

LABORATORY ANALYSIS



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Department **MACHINING**
 Equipment No. **MICRO DYNAMICS TEMPERATURE CONTROLLER (00034)**
 System **Heat Transfer Fluid**
 Oil Type **ENGINEERED LUBRICANTS ENSPIN NO.6-PF (--- GAL)**

NMCA-PRN
 DIV. OF EMERSON ELECTRIC CO., P. O. BOX 326
 PRINCETON, IN
 US 47670
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 T: (812)387-1279
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Diagnosis

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. There is no indication of any contamination in the fluid. The system and fluid cleanliness is acceptable. Viscosity of sample indicates oil is within ISO 10 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the fluid is acceptable for the time in service.

Sample Information

Lab Number	New	2404-01077	2401-00655	2308-01341
Date of Sample	(Typical)	23 Apr 2024	25 Jan 2024	24 Aug 2023
Oil Added		UNK	UNK	UNK
Last Drain Date		--	--	--
Last Filter Service		--	--	--
Sample Point		---	---	---
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

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

SSU Vis. @ 100F	SSU	67.9	68.8	68.5
cSt Vis. @ 40C	cSt	10	▲ 11.84	▲ 11.79

COLOR (BASED ON ASTM D1500 STANDARDS)

Color	Scale 0-8	0.5	1.0	1.0	1.0
			1.0	1.0	1.0

PARTICLE COUNT (PER 1ML)

ISO CODE	ISO 4406(c)	>17/16/11	16/14/10	18/16/11	15/14/12
4 Micron & Larger	particles/ml	>1300	■ 413	● 2,070	■ 309
6 Micron & Larger	particles/ml	>640	■ 92	■ 371	■ 140
14 Micron & Larger	particles/ml	>20	■ 5	■ 20	● 23
21 Micron & Larger	particles/ml	>4	■ 1	■ 3	● 8
38 Micron & Larger	particles/ml	>3	■ 0	■ 0	■ 1
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	15	14	15	
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	■ <5	■ <5	■ <5	
Magnesium (Mg)	ppm	■ <5	■ <5	■ <5	
Phosphorus(P)	ppm	113	106	117	
Silicon (Si)	ppm	<5	<5	<5	
Zinc (Zn)	ppm	● 50	● 45	● 46	
Sulfur (S)	ppm	715	2,000	1,900	2,360

Customer Id: NMCPRI
 Sample No.: EN0000228
 Lab Number: 24041077
 Test Package: TEST



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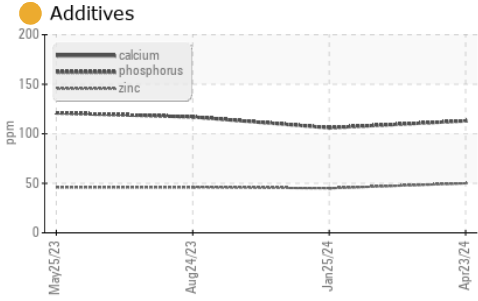
To discuss the diagnosis or test data:

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OIL ANALYSIS REPORT



DR FERROGRAPHY READINGS

L		■ 1.7	■ 3.5	■ 1.8
S		■ 0.7	■ 1.1	■ 0.4
WPC	DL + DS	■ 2.4	■ 4.6	■ 2.2

Contamination

Water	>0.0601	NEG	NEG	NEG
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