

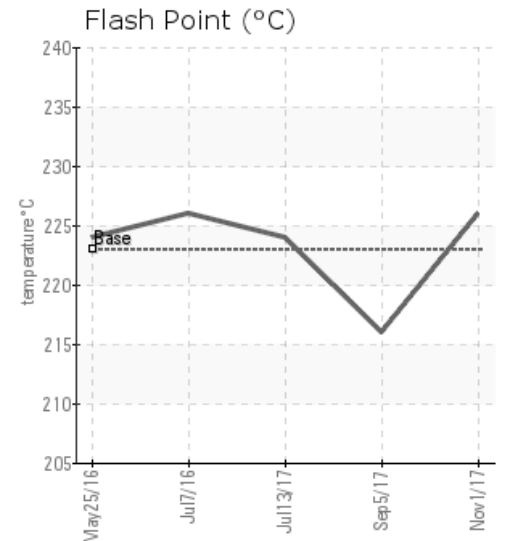
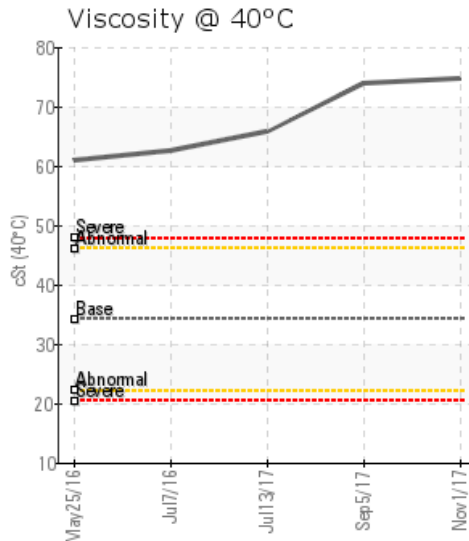
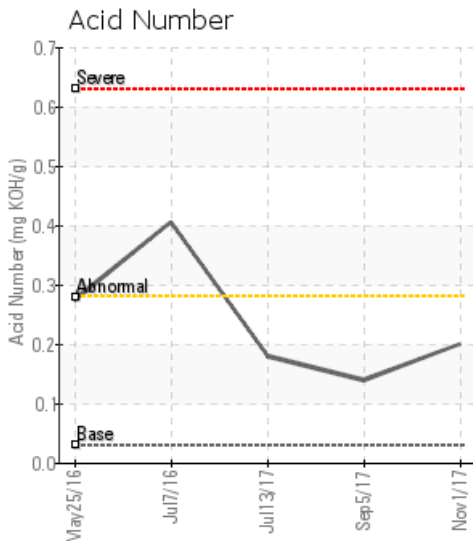
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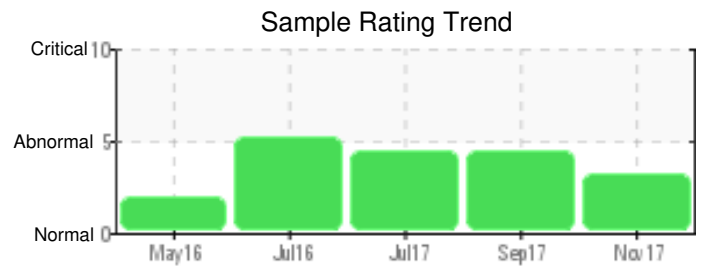
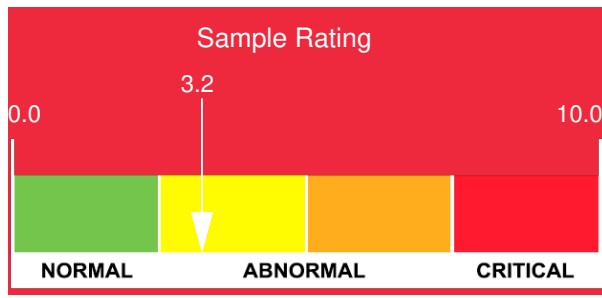
Customer: PTRHTF30092	System Information	Sample Information
Groupe TNT 5250 Rue d'Amiens Montreal, QC H1G 3G5 Canada Attn: Pierre Desrochers Tel: (514)232-0449 E-Mail: pdesrochers@groupepnt.com	System Volume: 2090 ltr Bulk Operating Temp: 356F / 180C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: GENCOR BITUMA	Lab No: 02180684 Analyst: Pierre Castagne Sample Date: 11/01/17 Received Date: 11/07/17 Completed: 11/23/17 To discuss this report contact Pierre Castagne at 450-981-0693

