



[LSD 11-02-038-08 W5M] CNRL SEPTIMUS PHASE 1 H-8000

Customer: PTRHTF20046	System Information	Sample Information
QUADRA CHEMICALS 12925 146TH STREET EDMONTON, AB T5L 2H6 CANADA Attn: Quadra Samples Tel: E-Mail: quadra_samples@quadra.ca	System Volume: 48000 ltr Bulk Operating Temp: 500F / 260C Heating Source: Blanket: Fluid: MONSANTO THERMINOL 55 Make: Prolink VB 2010	Lab No: 02243236 Analyst: Clinton Buhler Sample Date: 09/25/18 Received Date: 10/04/18 Completed: 11/02/18

Recommendation: Sample results may indicate that thermal degradation is ongoing as evidenced by 24.33% boil-off and reduced 10% distillation value. It is recommended to vent off low boiling vapors to help restore this and the fluid's viscosity. Increased 90% distillation value and Acid Number of 0.152 can indicate oxidation of the fluid. Please ensure blanket gas is operational; during venting of low boiling vapors, the blanket gas will need to be turned off if safe to do so for the pumps (pending suction head requirements). Re-sample in 6 months after thorough venting

Comments: (GCD) % < 335°C is severely high. (GCD) 10% Distillation Point is severely low.

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	%
09/25/18	10/04/18	7y		345 / 174	45.1	14.0	0.152	0.337	573 / 301	711 / 377	821 / 438	24.33
Baseline Data				349 / 176		19.0	0.03		655 / 346		790 / 421	3.40



