

HEAT TRANSFER SYSTEM

Customer: PTRHTF20034
 NORTHLAND FOREST PRODUCTS
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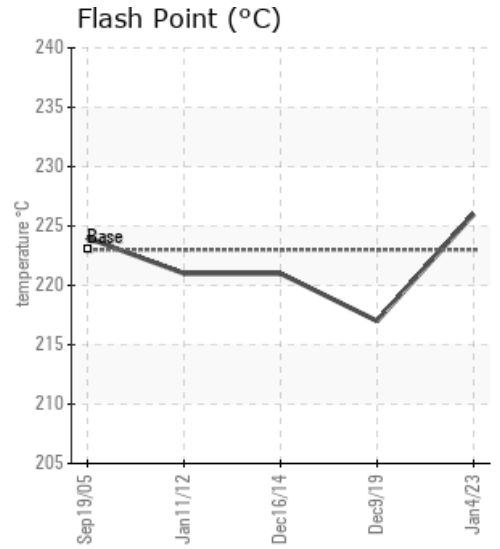
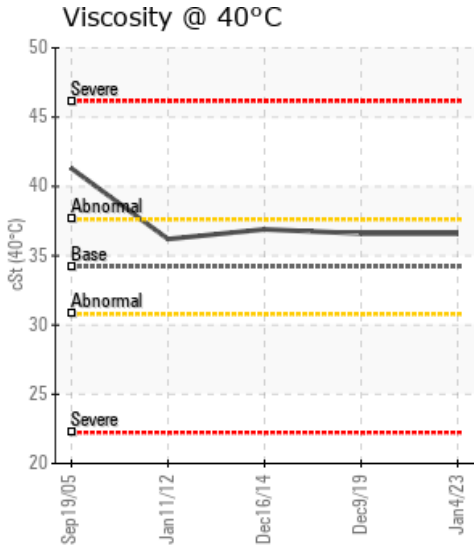
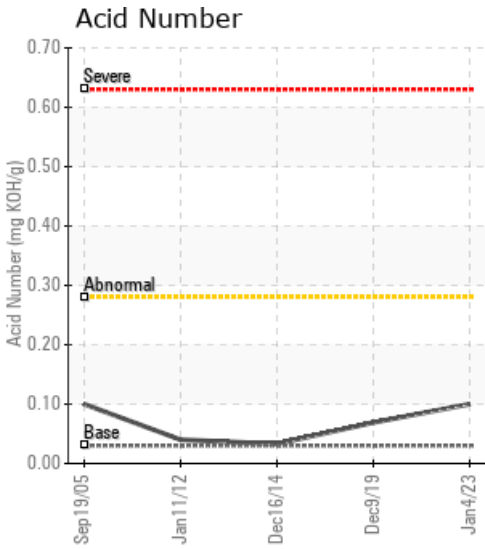
System Information
 System Volume: 17500 ltr
 Bulk Operating Temp: 410F / 210C
 Heating Source:
 Blanket:
 Fluid: PETRO CANADA PETRO-THERM
 Make: TEAFORD

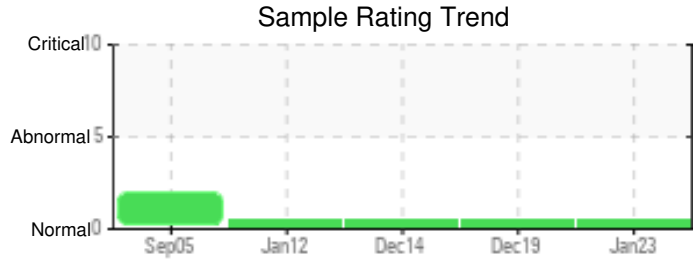
Sample Information
 Lab No: 02533599
 Analyst: Peter Harteveld
 Sample Date: 01/04/23
 Received Date: 01/16/23
 Completed: 01/19/23
 Peter Harteveld
 peter.harteveld@HFSinclair.com

Recommendation: Fluid condition is excellent. 18 years service life must be incorrect. Please resample in 12 months or if this is a fresh fill resample in 6 months.