Recommendation: La viscosité de l'échantillon continue à augmenter, les fractions lourdes (GCD@90%) sont élevé. On peut observer une trace de bitume dans l'échantillon

Comments:

Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40C)	Acid Number (AN)	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335C
	mm/dd/yy	yrs		F/C	ppm	cSt	mg/KOH/g	%Wt	F/C	F/C	F/C	%
11/01/17	11/07/17	17	BALANCE BITUME BATCH	439 / 226	35	74.7	0.20	1.09	731 / 389	834 / 446	933 / 501	0.0
09/05/17	09/08/17	16	BALANCE BITUME BATCH	421 / 216	40	73.9	0.14	1.49	721 / 383	822 / 439	934 / 501	0.0
07/13/17	07/14/17	16	BALANCE BITUME BATCH	435 / 224	45	65.7	0.18	1.31	723 / 384	830 / 443	937 / 503	0.7
07/07/16	07/11/16	15	BALANCE A BITUME BTH	439 / 226	0	62.6	0.405	0.97	724 / 384	832 / 444	947 / 509	0.1
05/25/16	06/10/16	15	BALANCE A BITUME BAT	435 / 224	26	61.0	0.274	1.03	719 / 382	825 / 441	908 / 487	0.8
Baseline Data				433 / 223	0	34.2	0.03	0	720 / 382	817 / 436	900 / 482	1.0

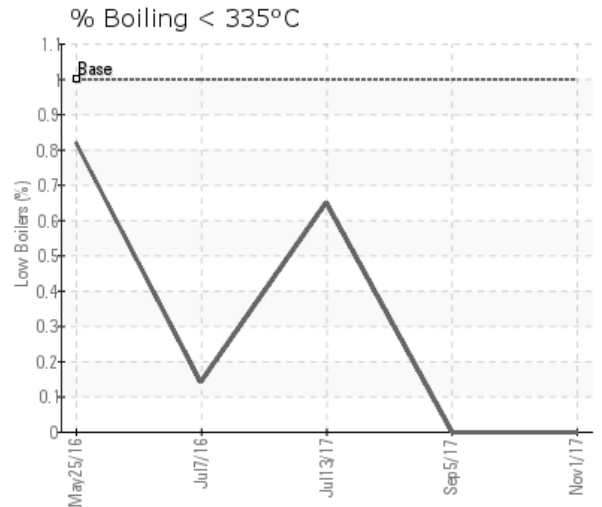
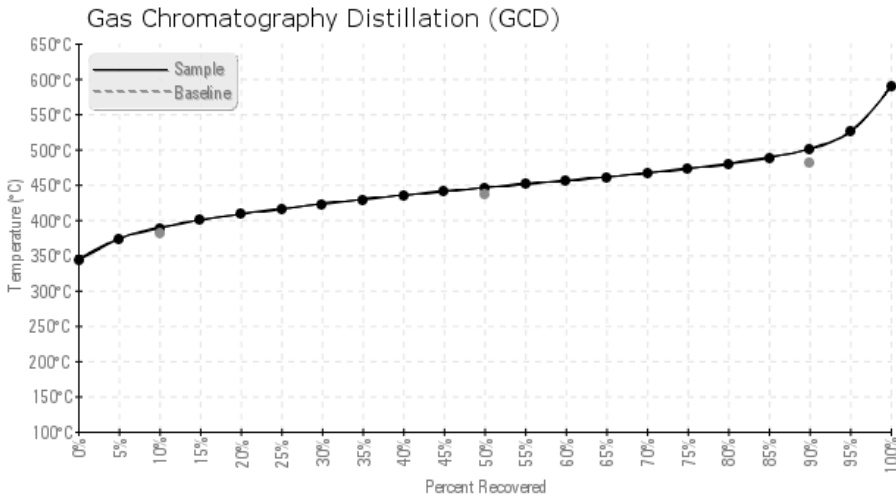




Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
2017	1101/17	0	0	0	1	10	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	13	4
2017	0905/17	0	1	0	0	9	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	13	4
2017	0713/17	0	0	0	1	10	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	14	4
2016	0707/16	0	0	0	0	7	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	12	2
2016	0525/16	0	0	0	0	6	1	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	12	2

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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Elemental analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]



Historical Comments

05/25/16

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