

LABORATORY ANALYSIS



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COPELAND (MHDS)
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Department **REYLAM-PRESS**
Equipment No. **TENSC0402 TENSION REWIND #2 (SCROLL 4) (00172)**
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	2404-00899	2401-00728	2310-00825
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	ABNORMAL

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

SSU Vis. @ 100F	SSU	272.1	236.9	243.5
cSt Vis. @ 40C	cSt	46	45.88	47.15

% WATER - KARL FISCHER (ASTM E203)

% Water (KF)	%	0.067	---	---
ppm Water (KF)	ppm	670	---	---

COLOR (BASED ON ASTM D1500 STANDARDS)

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

ISO CODE	ISO 4406(c)	>19/18/14	19/16/12	19/16/13	20/18/14
4 Micron & Larger	particles/ml	>5000	2,641	2,687	5,077
6 Micron & Larger	particles/ml	>2500	424	612	1,484
14 Micron & Larger	particles/ml	>160	23	49	151
21 Micron & Larger	particles/ml	>40	4	15	43
38 Micron & Larger	particles/ml	>10	0	1	4
70 Micron & Larger	particles/ml	>3	0	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	53	61	63
Magnesium (Mg)	ppm	<5	<5	<5
Phosphorus(P)	ppm	472	477	502
Silicon (Si)	ppm	<5	<5	<5
Zinc (Zn)	ppm	715	582	615
Sulfur (S)	ppm	1,950	1,660	1,640

Customer Id: MOTMCA
Sample No.: EN24040899
Lab Number: 24040899
Test Package: TEST

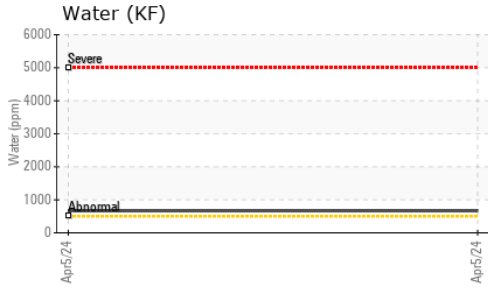


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OIL ANALYSIS REPORT



DR FERROGRAPHY READINGS

L		■ 1.1	■ 2.0	■ 9.7
S		■ 0.4	■ 0.5	■ 0.9
WPC	DL + DS	■ 1.5	■ 2.5	■ 10.6

