

LABORATORY ANALYSIS



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Department **MAQUINADOS 1**
Equipment No. **MA005 HYD CENTRO MECANIZADO DE CONTROL NUMERICO (NEXUS) (00009)**
System **Hydraulic System**
Oil Type **ENGINEERED LUBRICANTS ENLUBE 15-AW (--- GAL)**

DIAGNOSIS

The oil is near the end of its useful service life, recommend schedule an oil change. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. All component wear rates are normal. 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. cSt Vis. @ 40C is abnormally high. Zinc (Zn) ppm levels are abnormally low. The viscosity of the oil is higher than normal, possibly indicating the addition of a heavier grade of oil.

SAMPLE INFORMATION

Lab Number	New	2312-00055	2310-00483	2306-00799
Date of Sample	(Typical)	13 Nov 2023	20 Sep 2023	16 Jun 2023
Oil Added		UNK	UNK	UNK
Last Drain Date		--	--	--
Last Filter Service		--	--	--
Sample Point		---	---	---
Sample Status		ABNORMAL	ATTENTION	ABNORMAL

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

SSU Vis. @ 100F	SSU	198.2	169.8	179.2
cSt Vis. @ 40C	cSt	32.0	32.84	34.68

COLOR (BASED ON ASTM D1500 STANDARDS)

Color	Scale 0-8	4.0	2.0*	1.0
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PARTICLE COUNT (PER 1ML)

ISO CODE	ISO 4406(c)	>19/18/14	22/17/12	20/16/13	21/18/13
4 Micron & Larger	particles/ml	>5000	20,960	5,523	11,499
6 Micron & Larger	particles/ml	>2500	1,087	588	1,722
14 Micron & Larger	particles/ml	>160	36	46	61
21 Micron & Larger	particles/ml	>40	10	15	12
38 Micron & Larger	particles/ml	>10	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	20	<5	9
Iron (Fe)	ppm	8	24	10
Lead (Pb)	ppm	13	<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	56	65	62
Magnesium (Mg)	ppm	<5	<5	<5
Phosphorus(P)	ppm	434	515	481
Silicon (Si)	ppm	<5	<5	<5
Zinc (Zn)	ppm	668	467	603
Sulfur (S)	ppm	1,690	1,430	1,610

Customer Id: ENC0005J03
Sample No.: EN23120055
Lab Number: 23120055
Test Package: TEST



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To discuss the diagnosis or test data:

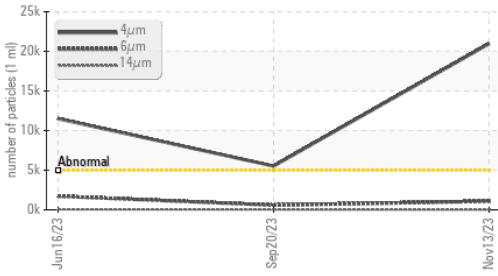
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To change component or sample information:

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OIL ANALYSIS REPORT

▲ Particle Trend



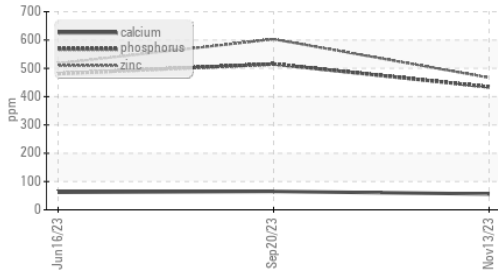
DR FERROGRAPHY READINGS

L		■ 7.3	■ 5.4	■ 7.8
S		■ 3.6	■ 1.8	■ 0.1
WPC	DL + DS	■ 10.9	■ 7.2	■ 7.9

CONTAMINATION

Water	>0.05	NEG	NEG	NEG
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▲ Additives



Viscosity @ 40°C

