

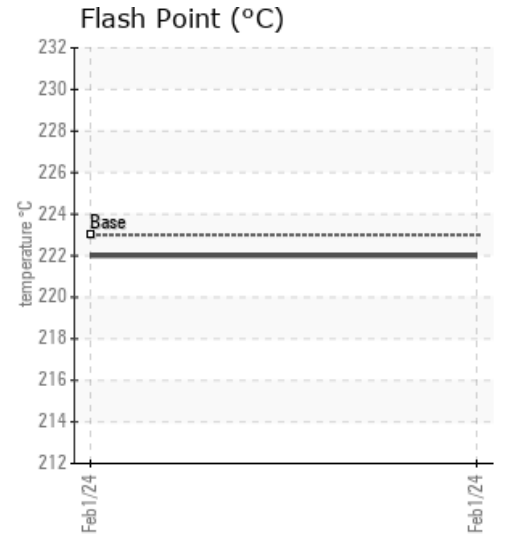
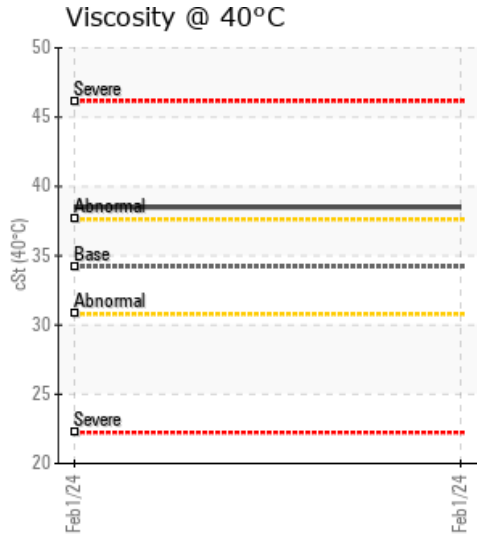
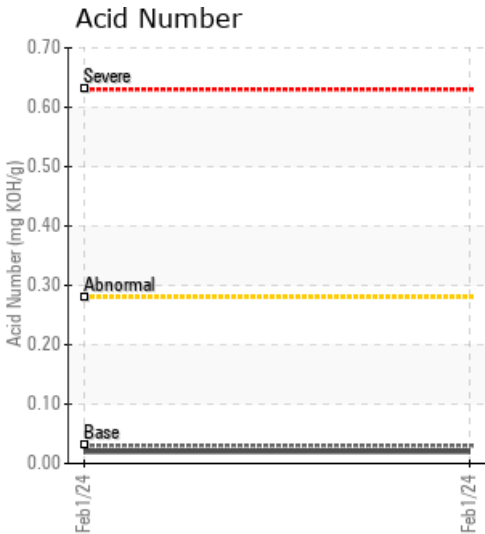
[B-38-I/94-B-16] NRM HIGHWAY

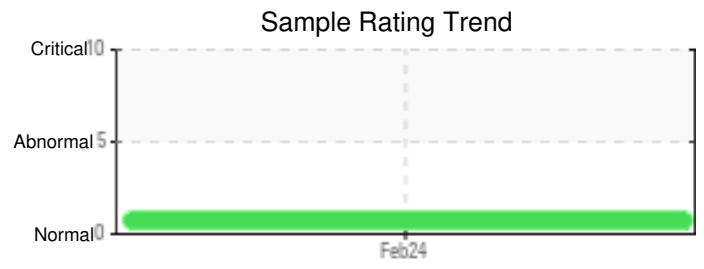
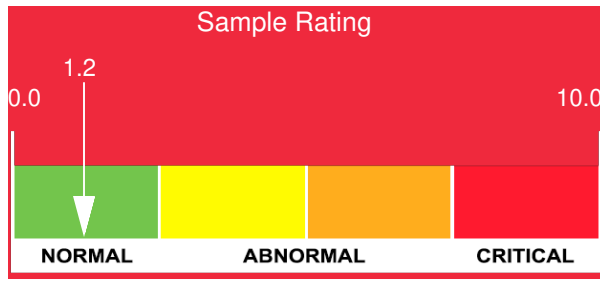
Customer: PTRHTF20209	System Information	Sample Information
NORTH RIVER MIDSTREAM B-88-J/94-6-1 CHARLIE LAKE OFFICE MILE 53 FORT ST. JOHN, BC V1N 4H7 CA Attn: Lindsey Kessler Tel: (403)952-9999 E-Mail:	System Volume: 10000 ltr Bulk Operating Temp: 410F / 210C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: HWY HOT OIL PROCESS	Lab No: 02619438 Analyst: Clinton Buhler Sample Date: 02/01/24 Received Date: 03/01/24 Completed: 03/12/24 Clinton Buhler Clinton.Buhler@HFSinclair.com

