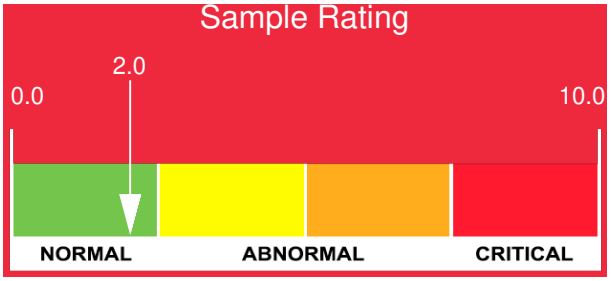
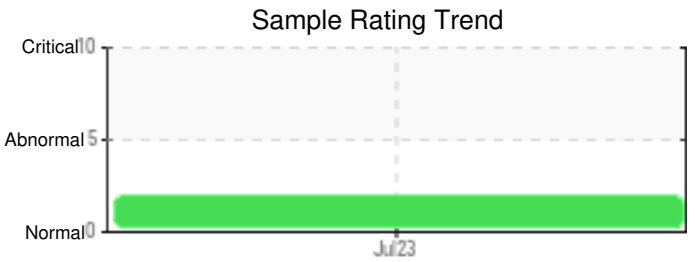




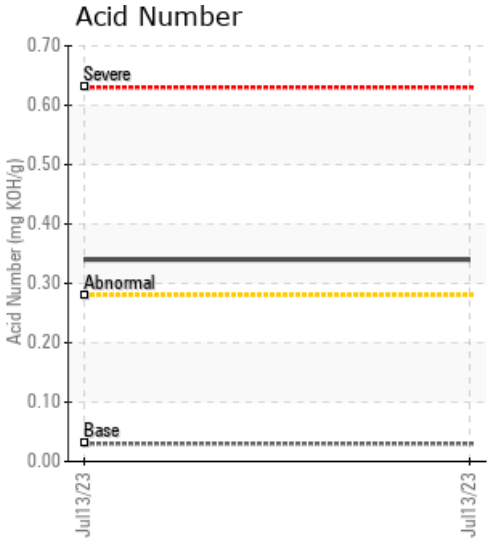
IVAN MACIEL

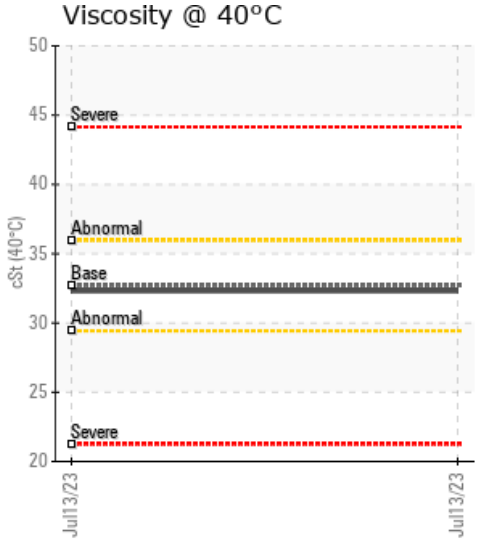
Customer: PTRHTF60039	System Information	Sample Information
NOVONIX Anode Materials 353 Corporate Place Chattonooga, TN 37419 US Attn: Ivan Maciel Tel: (423)903-5884 E-Mail: ivan.maciel@novonixgroup.com	System Volume: 30 ltr Bulk Operating Temp: 392F / 200C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: USALAB	Lab No: 02572806 Analyst: Jake Finn Sample Date: 07/13/23 Received Date: 07/27/23 Completed: 07/31/23 Jake Finn jake.finn@HFSinclair.com

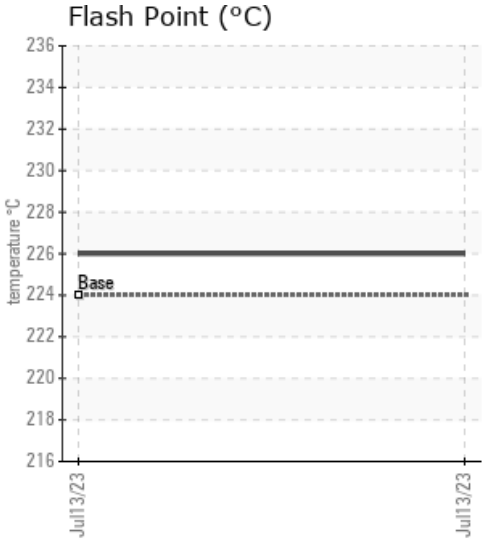
Recommendation: Overall, sample is in great condition despite the dark color. Acid number was flagged just above the warning level, but Acid Number is best considered over time as a rate of change/trend instead of individual data points. GCD 90% distillation point was also flagged as marginally high but this value is not concerning when considering the other GCD values.Some very lite debris is noted by the lab which is not abnormal. No other concerning signs of degradation, wear or contamination. COC flash point is strong at 226°C. Test results indicate that the current fluid is suitable for continued use, but can be changed out when convenient within the next year if desired.

