

# POWDER SLUSH COLD OIL RETURN

**Customer: PTRHTF30023**  
 INOAC INTERIOR SYSTEMS  
 575 JAMES STREET SOUTH  
 ST MARYS, ON N4X 1B9 Canada  
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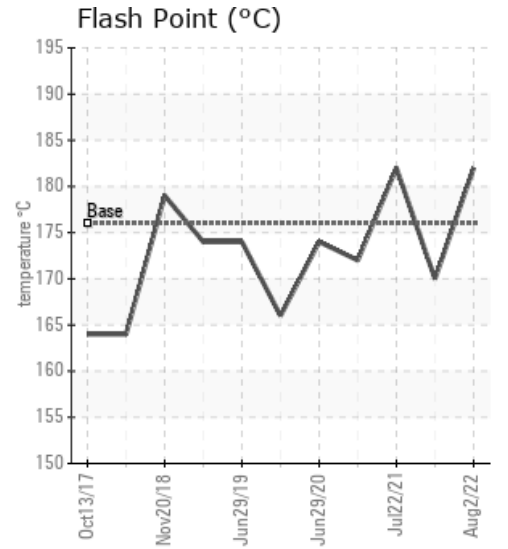
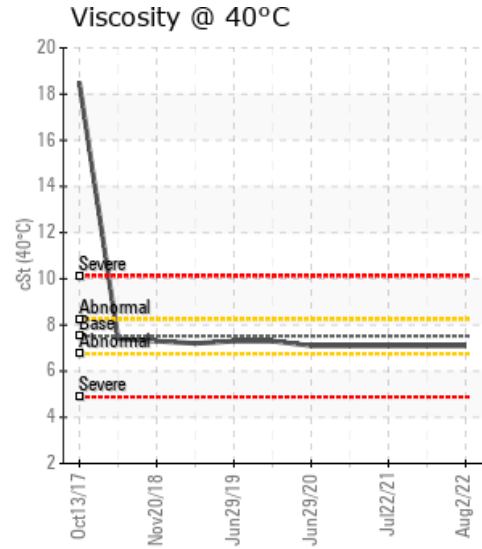
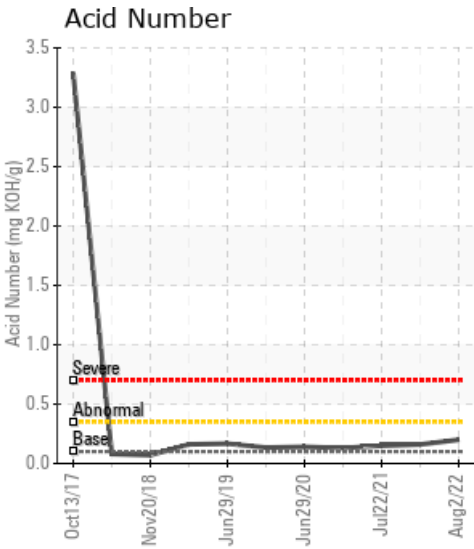
**System Information**  
 System Volume: 14000 ltr  
 Bulk Operating Temp: 500F / 260C  
 Heating Source:  
 Blanket:  
 Fluid: PETRO CANADA CALFLO LT  
 Make: BP&R CONSTRUCTION

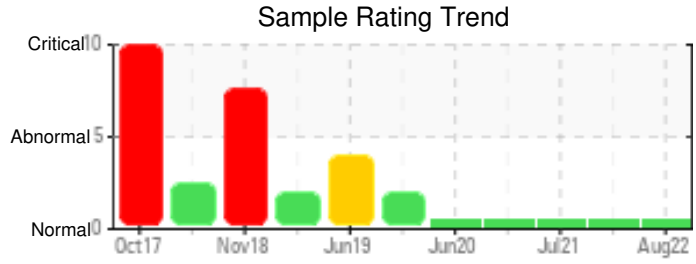
**Sample Information**  
 Lab No: 02503840  
 Analyst: Yen Garcia  
 Sample Date: 08/02/22  
 Received Date: 08/08/22  
 Completed: 08/29/22  
 Yen Garcia  
 yen.garcia@hollyfrontier.com

Recommendation: No action needed at this time.

