

# LABORATORY ANALYSIS



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Department **WINDING**  
 Equipment No. **BLOC22 3 STA PREF/DUAL FLOW DRIFT (00214)**  
 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

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. L, % large particles, severity index and wpc levels are severe. There is a high amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness code is much higher than 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	2405-00173	2312-00784	2308-01107
Date of Sample	(Typical)	<b>28 Apr 2024</b>	14 Dec 2023	14 Aug 2023
Oil Added		<b>UNK</b>	UNK	UNK
Last Drain Date		--	--	--
Last Filter Service		--	--	--
Sample Point		---	---	---
Sample Status		<b>SEVERE</b>	SEVERE	NORMAL

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

SSU Vis. @ 100F	SSU	232.4	232.0	232.3
cSt Vis. @ 40C	cSt	46	44.94	45.00

## COLOR (BASED ON ASTM D1500 STANDARDS)

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

ISO CODE	ISO 4406(c)	>19/18/14	23/20/16	22/20/16	21/18/15
4 Micron & Larger	particles/ml	>5000	<b>▲ 50,864</b>	▲ 23,446	■ 11,850
6 Micron & Larger	particles/ml	>2500	<b>▲ 7,907</b>	▲ 5,481	■ 1,962
14 Micron & Larger	particles/ml	>160	<b>▲ 487</b>	▲ 553	■ 172
21 Micron & Larger	particles/ml	>40	<b>▲ 176</b>	▲ 173	46
38 Micron & Larger	particles/ml	>10	<b>▲ 23</b>	11	■ 4
70 Micron & Larger	particles/ml	>3	<b>2</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	■ 34	■ 31	■ 29
Iron (Fe)	ppm	■ <5	■ <5	■ <5
Lead (Pb)	ppm	<b>23</b>	21	13
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>75</b>	80	75
Magnesium (Mg)	ppm	<5	<5	<5
Phosphorus(P)	ppm	<b>501</b>	532	500
Silicon (Si)	ppm	<5	<5	<5
Zinc (Zn)	ppm	715	■ 602	■ 595
Sulfur (S)	ppm	<b>1,510</b>	1,590	1,440

Customer Id: MOTMCA  
 Sample No.: EN24050173  
 Lab Number: 24050173  
 Test Package: TEST

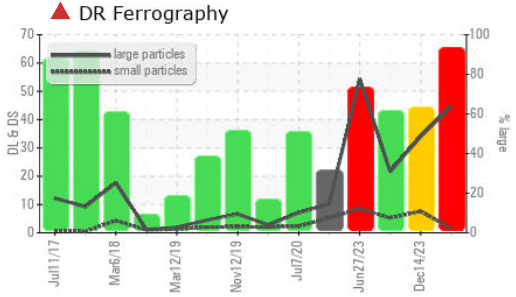


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# OIL ANALYSIS REPORT



### DR FERROGRAPHY READINGS

L		▲ 44.6	▲ 34.0	■ 21.6
S		■ 1.6	■ 7.6	■ 5.2
WPC	DL + DS	▲ 46.2	▲ 41.6	■ 26.8

### Contamination

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