Comments:

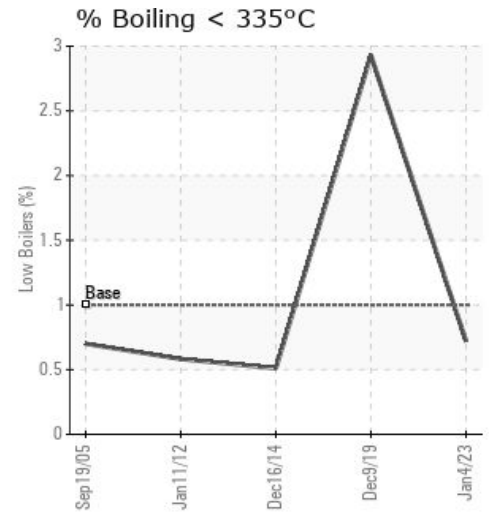
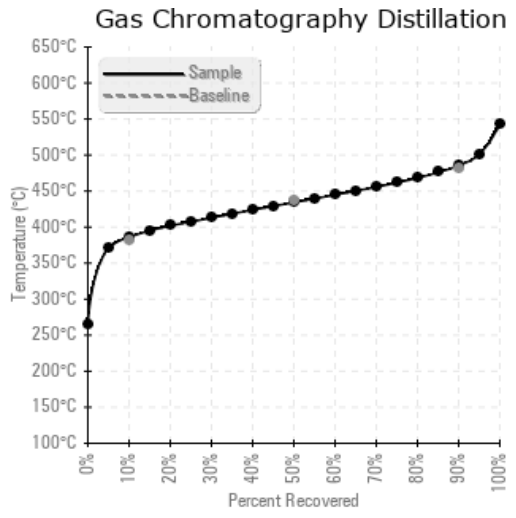
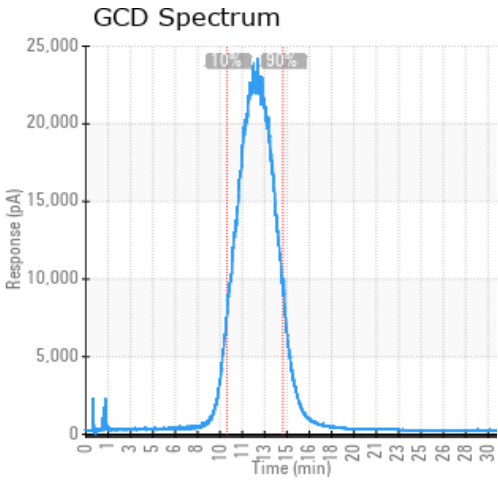
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/04/23	01/16/23	18.0y		439 / 226	2.6	36.6	0.10	0.154	727 / 386	814 / 434	906 / 486	0.72
12/09/19	12/16/19	12.0y	FILTER	423 / 217	7.8	36.6	0.069	0.098	671 / 355	769 / 409	894 / 479	2.93
12/16/14	12/19/14	10.0y	OIL FILTER OUTLET	430 / 221	18.9	36.9	0.033	0.042	695 / 369	789 / 420	901 / 483	0.51
01/11/12	01/16/12			430 / 221	55	36.2	0.04	0.001	716 / 380	806 / 430	899 / 482	0.582
09/19/05	09/19/05			435 / 224	109	41.3	0.1		712 / 378		932 / 500	0.7
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
01/04/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/09/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12/16/14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01/11/12	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	8	1
09/19/05	4	0	0	0	0	2	0	0	0	0	0	1		0	0		0		0	0	0	0	0	0
Baseline Data			0	0						0			0	0				0					0	

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



Historical Comments	
12/09/19	Test results are normal. No immediate action required. Resample at the next interval.
12/16/14	This sample looks good and does not indicate any problems. Resample in 12 months.
01/11/12	If the sample was to investigate a specific concern you can discuss with your local technical advisor. However all test results indicate the oil is in great condition, no results are color coded which means they're too good to even be categorized and they are all severity "0". Please try to re-sample every 6-9 months, yearly at a minimum.
09/19/05	

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