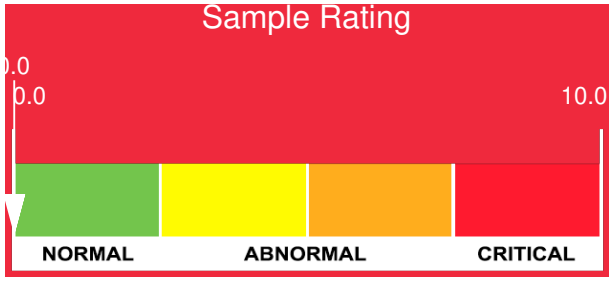
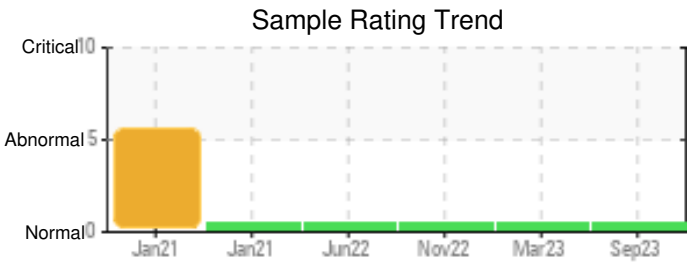




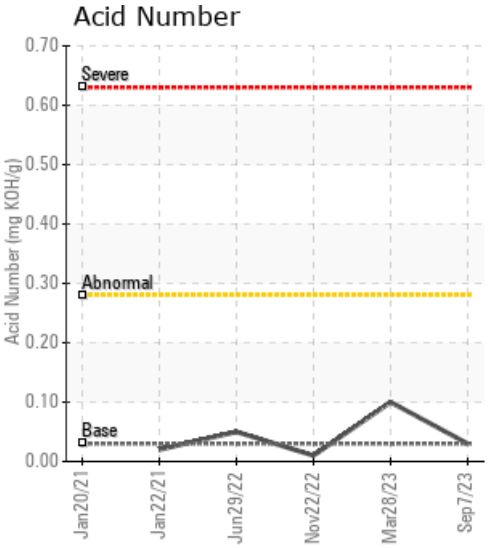
[01-21-63-02W6] LATOR 1 HEAT MEDIUM

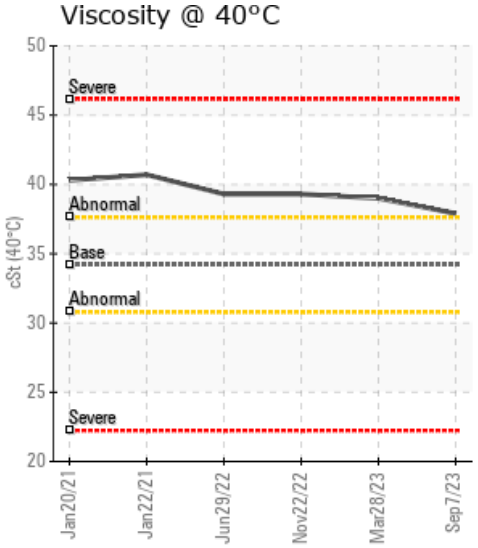
Customer: PTRHTF20207	System Information	Sample Information
Arc Resources Grande Prairie, AB T8V 8H7 CA Attn: Jamie Lawson Tel: (250)262-8656 E-Mail: jlawson@arcresources.com	System Volume: 8000 ltr Bulk Operating Temp: 302F / 150C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: PETRO TECH	Lab No: 02584768 Analyst: Clinton Buhler Sample Date: 09/07/23 Received Date: 09/22/23 Completed: 09/26/23 Clinton Buhler Clinton.Buhler@HFSinclair.com

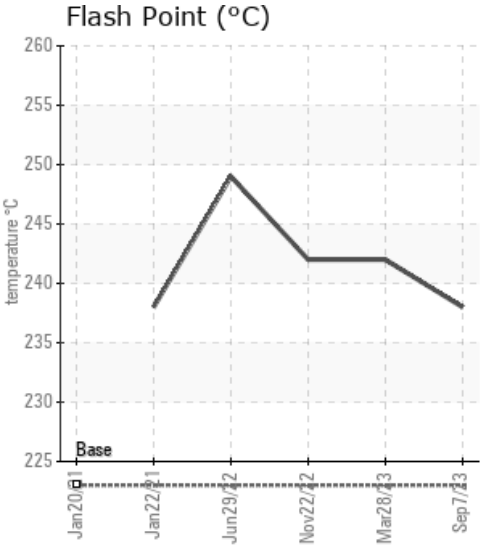
Recommendation: Sample results indicate this mix of Chevron 46 and Petro-Therm is in suitable condition for continued service. Please re-sample in 12 months.

