



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

Customer: PTRHTF20243	System Information	Sample Information
CFR CHEMICALS 38451 RRZZ RED DEER, AB T4E 2N6 Canada Attn: Andrew Schacher Tel: (780)982-8478 E-Mail: aschacher@cfrchemicals.com	System Volume: 5000 ltr Bulk Operating Temp: 356F / 180C Heating Source: Blanket: Fluid: CHEVRON HEAT TRANSFER OIL 46 Make:	Lab No: 02381467 Analyst: Kevin McDermott Sample Date: 10/04/20 Received Date: 10/15/20 Completed: 10/27/20 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
Baseline Data				464 / 240		41.1			727 / 386	828 / 442	932 / 500	1.4



