

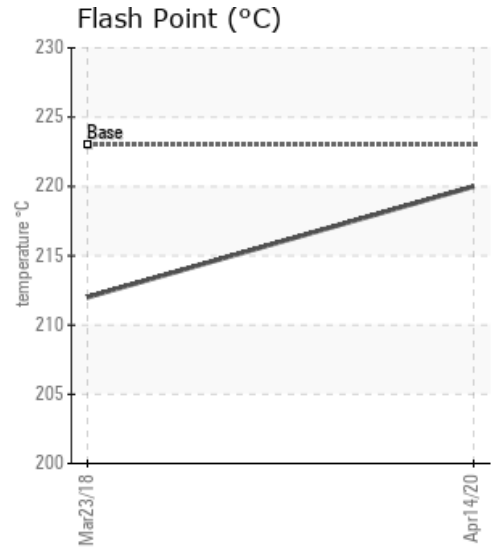
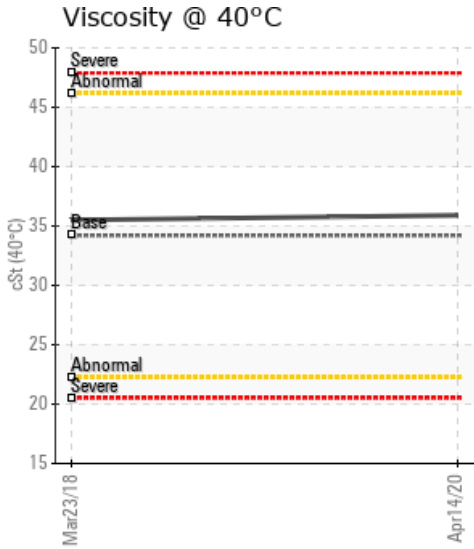
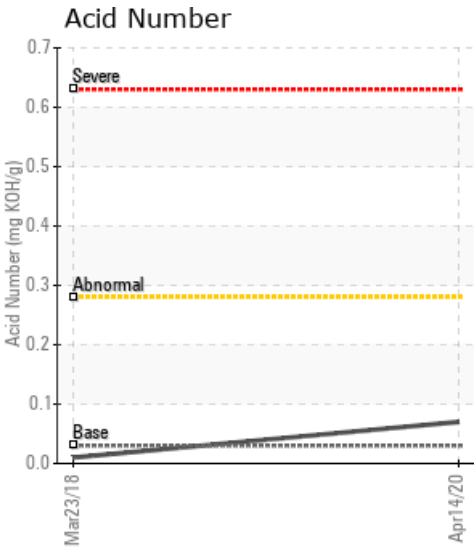
## LOUISIANA PACIFIC FORT ST. JOHN

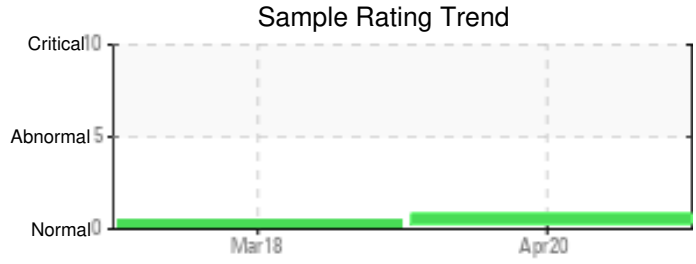
Customer: PTRHTF20195	System Information	Sample Information
LOUISIANA-PACIFIC CANADA LTD. 8220 250 ROAD RR 1 SITE 13 COMP 14 FORT ST. JOHN, BC V1J 4M6 Canada Attn: Bryan Chatten Tel: (250)793-2387 E-Mail: bryan.chatten@lpcorp.com	System Volume: 3000000 ltr Bulk Operating Temp: 518F / 270C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: GTS	Lab No: 02355354 Analyst: Clinton Buhler Sample Date: 04/14/20 Received Date: 05/22/20 Completed: 05/26/20 Clinton Buhler Clinton.Buhler@PetroCanadaLSP.com

Recommendation: Sample results indicate that the heat transfer fluid is suitable for continued service. Please re-sample fluid in 12 months

Comments:

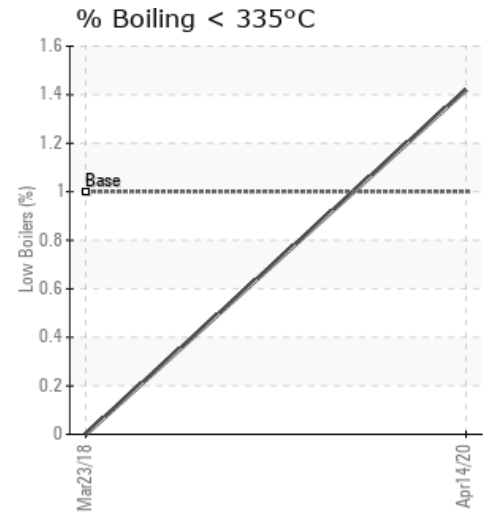
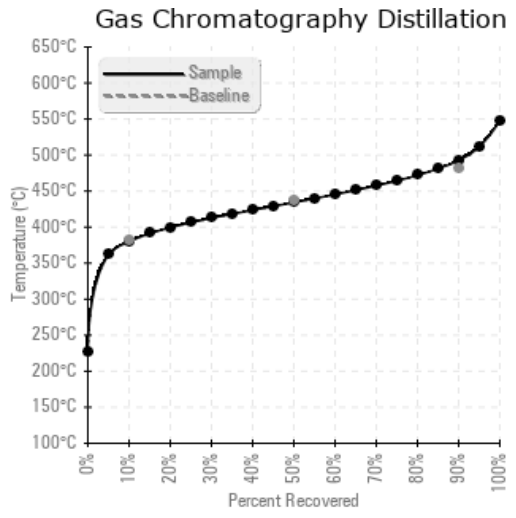
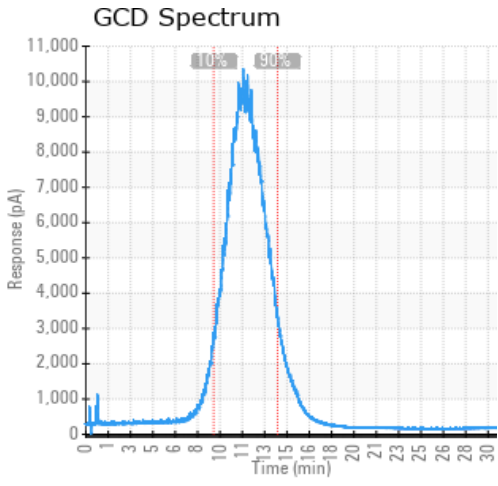
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/14/20	05/22/20	15y	slipstream TEST	428 / 220	25.7	35.9	0.07	0.083	716 / 380	814 / 434	919 / 493	1.42
03/23/18	04/03/18	0y		414 / 212	39.8	35.5	0.01	0.026	700 / 371	786 / 419	898 / 481	0.00
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
04/14/20	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/23/18	0	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 analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]



### Historical Comments

03/23/18	Sample results indicate that the thermal fluid is suitable for continued service. Slightly lower 10% and 50% distillation points can be an early indicator of thermal degradation. As a good maintenance practice, consider periodic venting of the expansion tank to allow release of any low boiling vapors. Ensure blanket gas is re-applied after venting. Re-sample in 12 months.

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