduce this number. Fluid has dropped in viscosity from 32.3 CsT to 26.8 CsT for no apparent reason as the fluid appears to be fairly new at 20 hours of use.