

[15-24-61-19-W5] CHEVRON WHITECOURT

Customer: PTRHTF20175
 QUADRA CHEMICALS
 7802 98 STREET
 CLAIRMONT, AB T0H 0W0 Canada
 Attn: Quadra Samples
 Tel:
 E-Mail: quadra_samples@quadra.ca

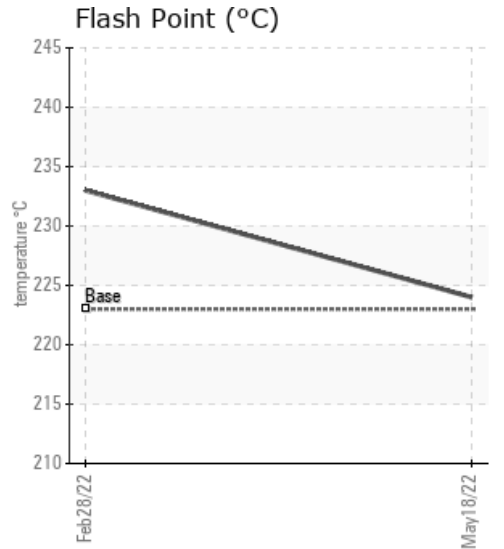
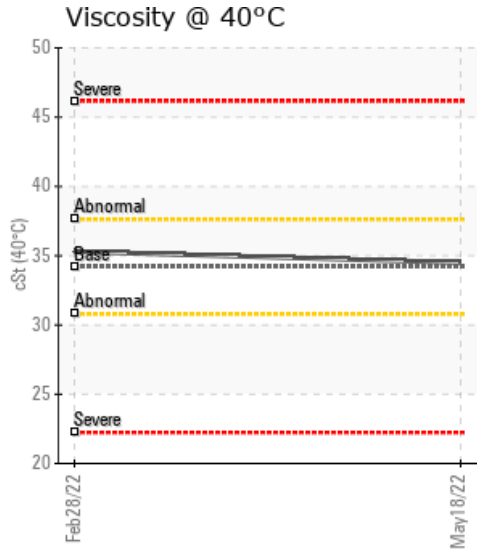
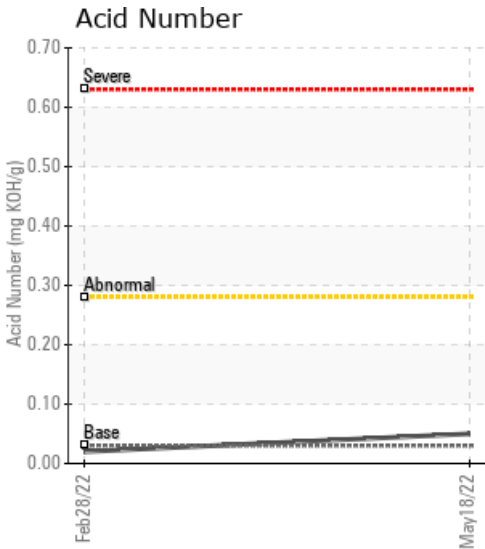
System Information
 System Volume: 9230 ltr
 Bulk Operating Temp: 248F / 120C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA PETRO-THERM
 Make:

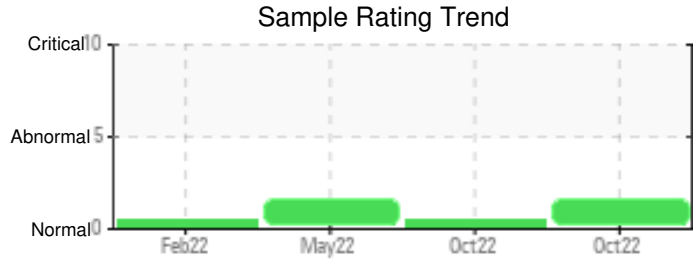
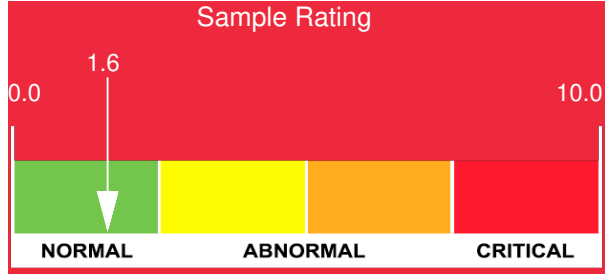
Sample Information
 Lab No: 02526847
 Analyst: Clinton Buhler
 Sample Date: 10/18/22
 Received Date: 12/05/22
 Completed: 12/14/22
 Clinton Buhler
 Clinton.Buhler@HFSinclair.com

Recommendation: *** Sample is contaminated water (>99% water) ***

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	%
10/18/22	12/05/22	32.0w	after 2nd boil over									
10/06/22	12/05/22	32.0w	after 1st boil over									
05/18/22	05/30/22	16.0w		435 / 224	55.1	34.5	0.05	0.048	729 / 387	814 / 435	905 / 485	1.15
02/28/22	03/07/22	1.0w	LINE HEATER	451 / 233	23.7	35.3	0.02	0.020	726 / 386	813 / 434	905 / 485	1.68
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00

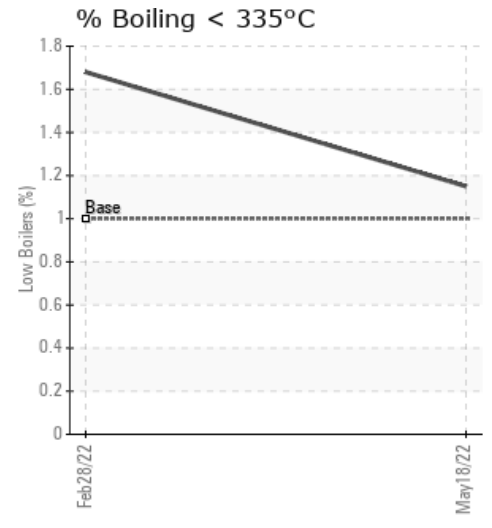




Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
10/18/22																								
10/06/22																								
05/18/22	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	0	0
02/28/22	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
Baseline Data			0	0						0			0	0					0				0	

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

GCD Spectrum



Historical Comments

10/06/22	*** Sample is >99% water *** Unable to run further tests
05/18/22	Sample results indicate the fluid is in suitable condition for continued service. Please re-sample in 6 months.
02/28/22	This is the first sample from a new system after start-up. Sample results indicate the fluid is in suitable condition for continued service. Please re-sample in 3 months.

Petro-Canada makes no representation or warranty of any kind, either express or implied, as to the accuracy or completeness of the analysis and assumes no responsibility and shall have no liability whatsoever with respect to such analysis, or a party's use of it. Petro-Canada is a division of HollyFrontier Corporation.