Comments:

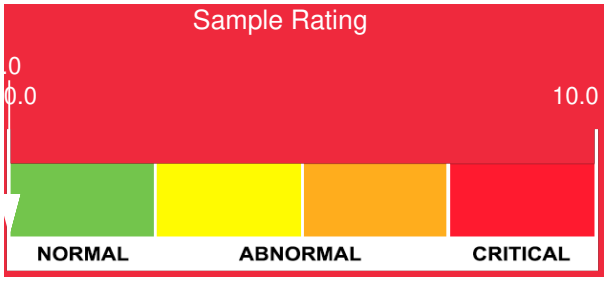
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
09/07/23	09/22/23	4.0y	discharge pump	460 / 238	72.4	37.9	0.03	0.054	741 / 394	831 / 444	926 / 497	0.49
03/28/23	04/11/23	4.0y		468 / 242	50.2	39.0	0.10	0.039	749 / 398	840 / 449	930 / 499	1.34
11/22/22	12/02/22	3.0y	pump discharge	468 / 242	24.8	39.3	0.01	0.030	750 / 399	840 / 449	931 / 500	1.16
06/29/22	07/20/22	3.2y	Pump discharge	480 / 249	30.9	39.3	0.05	0.062	747 / 397	840 / 449	928 / 498	1.21
01/22/21	02/19/21	2.5y	Pump discharge	460 / 238	20.5	40.7	0.02	0.086	751 / 399	841 / 449	928 / 498	0.00
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00

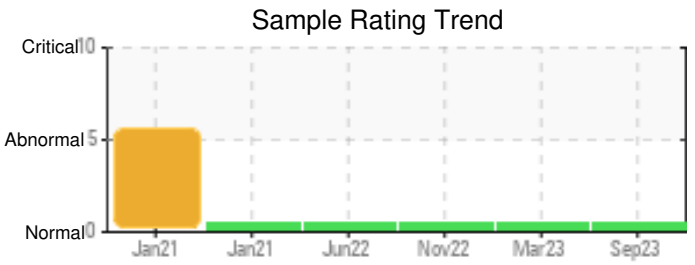






PETRO-CANADA LUBRICANTS

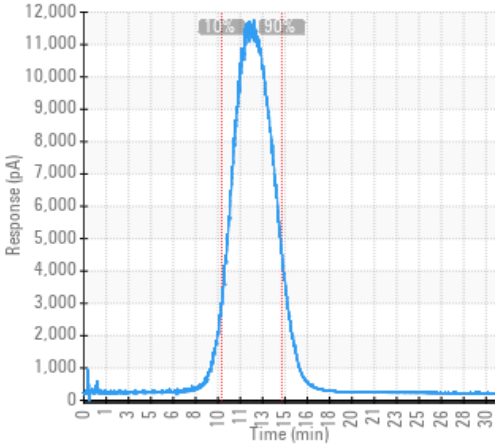




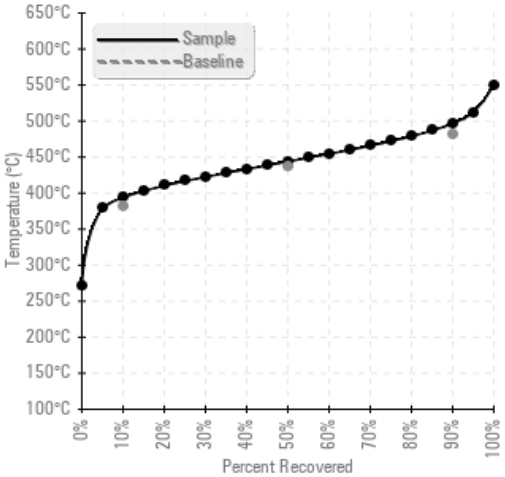
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
09/07/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03/28/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11/22/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06/29/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01/22/21	4	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%]

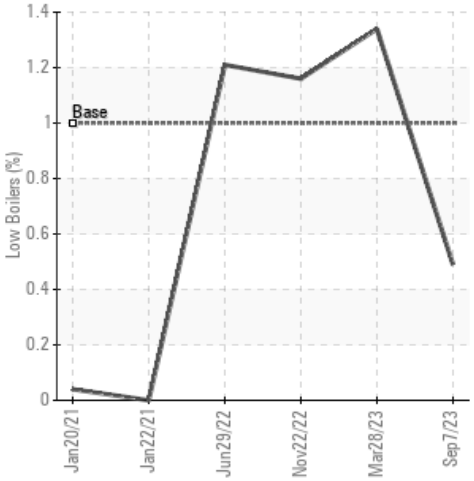
GCD Spectrum



Gas Chromatography Distillation



% Boiling < 335°C



Historical Comments

03/28/23	Sample results indicate that the heat transfer fluid is in suitable condition for continued service. Please re-sample after 12 months.
11/22/22	Sample results indicate that the heat transfer fluid is in suitable condition for continued service. Please re-sample after 12 months.
06/29/22	Sample results indicate that the heat transfer fluid is in suitable condition for continued service. Please re-sample in 12 months.
01/22/21	Sample results indicate that the fluid is in suitable condition for continued service; this re-sample was taken after the previous sample contained excessive amounts of water contamination. Water is now at 20ppm which is very low.Please re-sample in 12 months.