



[HERZOG CONTRACTING] ELWOOD KS - WEST SID

Customer: PTRHTF10214	System Information	Sample Information
Herzog Contracting Highway 36 Elwood, KS 66024 USA Attn: Brian McConnell Tel: (816)387-3102 E-Mail: bmccconnell@herzolg.com	System Volume: 3000 gal Bulk Operating Temp: 450F / 232C Heating Source: Blanket: Fluid: CHEVRON HEAT TRANSFER OIL 22 Make:	Lab No: 02266860 Analyst: Garrett Bapp Sample Date: 01/20/19 Received Date: 02/08/19 Completed: 02/19/19

Recommendation: Overall fluid condition Normal. Fluid is fit for further use. System appears to be healthy. Recommended to start topping off and adding Petro Canada heat transfer fluid to Chevron Heat Transfer Oil 22 for future expansions.

Comments: Calcium levels are severely high, Phosphorus and Zinc levels are elevated indicating that fluid has been cross contaminated by another fluid. Likely cases hydraulic oil or motor oil. Water ppm is elevated but not to cautionary limits. Most likely due to cycling system. Pentane Insolubles (Solids) are below threshold of 0.5% but creeping. Leading signs of Oxidation. Acid Number, Pentane Insolubles, Viscosity.

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	%
01/20/19	02/08/19	0y		432 / 222	313.6	24.5	0.187	0.352	673 / 356	752 / 400	861 / 460	2.31
Baseline Data				408 / 209		24			680 / 360	768 / 409	867 / 464	2.6



