

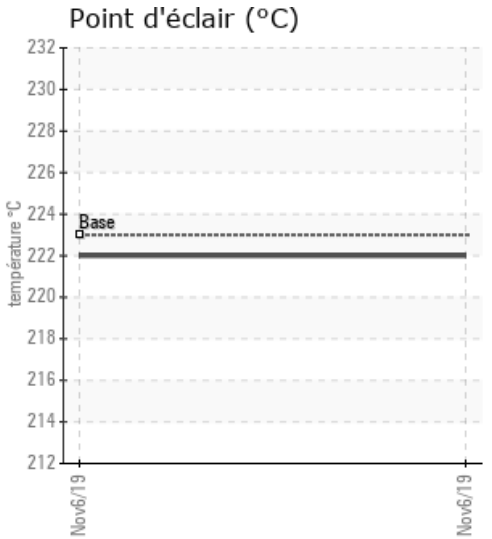
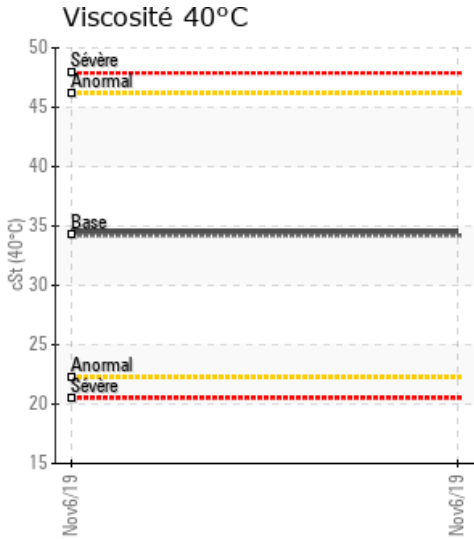
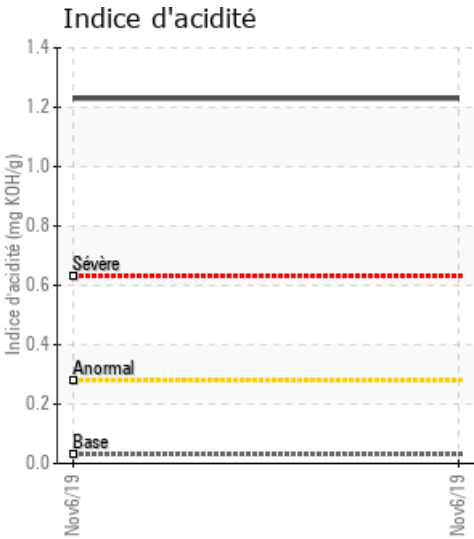
## HEATTRANSFER

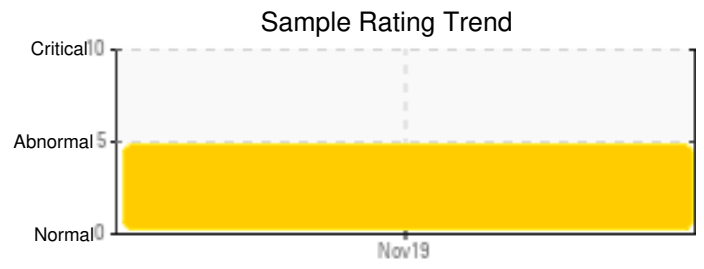
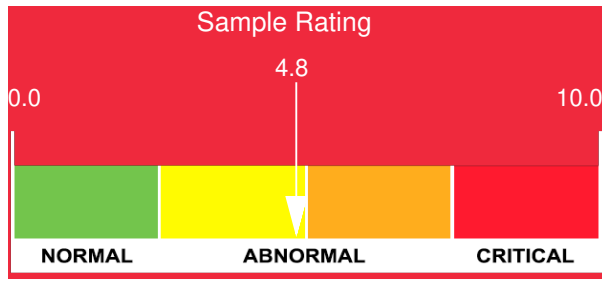
Customer: PTRHTF30148	System Information	Sample Information
CONSTRUCTION DJL INC 1 CHEMIN DE LA PAX ST-HILARION, QC G5A 3V0 Canada Attn: Jonathan Boily Tel: (418)324-9352 E-Mail: jonathan.boily@djl.ca	System Volume: 1500 gal Bulk Operating Temp: 410F / 210C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: GENCOR	Lab No: 02324622 Analyst: Pierre Castagne Sample Date: 11/06/19 Received Date: 12/04/19 Completed: 03/11/20 Pierre Castagne pierre.castagne@petrocanadalsp.com