Recommendation: Sample results indicate the fluid is in suitable condition for continued service. Viscosity is slightly elevated. Please re-sample in 6 months to build a trend.

Comments: Visc @ 40°C is abnormally high. (GCD) 90% Distillation Point is marginally high.

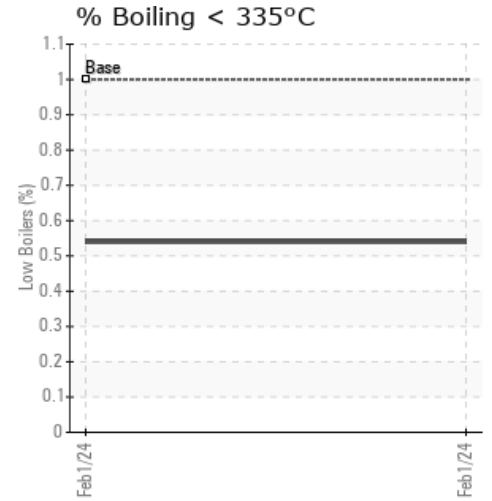
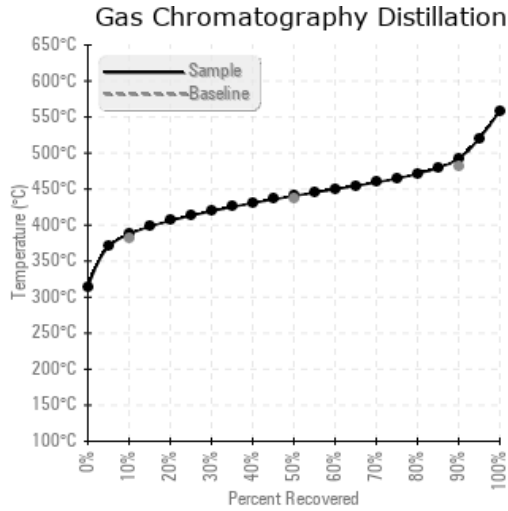
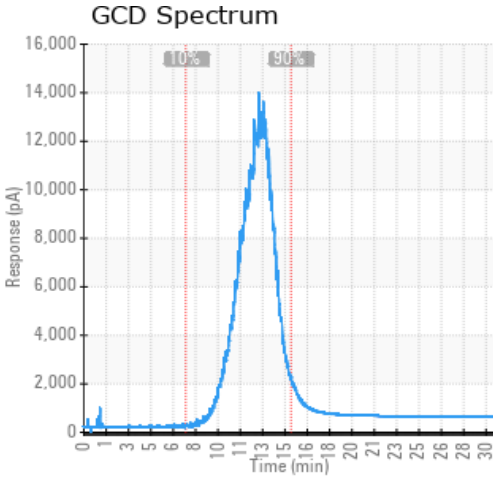
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
02/01/24	03/01/24	5.0y	PUMP DISCHARGE	432 / 222	1	38.5	0.02	0.016	729 / 387	825 / 441	918 / 492	0.54
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
02/01/24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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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