Comments:

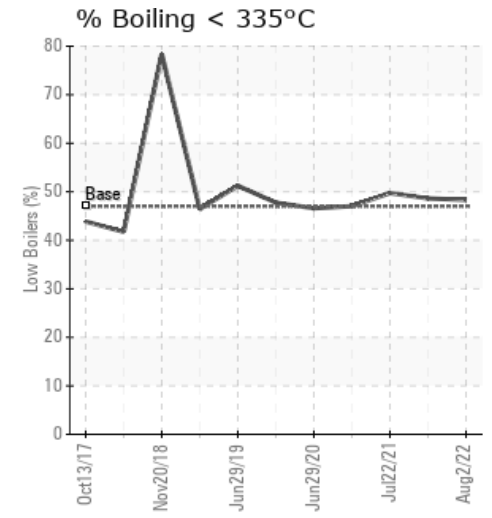
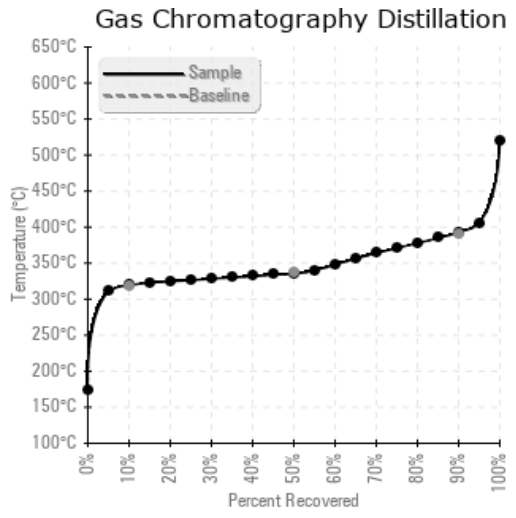
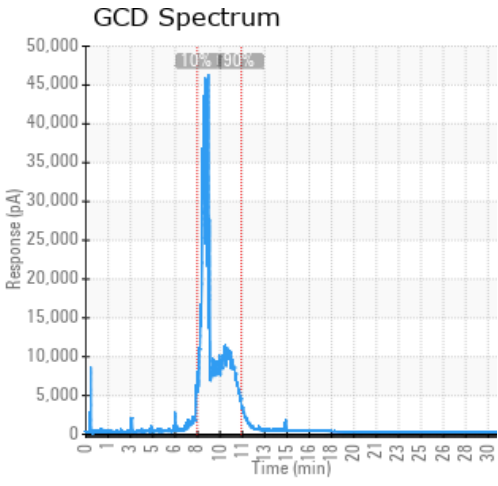
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/02/22	08/08/22	0.0h		360 / 182	25.8	7.1	0.20	0.217	607 / 319	636 / 335	739 / 393	48.33
12/24/21	01/07/22	0.0h		338 / 170	8.5	7.1	0.16	0.026	606 / 319	636 / 335	738 / 392	48.62
07/22/21	07/23/21	0.0h		360 / 182	24.5	7.1	0.15	0.146	606 / 319	635 / 335	735 / 391	49.73
11/26/20	12/03/20	0.0h		342 / 172	19.3	7.1	0.13	0.047	608 / 320	636 / 336	737 / 392	47.03
06/29/20	06/30/20	0.0h		345 / 174	19.4	7.1	0.14	0.101	609 / 321	637 / 336	737 / 392	46.59
<b>Baseline Data</b>				<b>349 / 176</b>		<b>7.52</b>	<b>0.1</b>		<b>604 / 318</b>	<b>640 / 338</b>	<b>734 / 390</b>	<b>47.0</b>





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
08/02/22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95	0
12/24/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	0
07/22/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	106	0
11/26/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	81	0
06/29/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	85	0
<b>Baseline Data</b>			0	0						0			0	0				0	0				270	

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



Historical Comments	
12/24/21	Sample results indicate that the fluid is suitable for continue use. Please, sample at the next appropriate interval (6 to 9 months). No action needed at this time.
07/22/21	Results of the heat transfer oil for the Cold Oil Return are typical for Calflo LT. No evidence of product degradation. Viscosity, Total Acid Number, GCD, Flash Point are within typical parameters. Fluid is suitable for continued use. Submit sample at next appropriate interval (6 - 9 months).
11/26/20	Sample is consistent with used Calflo LT. Sample indicates fluid is suitable for continued use. Sample at next interval.
06/29/20	Current analysis of the Cold Oil Return system indicates the oil is suitable for continued use. GCD profile is consistent with Calflo LT. Acid number, viscosity and water are consistent as well. No indication of wear metals indicated either. The flash point has increased slightly. Pentane insolubles have decreased from 0.209 to 0.101. Always ensure that the sample line is flushed thoroughly to remove any insolubles that may have accumulated over time, before the sample is taken. Resample at next interval.

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