Recommandation: Les résultats d'analyses semblent nous indiquer que l'huile est au stage initiale de dégradation. Les fractions légères (GCD @10%) plus base nous indique le craquage des longues chaînes en courtes chaînes d'hydrocarbure. La dégradation de l'huile ainsi que l'oxydation cré des boues et acides tel qu'indentifié par les test de (AN) 1.23, ainsi que les insolubles (Pentane Insolubles) 5.03. Je vous suggère de reprendre un échantillon dans 3 mois ou lors du démarrage.

Comments:

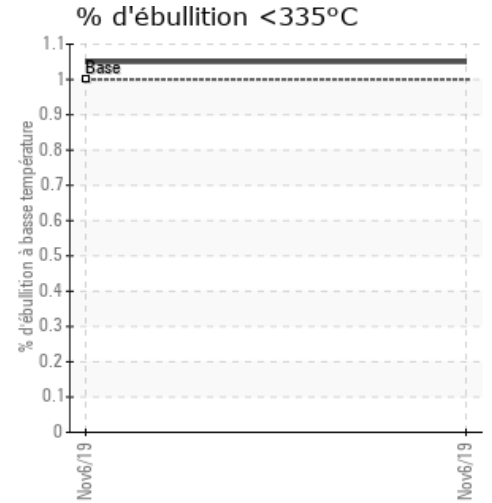
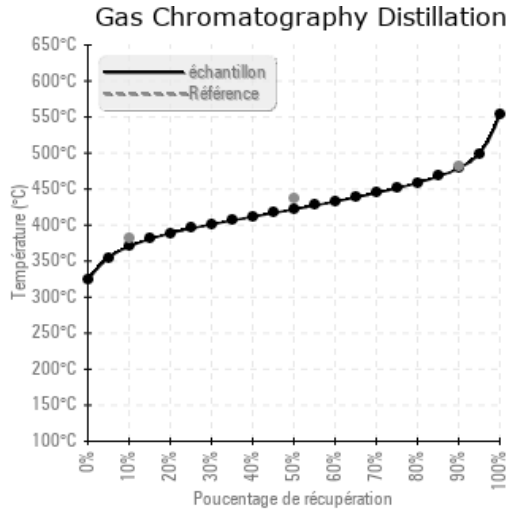
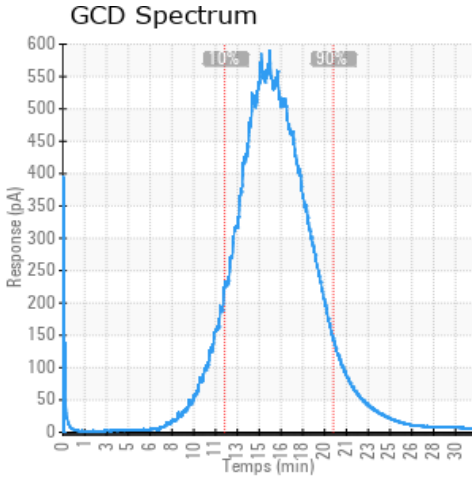
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
11/06/19	12/04/19	5m	BEFORE PUMP	432 / 222	99.3	34.5	1.23	5.03	698 / 370	791 / 422	894 / 479	1.05
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
11/06/19	58	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	9
<b>Baseline Data</b>			0	0						0			0	0					0				0	

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



### Historical Comments


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.