

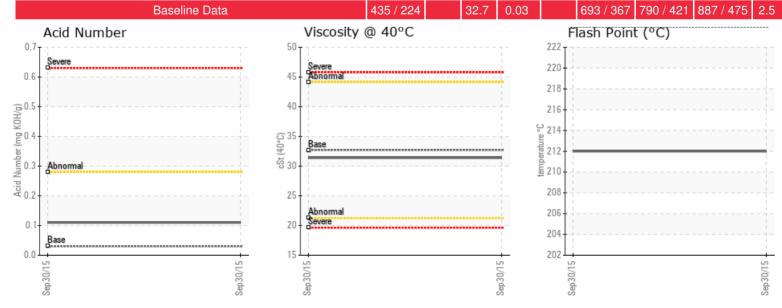
HOT OIL SYSTEM

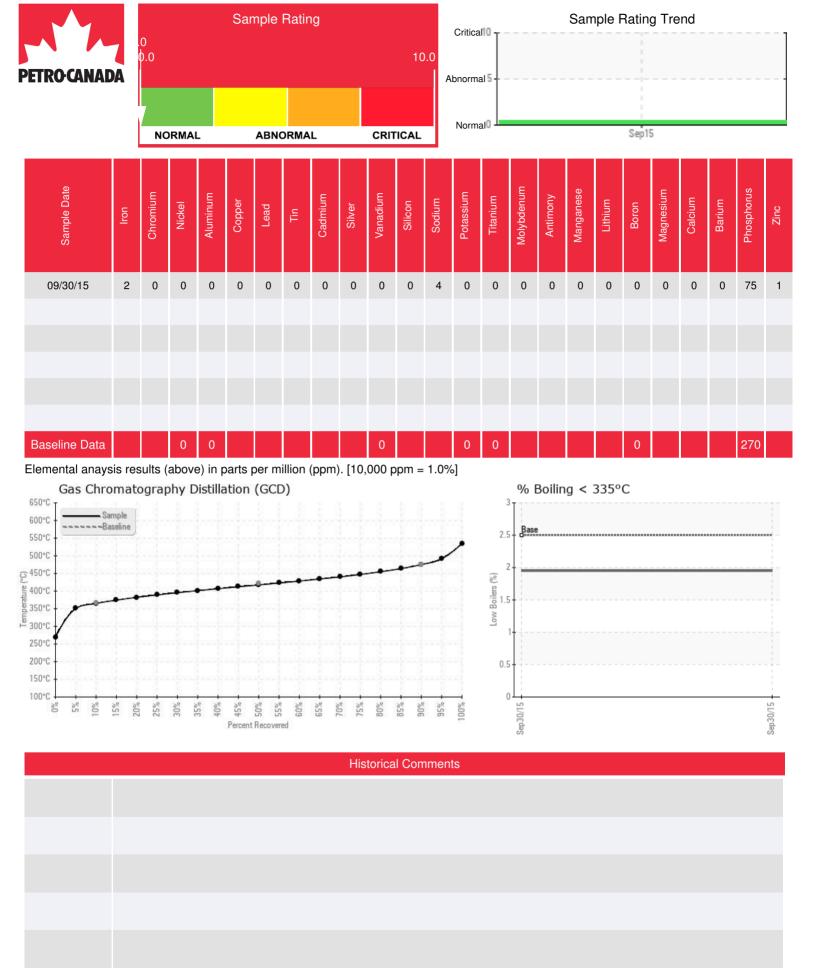
Customer: PTRHTF20165	System Information	Sample Information			
Alberta Innovates Technology Future	System Volume: 600 ltr	Lab No: 02025744			
250 Karl Clark Rd	Bulk Operating Temp: 446F / 230C	Analyst: Gordon Susinski			
Edmonton, AB T6N 1E4 Canada	Heating Source:	Sample Date: 09/30/15			
Attn: Jeff Maunder	Blanket:	Received Date: 10/06/15			
Tel: (780)450-5219	Fluid: PETRO CANADA CALFLO AF	Completed: 10/13/15			
E-Mail: jeff.maunder@innotechalberta.ca	Make: THERMAL FLUID SYSTEM	To discuss this report contact Gordon			
		Susinski at (587)582-4118			

Recommendation: Note the sample colour is darker than new oil values (indicative of the oils age) however all results appear to be within normal ranges. This darker colour could be an indicator of carboning up of the heat transfer surfaces. This can cause the system to require more energy to produce the same amount of heat and make the system inefficient. Also note the intial boiling point is decreasing from new oil values indicating that thermal cracking may be occuring (also aligns with the dark colour of the oil). Also note the decreasing flash point.

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	%
09/30/15	10/06/15	Oy		414 / 212	13.1	31.4	0.11	0.040	689 / 365	784 / 418	887 / 475	1.95





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