Comments: Acid Number (AN) is abnormally high. (GCD) 90% Distillation Point is marginally high.

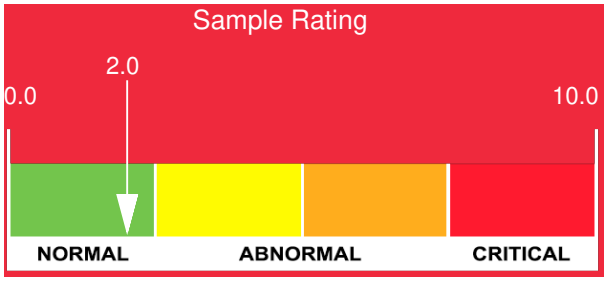
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
07/13/23	07/27/23	3.0h		439 / 226	13.5	32.3	0.34	0.165	703 / 373	800 / 427	910 / 488	1.28
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

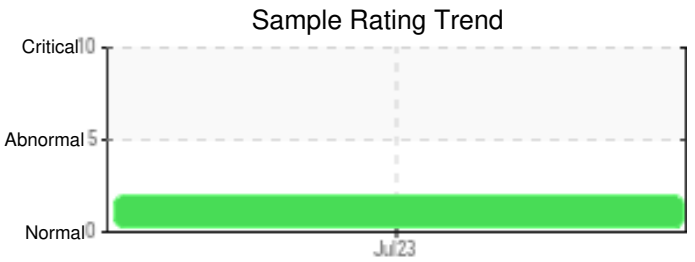






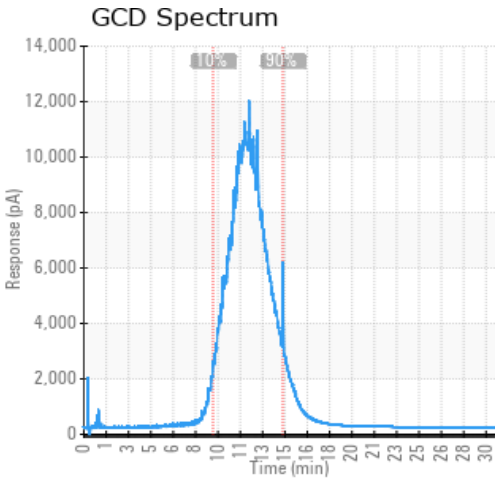
PETRO-CANADA LUBRICANTS

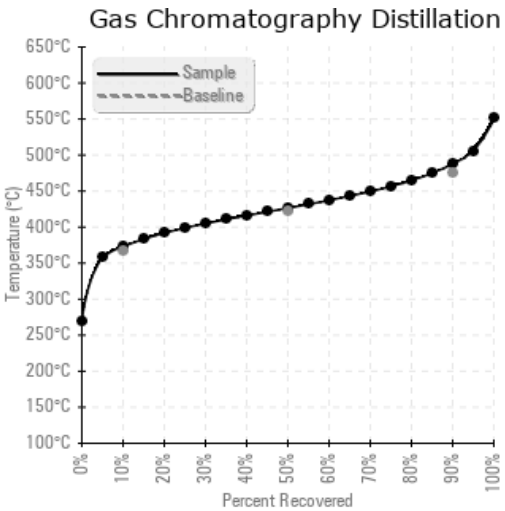


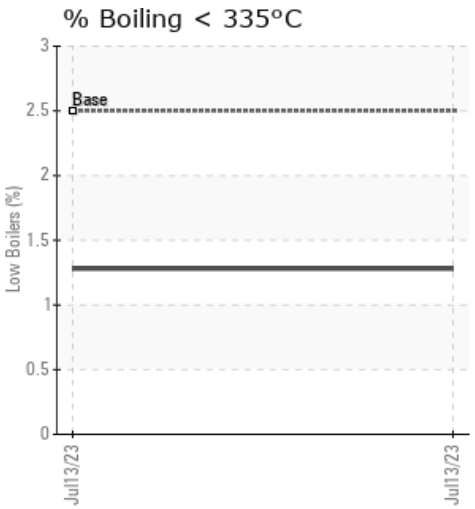


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
07/13/23	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	291	2
Baseline Data			0	0						0			0	0					0				270	

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







Historical Comments
