

## **OIL ANALYSIS REPORT**

WEAR



# ES08

Component

Auxiliary Hydraulic System

AW HYDRAULIC OIL ISO 46 (--- LTR)

#### **DIAGNOSIS**

#### Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We recommend you service the filters on this component. We recommend an early resample to monitor this condition. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) AW HYDRAULIC OIL ISO 46. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

#### Wear

Copper ppm levels are noted. All other component wear rates are normal.

#### Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

#### **Fluid Condition**

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

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F 1 2022	14 2024	
H80ZUZ3	Warzuz4	
	le Rating Trend	le Rating Trend

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0914621	WC0779632	
Sample Date		Client Info		11 Mar 2024	20 Feb 2023	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				ABNORMAL	NORMAL	
CONTAMINATION	V	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	2	<1	
Chromium	ppm	ASTM D5185(m)	>20	0	0	
Nickel	ppm	ASTM D5185(m)	>20	<1	0	
Titanium	ppm	ASTM D5185(m)		0	0	
Silver	ppm	ASTM D5185(m)		0	0	
Aluminum	ppm	ASTM D5185(m)	>20	<1	0	
Lead	ppm	ASTM D5185(m)	>20	<1	<1	
Copper	ppm	ASTM D5185(m)	>20	<u>25</u>	4	
Tin	ppm	ASTM D5185(m)	>20	<1	<1	
Antimony	ppm	ASTM D5185(m)		0	0	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base	current	history1 <1	history2
	ppm ppm		5			
Boron		ASTM D5185(m)	5	<1	<1	
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	5 5	<1 5	<1 12	
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5	<1 5 0	<1 12 0	
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5	<1 5 0	<1 12 0	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25	<1 5 0 0 3	<1 12 0 0	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m)	5 5 5 25 200	<1 5 0 0 3 37	<1 12 0 0 0 0	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 5 25 200 300	<1 5 0 0 3 37 407	<1 12 0 0 0 0 5 579	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 5 25 200 300 370	<1 5 0 0 3 3 37 407 460	<1 12 0 0 0 0 5 579 581	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 5 25 200 300 370	<1 5 0 0 3 37 407 460 1044	<1 12 0 0 0 0 5 579 581 1231	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 5 25 200 300 370 2500	<1 5 0 0 3 37 407 460 1044 <1	<1 12 0 0 0 5 579 581 1231 <1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 5 25 200 300 370 2500	<1 5 0 0 3 37 407 460 1044 <1	<1 12 0 0 0 5 579 581 1231 <1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)  method ASTM D5185(m)	5 5 5 25 200 300 370 2500	<1 5 0 0 3 37 407 460 1044 <1 current <1	<1 12 0 0 0 5 579 581 1231 <1 history1 0	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 5 25 200 300 370 2500 limit/base >15	<1 5 0 0 3 37 407 460 1044 <1 current <1	<1 12 0 0 0 0 5 579 581 1231 <1 history1 0 0	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 5 25 200 300 370 2500 limit/base >15	<1 5 0 0 3 37 407 460 1044 <1 current <1 0 1	<1 12 0 0 0 0 5 579 581 1231 <1 history1 0 0 <1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)  method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200 300 370 2500 limit/base >15 >20	<1 5 0 0 3 37 407 460 1044 <1 current <1 0 1	<1 12 0 0 0 0 5 579 581 1231 <1 history1 0 <1 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)  MASTM D5185(m)  MASTM D5185(m)  ASTM D5185(m)	5 5 5 25 200 300 370 2500  limit/base >15 >20 limit/base >5000	<1 5 0 0 3 37 407 460 1044 <1 current <1 0 1 current  14078	<1 12 0 0 0 0 5 579 581 1231 <1 history1 0 0 <1 history1 2521	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)  method ASTM D5185(m)	5 5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >5000 >1300 >160	<1 5 0 0 3 37 407 460 1044 <1      current  <1 0 1      current  ▲ 14078  ▲ 3545	<1 12 0 0 0 0 5 579 581 1231 <1 history1 0 0 <1 history1 2521 593	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)  MASTM D5185(m)  MASTM D5185(m)  METHOD  ASTM D5185(m) ASTM D5185(m)  ASTM D5185(m)  ASTM D5185(m) ASTM D5185(m)  ASTM D5185(m) ASTM D5185(m)  ASTM D5185(m)  ASTM D5185(m)  ASTM D5185(m)  ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >5000 >1300 >160	<1 5 0 0 3 37 407 460 1044 <1 current <1 0 1 current  ▲ 14078 ▲ 3545 ● 225	<1 12 0 0 0 0 5 579 581 1231 <1 history1 0 0 <1 history1 2521 593 29	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium  CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)  method ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 limit/base >15 >20 limit/base >5000 >1300 >160 >40	<1 5 0 0 3 37 407 460 1044 <1 current <1 0 1 current  14078 3545 225 57	<1 12 0 0 0 0 5 579 581 1231 <1 history1 0 0 <1 history1 2521 593 29 8	history2 history2



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