

# LABORATORY ANALYSIS



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**COPELAND (MHDS)**  
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Department **REYLAM-PRESS**  
Equipment No. **OSSC04 OVERSHOOT(SCROLL LINE #4) (00155)**  
System **Hydraulic System**  
Oil Type **ENGINEERED LUBRICANTS ENLUBE 20-AW (--- GAL)**

## Diagnosis

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. All component wear rates are normal. There is a moderate concentration of water present in the oil. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. Viscosity of sample indicates oil is within ISO 46 range, advise investigate. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

## Sample Information

Lab Number	New	2404-00903	2401-00731	2310-00826
Date of Sample	(Typical)	05 Apr 2024	19 Jan 2024	10 Oct 2023
Oil Added		UNK	UNK	UNK
Last Drain Date		--	--	--
Last Filter Service		--	--	--
Sample Point		---	---	---
Sample Status		ABNORMAL	NORMAL	NORMAL

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

SSU Vis. @ 100F	SSU	270.9	242.3	243.4
cSt Vis. @ 40C	cSt	46	46.93	47.13

## % WATER - KARL FISCHER (ASTM E203)

% Water (KF)	%	0.169	---	---
ppm Water (KF)	ppm	1,690	---	---

## COLOR (BASED ON ASTM D1500 STANDARDS)

Color	Scale 0-8	1.0*	0.5	<0.5
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## PARTICLE COUNT (PER 1ML)

ISO CODE	ISO 4406(c)	>19/18/14	18/16/11	18/16/12	19/16/13
4 Micron & Larger	particles/ml	>5000	1,688	2,238	2,636
6 Micron & Larger	particles/ml	>2500	344	534	625
14 Micron & Larger	particles/ml	>160	19	32	43
21 Micron & Larger	particles/ml	>40	4	10	12
38 Micron & Larger	particles/ml	>10	0	0	0
70 Micron & Larger	particles/ml	>3	0	0	0

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

Element	ppm	<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	46	62	61
Magnesium (Mg)	ppm	<5	<5	<5
Phosphorus(P)	ppm	448	476	491
Silicon (Si)	ppm	<5	<5	<5
Zinc (Zn)	ppm	715	596	601
Sulfur (S)	ppm	1,840	1,470	1,580

Customer Id: MOTMCA  
Sample No.: EN24040903  
Lab Number: 24040903  
Test Package: TEST

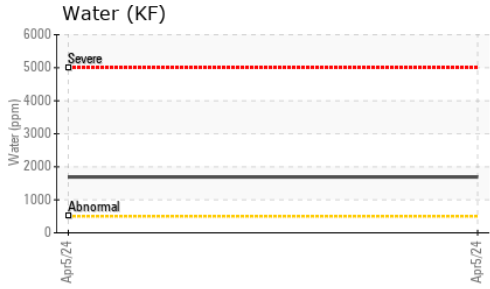


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# OIL ANALYSIS REPORT



### DR FERROGRAPHY READINGS

L		■ 0.1	■ 2.0	■ 1.5
S		■ 0.1	■ 0.2	■ 1.3
WPC	DL + DS	■ 0.2	■ 2.2	■ 2.8

