

# LABORATORY ANALYSIS



11525 Rock Island Court, St. Louis, MO 63043  
Tel: 1-800-876-0008 info@englube.com

**EGS MEXICO S DE RL DE CV**  
VIA MONTERREY MATAMOROS NO 598  
MEXICO, ZZ  
Mexico  
Contact: Lizbeth Manzanares  
Lizbeth.manzanares@emerson.com  
T:  
F:

Department **TRANSFER ATIZAPAN**  
Equipment No. **452 HYD MAQUINA CAP & BRUSHING (00002)**  
System **Hydraulic System**  
Oil Type **ENGINEERED LUBRICANTS ENLUBE 15-AW (--- GAL)**

## DIAGNOSIS

We advise that you check all areas where contaminants can enter the system. 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 recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. L, s, % 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. Zinc (Zn) ppm levels are severely low. cSt Vis. @ 40C is marginally high. Viscosity of sample indicates oil is within ISO 46 range, advise investigate. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

## SAMPLE INFORMATION

Lab Number	New	2312-00066	2310-00489	2306-00809
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		SEVERE	ABNORMAL	SEVERE

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

SSU Vis. @ 100F	SSU	293.9	270.3	167.1
cSt Vis. @ 40C	cSt	32.0	52.30	32.30

## COLOR (BASED ON ASTM D1500 STANDARDS)

Color	Scale 0-8	RED	2.5	7.0

## PARTICLE COUNT (PER 1ML)

ISO CODE	ISO 4406(c)	>19/18/14	25/23/19	22/20/15	23/20/14
4 Micron & Larger	particles/ml	>5000	168,777	29,496	48,155
6 Micron & Larger	particles/ml	>2500	53,772	7,573	8,158
14 Micron & Larger	particles/ml	>160	2,531	271	87
21 Micron & Larger	particles/ml	>40	553	43	19
38 Micron & Larger	particles/ml	>10	35	2	1
70 Micron & Larger	particles/ml	>3	5	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	25	60	50
Magnesium (Mg)	ppm	<5	<5	<5
Phosphorus(P)	ppm	325	503	437
Silicon (Si)	ppm	<5	<5	<5
Zinc (Zn)	ppm	668	283	606
Sulfur (S)	ppm	2,240	1,520	1,570

Customer Id: ENC0005J03  
Sample No.: EN23120066  
Lab Number: 23120066  
Test Package: TEST



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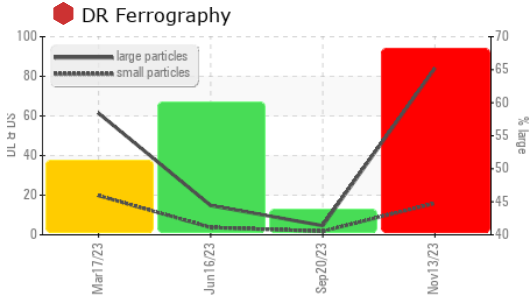
To discuss the diagnosis or test data:

Brad Fritz +1 (314)872-9540  
[bfritz@englube.com](mailto:bfritz@englube.com)

To change component or sample information:

Tracy Weaks +1 (314)872-9540  
[tweaks@englube.com](mailto:tweaks@englube.com)

# OIL ANALYSIS REPORT



### DR FERROGRAPHY READINGS

L		<span style="color: red;">●</span> <b>84.1</b>	<span style="color: green;">■</span> 4.6	<span style="color: lightgreen;">■</span> 14.8
S		<span style="color: red;">●</span> <b>15.9</b>	<span style="color: green;">■</span> 1.8	<span style="color: lightgreen;">■</span> 3.7
WPC	DL + DS	<span style="color: red;">●</span> <b>100</b>	<span style="color: green;">■</span> 6.4	<span style="color: lightgreen;">■</span> 18.5

### CONTAMINATION

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