

### 410 HX 001

**Customer: PTRHTF30002**  
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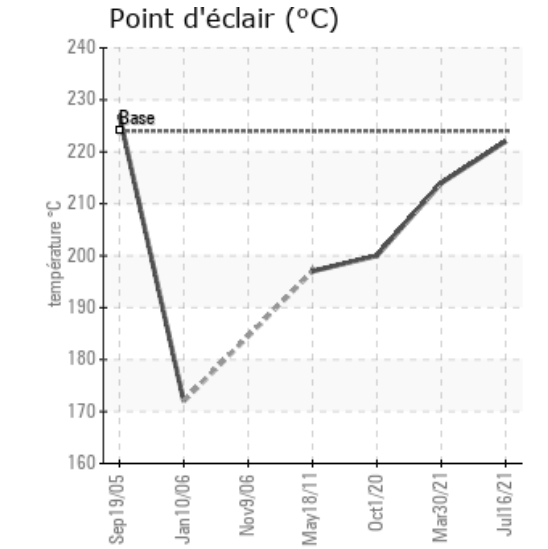
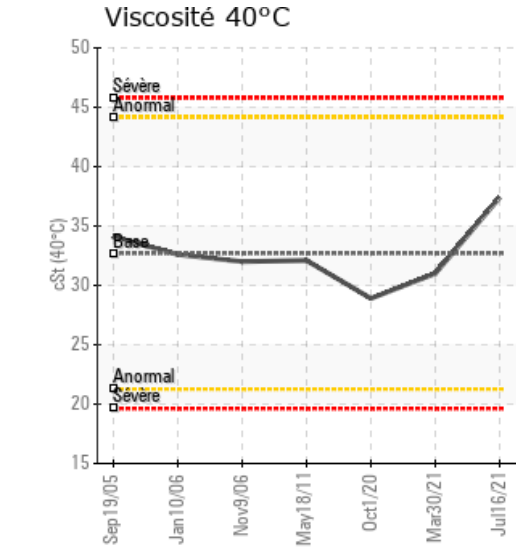
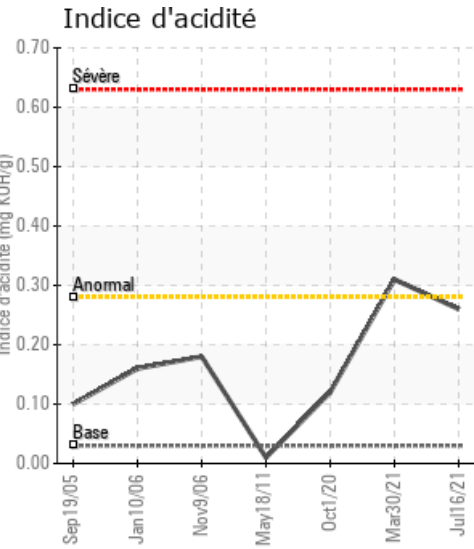
**System Information**  
 System Volume: 9500 ltr  
 Bulk Operating Temp: 249F / 121C  
 Heating Source:  
 Blanket:  
 Fluid: PETRO CANADA CALFLO AF  
 Make:

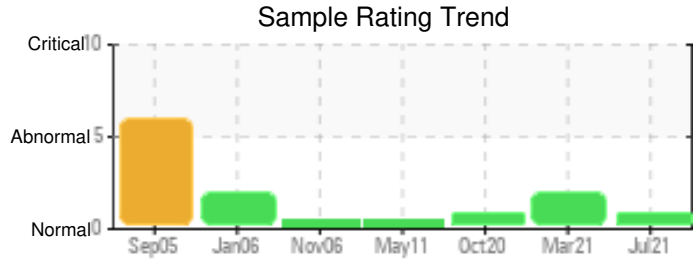
**Sample Information**  
 Lab No: 02434763  
 Analyst: Pierre Castagne  
 Sample Date: 07/16/21  
 Received Date: 07/23/21  
 Completed: 08/04/21  
 Pierre Castagne  
 pierre.castagne@hollyfrontier.com

Recommendation: l'huile est normale (OK) pour usage continu.Reprendre un échantillon à l'intervalle prévue.

