

OIL ANALYSIS REPORT



Machine Id 1000004670

Component Hydraulic System Fluid AW HYDRAULIC OIL ISO 46 (1200 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. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORM	ΛΑΤΙΟΝ	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0905478		
Sample Date		Client Info		04 Apr 2024		
Machine Age		Client Info		0		
Oil Age		Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<1		
Chromium	ppm	ASTM D5185(m)	>20	0		
Nickel	ppm	ASTM D5185(m)	>20	<1		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		0		
Aluminum	ppm	ASTM D5185(m)	>20	0		
Lead	ppm	ASTM D5185(m)	>20	0		
Copper	ppm	ASTM D5185(m)	>20	<1		
Tin	ppm	ASTM D5185(m)	>20	0		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		method				history2
	ppm	Method ASTM D5185(m)	limit/base	current 5	history1	history2
Boron	ppm ppm					
Boron Barium		ASTM D5185(m)	5	5		
Boron Barium Molybdenum	ppm	ASTM D5185(m) ASTM D5185(m)	5 5	5 <1		
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5	5 <1 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5	5 <1 0 0		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 25	5 <1 0 0 6		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 25 200	5 <1 0 6 207		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 25 200 300	5 <1 0 6 207 352	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200 300 370	5 <1 0 6 207 352 440		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200 300 370	5 <1 0 6 207 352 440 832 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	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)	5 5 25 200 300 370 2500	5 <1 0 6 207 352 440 832 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	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)	5 5 25 200 300 370 2500	5 <1 0 6 207 352 440 832 <1 current	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	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) method ASTM D5185(m)	5 5 25 200 300 370 2500	5 <1 0 6 207 352 440 832 <1 current 0	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200 300 370 2500 limit/base >15	5 <1 0 0 6 207 352 440 832 <1 <i>current</i> 0 <1 0	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 200 300 370 2500 2500 limit/base >15	5 <1 0 0 6 207 352 440 832 <1 <i>current</i> 0 <1 0	 history1 	 history2
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	ASTM D5185(m) ASTM D5185(m)	5 5 5 200 300 370 2500 2500 imit/base >20	5 <1 0 0 6 207 352 440 832 <1 current 0 <1 0 0 current	 history1 history1	 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	ASTM D5185(m) ASTM D5185(m)	5 5 5 200 300 370 2500 2500 binit/base >20 binit/base >5000	5 <1 0 0 6 207 352 440 832 <1 <i>current</i> 0 <1 0 <i>current</i> 949	 history1 history1 	 history2 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	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 200 300 370 2500 2500 binit/base >15 20 binit/base >5000 >1300 >160	5 <1 0 0 6 207 352 440 832 <1 <i>current</i> 0 <1 0	 history1 history1 history1	 history2 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) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 200 300 370 2500 2500 binit/base >15 20 binit/base >5000 >1300 >160	5 <1 0 0 6 207 352 440 832 <1 Current 0 <1 0 <1 0 current 949 351 39 11	 history1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 2500 bimit/base >15 >20 bimit/base >5000 >1300 >160 >160 >40 >10	5 <1 0 0 6 207 352 440 832 <1 Current 0 <1 0 <1 0 Current 949 351 39 11 2		 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 2500 bimit/base >15 >20 bimit/base >5000 >1300 >160 >160 >40 >10	5 <1 0 0 6 207 352 440 832 <1 Current 0 <1 0 <1 0 current 949 351 39 11		 history2 history2 history2



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ber of particles (1 ml) 3 k 3 k 5 k

1k 0k Apr4/24

1.00

(B/HOX B0.60 M0 KOH/d) Base

a 10.40 Pio 0.20

> 0.00 Apr4/24

52 Abnorma 50 48 (0-046 tso 42

6

f particles (1 ml) % 45 45

÷ ie 2k In 1k 0k Apr4/24

Particle Trend

Acid Number

Abnormal

Abnormal

Abnorma 40 38 Apr4/24

Particle Trend

, 4μm

Viscosity @ 40°C

μm 14µm

OIL ANALYSIS REPORT

· · · · · · · · · · · · · · · · · · ·	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974*	0.57	0.33		
	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	Visual*	NONE	NONE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
	Precipitate	scalar	Visual*	NONE	NONE		
Apr4/24 -	Silt	scalar	Visual*	NONE	NONE		
Apr	Debris	scalar	Visual*	NONE	NONE		
	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Appearance	scalar	Visual*	NORML	NORML		
	Odor	scalar	Visual*	NORML	NORML		
	Emulsified Water Free Water	scalar	Visual*	>0.05	NEG		
		scalar	Visual*		NEG		
	FLUID PROPERT	TIES	method	limit/base	current	history1	history2
-	Visc @ 40°C	cSt	ASTM D7279(m)	46	45.8		
Apr4/24 -	SAMPLE IMAGES	S j	method	limit/base	current	history1	history2
đ	Color					no image	no image
	Bottom					no image	no image
47	GRAPHS						
C Prov	Ferrous Alloys			491,52	Particle Count		т26
	iron			122,88			-24
	E. 5 - nickel				Severe		
				30,720			-23
	Apr4/24		***************	Apr4/24 (per 1 ml) 165'L	Abnormal		-21
	Apr					•	-18
	Non-ferrous Metal	Is		sappited o 121			-16
	10 copper			jo 120			-14
2	ā. 5-			dimin 3(-12
C. hA							10
	54 0					-	
	4			Apr4/24			
	Apr4/						
					4μ 6μ Acid Number	14µ 21µ	38µ 71µ
	Viscosity @ 40°C				Acid Number	14µ 21µ	38µ 71µ
	Viscosity @ 40°C				Acid Number	14µ 21µ	38µ 71µ
	Viscosity @ 40°C				Acid Number	14µ 21µ	38µ 71µ
	Viscosity @ 40°C				Acid Number	14µ 21µ	38µ 71µ
	Viscosity @ 40°C			1.0(1) 0.50 (Mamper (mg KOH/d) 0.00 (00 (00 (00 (00 (00 (00 (00 (00 (00	Acid Number	14µ 21µ	38μ 71μ [°]
Laboratory Sample No. Lab Number Unique Number	Viscosity @ 40°C	5 Appleby Recei Teste Diagn	ived :11 id :12	Apr4/24 Apr4/24 Apr4/24	Acid Number Abnormal Base Abnormal	14μ 21μ FILTER SYSTI 16 INDUSTRIAI	EMS CANAD

То Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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