

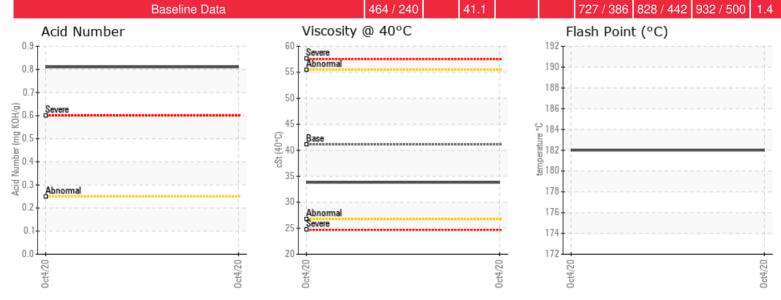
## [5-11-29-4W5] ORLEN UPSTREAM

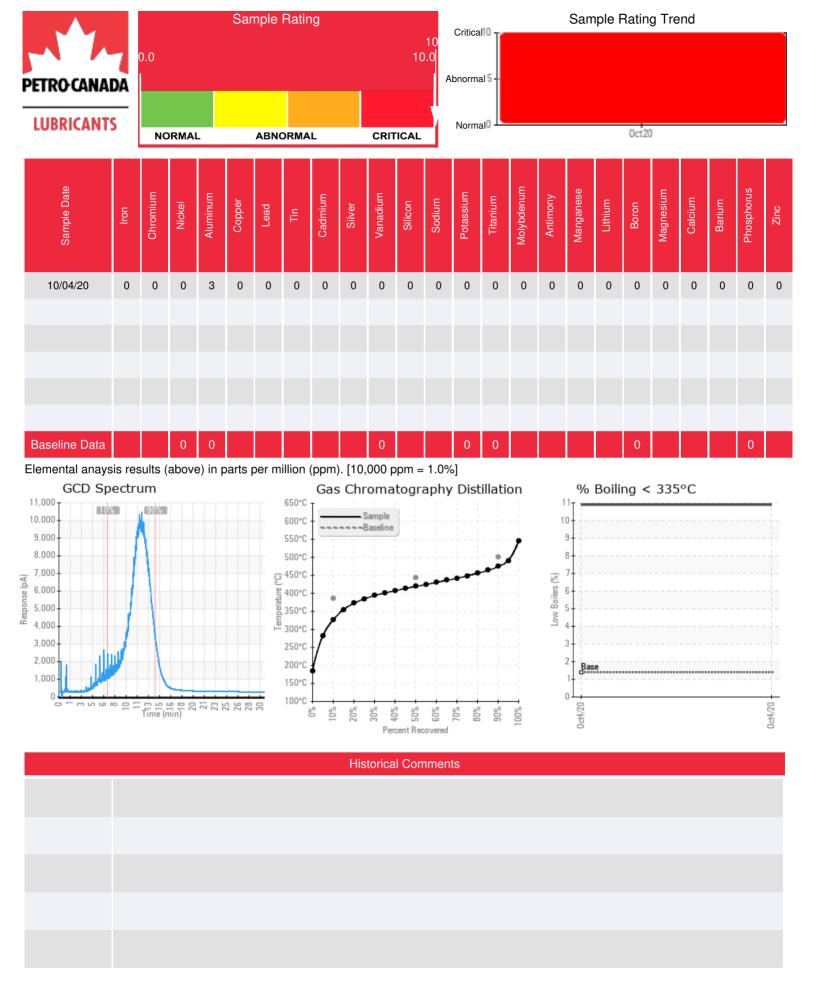
Customer: PTRHTF20243	System Information	Sample Information			
CFR CHEMICALS	System Volume: 5000 ltr	Lab No: 02381467			
38451 RRZZ	Bulk Operating Temp: 356F / 180C	Analyst: Kevin McDermott			
RED DEER, AB T4E 2N6 Canada	Heating Source:	Sample Date: 10/04/20			
Attn: Andrew Schacher	Blanket:	Received Date: 10/15/20			
Tel: (780)982-8478	Fluid: CHEVRON HEAT TRANSFER OIL 46	Completed: 10/27/20			
E-Mail: aschacher@cfrchemicals.com	Make:	Kevin McDermott			
		kevin.mcdermott@petrocanadalsp.com			

Recommendation: Fluid is in poor condition due to both oxidation and thermal degradation. Full or partial fluid changeout should be considered, as well as cleaning of system internals. Consult PC Technical Services for remediation / degradation prevention strategies.

Comments: Acid Number (AN) is severely high caused by oxidation. Increase in low-boiler content and reduction in flash point is caused by thermal cracking.

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	%
10/04/20	10/15/20	5y	BOILER SITE GLASS	360 / 182	25.8	33.8	0.81	0.257	618 / 326	786 / 419	885 / 474	10.89





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