Comments:

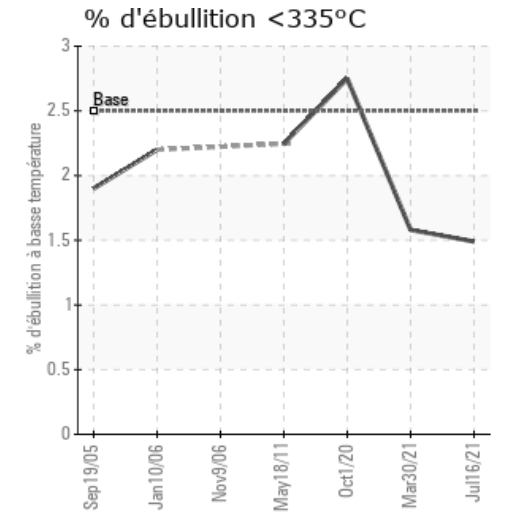
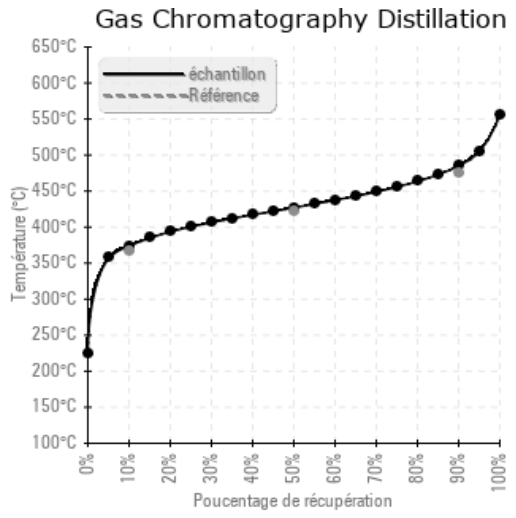
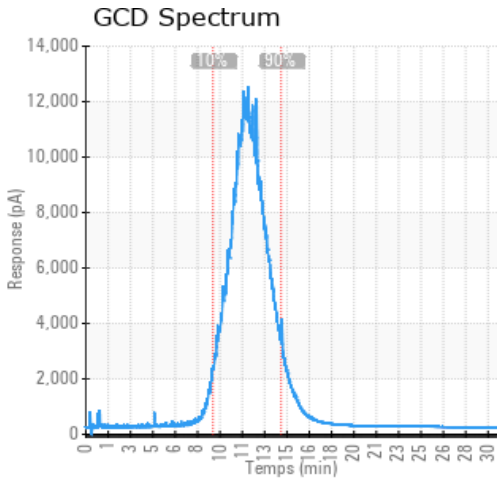
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
07/16/21	07/23/21	0.0y		432 / 222	53.2	37.4	0.26	0.161	704 / 374	801 / 427	905 / 485	1.49
03/30/21	04/09/21	3.0y	Carbone	417 / 214	58.3	31.0	0.31	0.048	701 / 371	795 / 424	907 / 486	1.58
10/01/20	10/08/20	2.0y	Btwn pump and furnac	392 / 200	28.8	28.9	0.12	0.054	697 / 370	795 / 424	898 / 481	2.75
05/18/11	05/24/11			387 / 197	61	32.1	0.01	0.015	695 / 368	794 / 423	891 / 477	2.246
11/09/06	11/23/06					32	0.18					
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5





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
07/16/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98	0
03/30/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89	0
10/01/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	2
05/18/11	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	70	0
11/09/06	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	49	0
Baseline Data			0	0						0			0	0					0				270	

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



Historical Comments	
03/30/21	L'indice d'acidité (TAN) est plus élevé (0.31). On remarque une légère augmentation des fractions légères (GCD @10%) 371.4 versus 367 et des fractions lourdes (GCD @90%) 486.1 versus 475. Les huiles est OK pour usage continu.
10/01/20	On remarque une légère présence de soufre, une baisse de la viscosité. Une légère augmentation des solides (Pentane Insolubles). Nous soupçonnons une très faible contamination avec un autre fluide soit lors d'un transvasage (fluide restant dans le mécanisme de transfert) ou lors d'une intervention sur le système.
05/18/11	
11/09/06	

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