

# LABORATORY ANALYSIS



11525 Rock Island Court, St. Louis, MO 63043  
Tel: 1-800-876-0008 info@englube.com

**COPELAND (MHDS)**  
6001 S. 35TH STREET, SUITE D"  
REYNOSA, ZZ  
US  
Contact: GERARDO GUERRERO  
francisco.castillo@Copeland.com  
T:  
F:

Department **REYLAM-PRESS**  
Equipment No. **MAN02 DEREELEER #2 (LAM LINE 2) (00032)**  
System **Hydraulic System**  
Oil Type **ENGINEERED LUBRICANTS ENLUBE 30-AW (--- GAL)**

## Diagnosis

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. L, % large particles, severity index and wpc levels are abnormal. 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 no longer serviceable as a result of the abnormal and/or severe wear.

## Sample Information

Lab Number	New	2404-00830	2401-00669	2310-00746
Date of Sample	(Typical)	<b>05 Apr 2024</b>	19 Jan 2024	10 Oct 2023
Oil Added		<b>UNK</b>	UNK	UNK
Last Drain Date		--	--	--
Months on Sample		<b>216.4</b>	213.9	210.7
Last Filter Service		--	--	--
Sample Point		---	---	---
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

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

SSU Vis. @ 100F	SSU	316.7	314.3	350.1
cSt Vis. @ 40C	cSt	68.0	<b>61.15</b>	60.69
			67.48	

## COLOR (BASED ON ASTM D1500 STANDARDS)

Color	Scale 0-8	1.0	1.0	0.5

## PARTICLE COUNT (PER 1ML)

ISO CODE	ISO 4406(c)	>19/18/14	21/18/14	21/19/14	22/19/14
4 Micron & Larger	particles/ml	>5000	<b>12,188</b>	17,284	21,232
6 Micron & Larger	particles/ml	>2500	<b>1,716</b>	2,554	3,528
14 Micron & Larger	particles/ml	>160	<b>85</b>	145	156
21 Micron & Larger	particles/ml	>40	<b>21</b>	44	41
38 Micron & Larger	particles/ml	>10	<b>0</b>	3	3
70 Micron & Larger	particles/ml	>3	<b>0</b>	0	0

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

Element	Unit	<5	<5	<5
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>90</b>	84	64
Magnesium (Mg)	ppm	<5	<5	<5
Phosphorus(P)	ppm	<b>525</b>	490	506
Silicon (Si)	ppm	<5	<5	<5
Zinc (Zn)	ppm	668	<b>620</b>	579
Sulfur (S)	ppm		<b>1,540</b>	1,350
				1,540

Customer Id: MOTMCA  
Sample No.: EN24040830  
Lab Number: 24040830  
Test Package: TEST

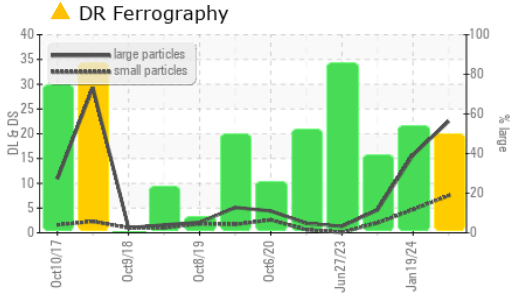


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To discuss the diagnosis or test data:  
Brian Klutenkamper +1 (314)872-9540  
[bkluitenkamper@englube.com](mailto:bkluitenkamper@englube.com)

To change component or sample information:  
Tracy Weaks +1 (314)872-9540  
[tweaks@englube.com](mailto:tweaks@englube.com)

# OIL ANALYSIS REPORT



### DR FERROGRAPHY READINGS

L		▲ <b>22.5</b>	■ 15.7	■ 4.6
S		■ <b>7.5</b>	■ 4.7	■ 2.0
WPC	DL + DS	▲ <b>30</b>	■ 20.4	■ 6.6

### Contamination

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