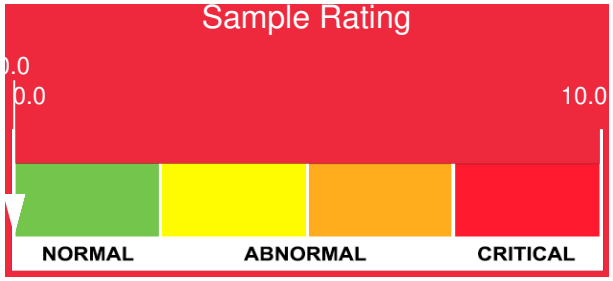
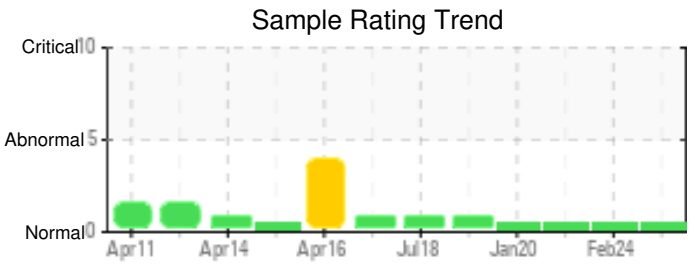




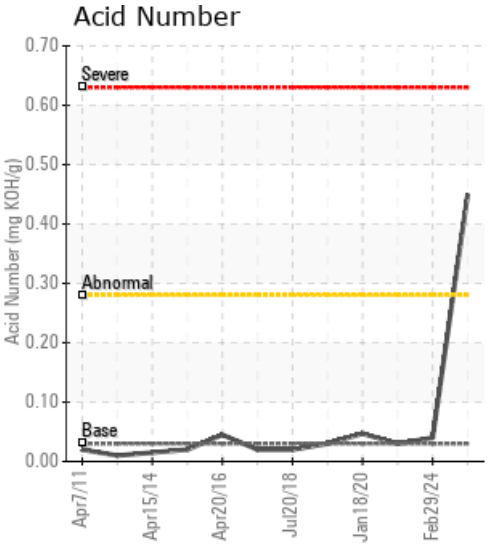
[9-10-74-11W6] CNRL KNOPCIK

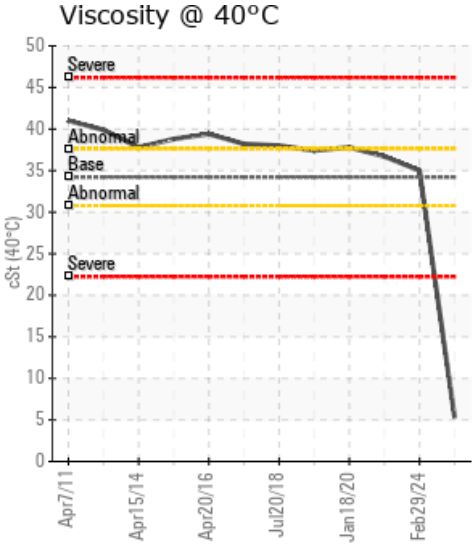
Customer: PTRHTF20048	System Information	Sample Information
CANADIAN NATURAL RESOURCES BOX 125 HYTHE, AB T0H 0C0 CA Attn: Ken Moon Tel: (280)831-0623 E-Mail: ken.moon@cnrl.com	System Volume: 30000 ltr Bulk Operating Temp: 437F / 225C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: BORN/HEATEC	Lab No: 02645056 Analyst: Clinton Buhler Sample Date: 06/25/24 Received Date: 07/02/24 Completed: 07/05/24 Clinton Buhler Clinton.Buhler@HFSinclair.com

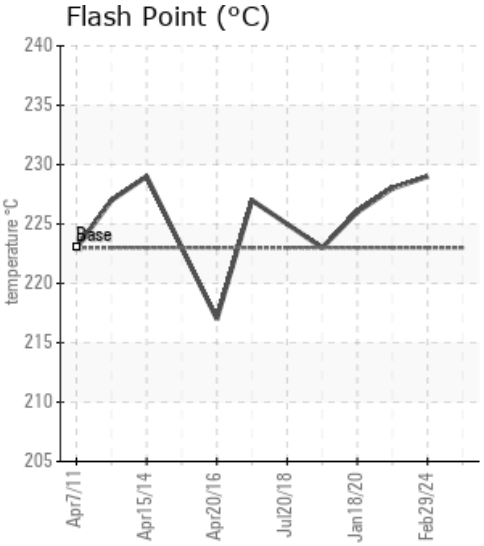
Recommendation: Sample results indicate excessive water contamination. GCD values are likely not valid due to the high water content. Confirm source of water contamination. Please re-sample immediately from a hot, turbulent zone; thoroughly purge sample valve and related piping/tubing before drawing sample.

Comments: Water contamination levels are severely high. Water contamination levels are severely high.. ppm Water contamination levels are severely high. Potassium ppm levels are abnormally high. (GCD) % < 335°C is severely high. (GCD) 10% Distillation Point is severely low. (GCD) 50% Distillation Point is severely low. (GCD) 90% Distillation Point is severely low. Visc @ 40°C is severely low. Acid Number (AN) is abnormally high.

