

# LABORATORY ANALYSIS



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Department **WINDING**  
 Equipment No. **INSE16 COIL INSERTER-2ND PHASE (00139)**  
 System **Hydraulic System**  
 Oil Type **ENGINEERED LUBRICANTS ENLUBE 20-AW (--- GAL)**

**COPELAND (MHDS)**  
 6001 S. 35TH STREET, SUITE D  
 REYNOSA, ZZ  
 US  
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## Diagnosis

All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

## Sample Information

Lab Number	New	2405-00146	2312-00761	2206-00298
Date of Sample	(Typical)	<b>28 Apr 2024</b>	14 Dec 2023	24 May 2022
Oil Added		<b>UNK</b>	UNK	UNK
Last Drain Date		--	--	--
Months on Sample		<b>141.2</b>	136.8	118.5
Last Filter Service		--	--	--
Sample Point		---	---	---
Sample Status		<b>NORMAL</b>	ABNORMAL	ABNORMAL

## VISCOSITY @ 100F or 40C (ASTM D-445)

SSU Vis. @ 100F	SSU	218.3	218.6	218.3
cSt Vis. @ 40C	cSt	46	42.35	42.3

## COLOR (BASED ON ASTM D1500 STANDARDS)

Color	Scale 0-8	0.5	0.5	1
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## PARTICLE COUNT (PER 1ML)

ISO CODE	ISO 4406(c)	>19/18/14	21/18/14	21/19/15	21/19/16
4 Micron & Larger	particles/ml	>5000	<b>12,026</b>	11,168	13,839
6 Micron & Larger	particles/ml	>2500	<b>2,227</b>	3,129	3,483
14 Micron & Larger	particles/ml	>160	<b>99</b>	194	346
21 Micron & Larger	particles/ml	>40	<b>24</b>	51	95
38 Micron & Larger	particles/ml	>10	<b>2</b>	2	8
70 Micron & Larger	particles/ml	>3	<b>0</b>	0	0

## ICP - OILS (REPORTED IN PARTS PER MILLION)

Aluminum (Al)	ppm	<5	<5	<5
Antimony (Sb)	ppm	<5	<5	<5
Cadmium (Cd)	ppm	<5	<5	<5
Chromium (Cr)	ppm	<5	<5	<5
Cobalt (Co)	ppm	<5	<5	<5
Copper (Cu)	ppm	<5	<5	<5
Iron (Fe)	ppm	<5	<5	<5
Lead (Pb)	ppm	<5	<5	<5
Manganese (Mn)	ppm	<5	<5	<5
Molybdenum(Mo)	ppm	<5	<5	<5
Nickel (Ni)	ppm	<5	<5	<5
Silver (Ag)	ppm	<5	<5	<5
Tin (Sn)	ppm	<5	<5	<5
Titanium (Ti)	ppm	<5	<5	<5
Vanadium (V)	ppm	<5	<5	<5
Barium (Ba)	ppm	<5	<5	<5
Boron (B)	ppm	<5	<5	<5
Calcium (Ca)	ppm	<b>106</b>	106	98
Magnesium (Mg)	ppm	<5	<5	<5
Phosphorus(P)	ppm	<b>526</b>	532	494
Silicon (Si)	ppm	<5	<5	<5
Zinc (Zn)	ppm	715	<b>645</b>	615
Sulfur (S)	ppm	<b>1,480</b>	1,450	1,330

Customer Id: MOTMCA  
 Sample No.: EN24050146  
 Lab Number: 24050146  
 Test Package: TEST

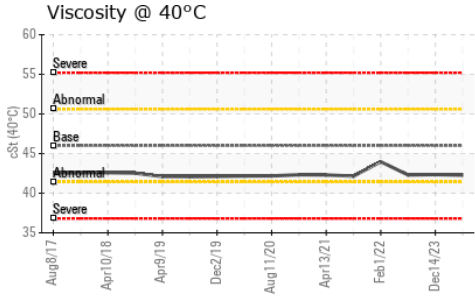


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# OIL ANALYSIS REPORT



## DR FERROGRAPHY READINGS

L		■ 7.2	■ 5.8	■ 1
S		■ 1.4	■ 1.4	■ 1
WPC	DL + DS	■ 8.6	■ 7.2	■ 2

## Contamination

Water	>0.05	<b>NEG</b>	NEG	NEG
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