

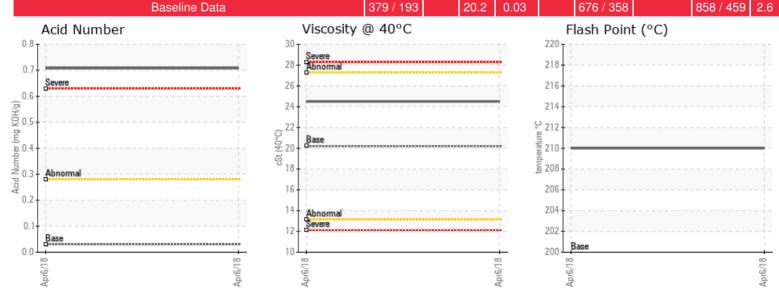
## GRIFFITH

Customer: PTRHTF10196	System Information	Sample Information
WALSH AND KELLY	System Volume: 900 gal	Lab No: 02214442
1700 EAST MAIN ST	Bulk Operating Temp: 350F / 177C	Analyst: Yvette Trzcinski
GRIFFITH, IN 46319 USA	Heating Source:	Sample Date: 04/06/18
Attn: John Rietow	Blanket:	Received Date: 05/07/18
Tel: (219)712-4771	Fluid: MOBIL MOBILTHERM 603	Completed: 05/19/18
E-Mail: johnr@walshkelly.com	Make: BURKE	To discuss this report contact Yvette
		Trzcinski at (262)933-0718

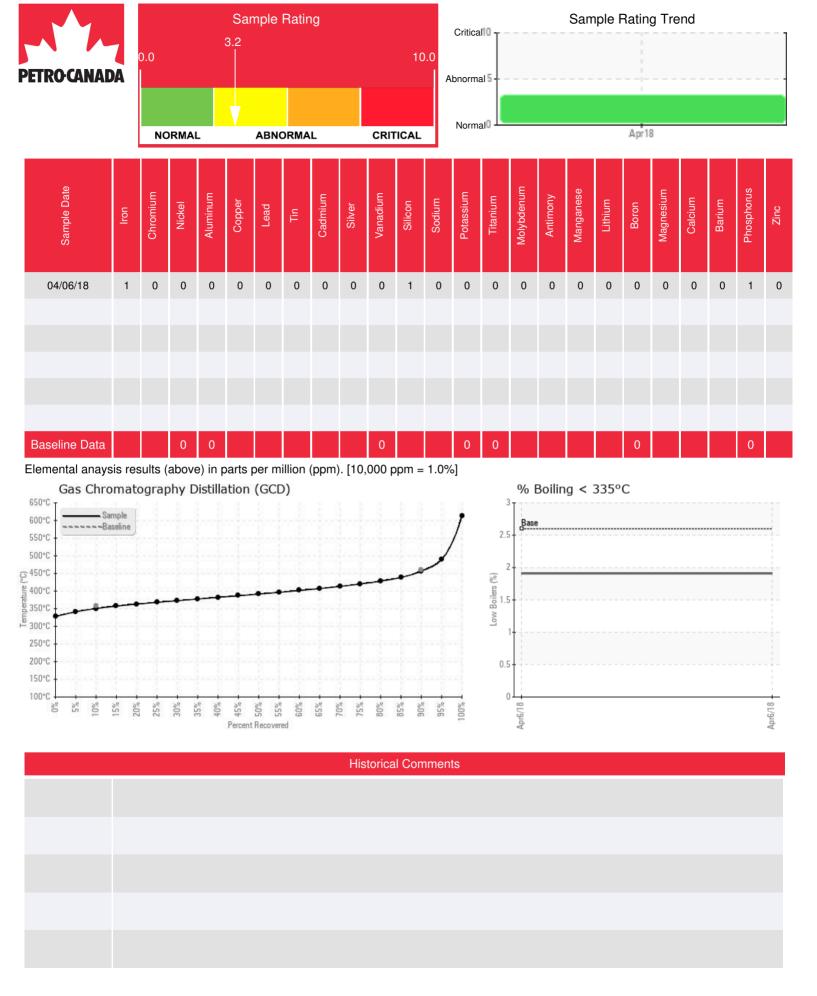
Recommendation: 175 gallon system and oil has been in service for 1 1/2 years. Oil is showing signs of oxidation total acid number is very high and viscosity has an increase of 21% of new oil and pentane insoluble are starting to reach our allowable limit of 0.5%. The rise in viscosity by 21 % can lead to a loss in heat transfer coefficient by close to 10% which affects your system productivity. There are solids and oxidation by products in the system that can start to foul the system. Consider a fluid change or partial change out to increase system efficiency.

Comments: Acid Number (AN) is severely high.

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	%
04/06/18	05/07/18	4y	HEATER MANIFORD	410 / 210	20.0	24.5	0.708	0.351	663 / 351	737 / 392	853 / 456	1.91



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