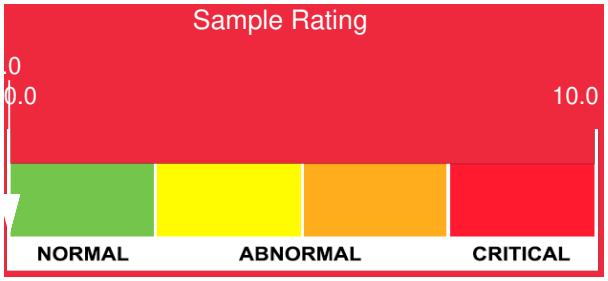
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
06/25/24	07/02/24	30.0y	old sask. boiler		384690	5.3	0.45		328 / 164	461 / 238	480 / 249	93.73
02/29/24	03/19/24	0.0y		444 / 229	186	35.0	0.04	0.261	726 / 386	822 / 439	913 / 489	1.56
07/13/21	09/16/21	0.0y	hot oil pump	442 / 228	8.2	36.7	0.03	0.006	728 / 387	822 / 439	912 / 489	1.29
01/18/20	01/27/20	5.0y	9-10-74-11W6 KNOPCIK	439 / 226	8.3	37.8	0.047	0.053	733 / 390	813 / 434	890 / 477	0.00
05/14/19	07/30/19	11.0y	PUMP	433 / 223	325.0	37.4	0.030	0.054	722 / 384	823 / 439	915 / 491	0.85
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00

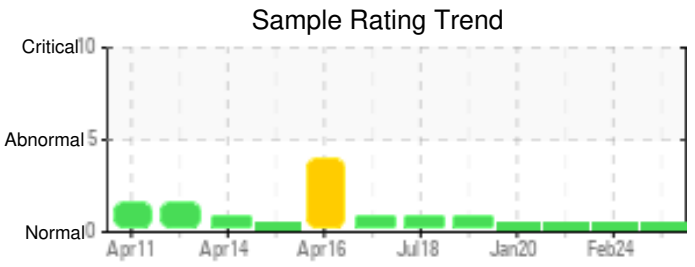






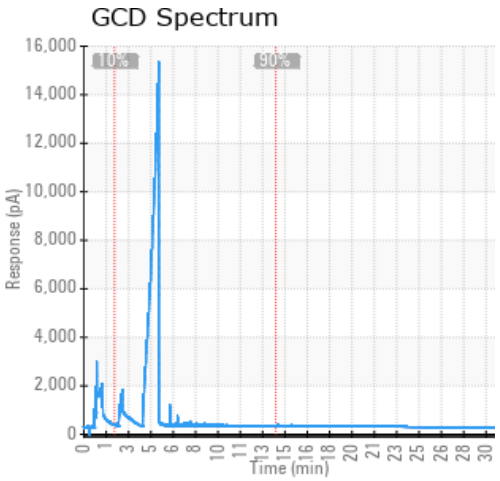
PETRO-CANADA LUBRICANTS

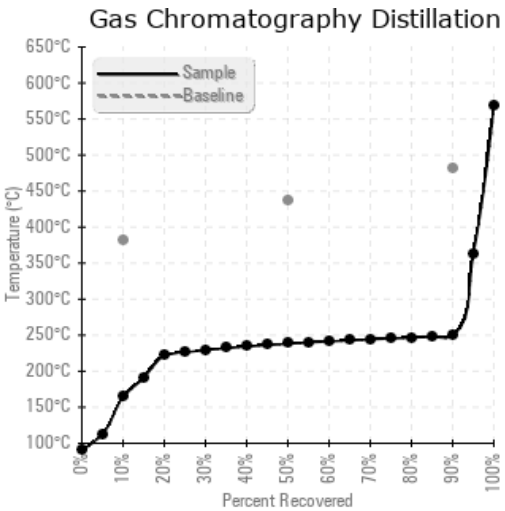


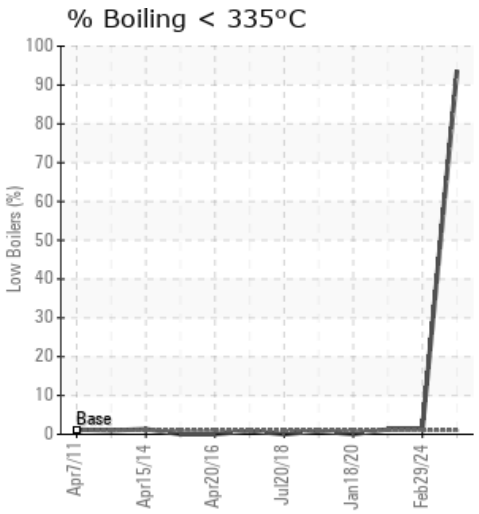


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
06/25/24	6	0	0	0	0	0	0	0	0	0	0	10	22	0	0	0	0	0	7	0	0	0	0	0
02/29/24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07/13/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01/18/20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/14/19	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 anaysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]







Historical Comments

02/29/24	Sample results indicate that the fluid is in suitable condition for continued service.Please re-sample in 12 months.
07/13/21	Analysis results indicate that the fluid is in suitable condition for continued service.Please re-sample in 12 months
01/18/20	Sample results indicate that the heat transfer fluid is suitable for continued service. Please re-sample in 12 months
05/14/19	The fluid is in a good condition and suitable for further use. The sample contained some free water. This can occur when sample is taken from a low point. If not taken from a low point, boil-off water to atmosphere and/or drain free water from a low drain point. Please re-sample in 12 months.