

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id OS14 Component Main Hydraulic System Fluid 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. Resample at the next service interval to monitor. 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

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.

			Feb2023	Mar2024		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0914595	WC0779626	
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				NORMAL	NORMAL	
CONTAMINATIO	N	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	<1	1	
Chromium	ppm	ASTM D5185(m)	>20	0	0	
Nickel	ppm	ASTM D5185(m)	>20	0	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	5	2	
Tin	ppm	ASTM D5185(m)	>20	0	0	
Antimony	ppm	ASTM D5185(m)		0	<1	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
O a alvasiu una				-		
Cadmium	ppm	ASTM D5185(m)		0	0	
ADDITIVES	ppm	method	limit/base	0 current	0 history1	 history2
	ppm ppm		limit/base	-	-	
ADDITIVES		method	5	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	5	current 0	history1 <1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185(m) ASTM D5185(m)	5 5	current 0 9	history1 <1 12	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5	current 0 9 0	history1 <1 12 0	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5	current 0 9 0 0	history1 <1 12 0 0	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25	Current 0 9 0 0 <1	history1 <1 12 0 0 1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200	Current 0 9 0 0 <1 6	history1 <1 12 0 0 1 1 10	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method 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	Current 0 9 0 0 <1 6 414	history1 <1 12 0 0 1 1 10 470	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	5 5 5 25 200 300 370	Current 0 9 0 0 <1 6 414 469	history1 <1 12 0 1 1 10 470 492	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	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)	5 5 5 25 200 300 370	Current 0 9 0 0 <1 6 414 469 938	history1 <1 12 0 1 10 470 492 1009	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	5 5 25 200 300 370 2500	Current 0 9 0 0 <1 6 414 469 938 <1	history1 <1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	5 5 25 200 300 370 2500	Current 0 9 0 0 <1 6 414 469 938 <1	history1 <1 12 0 1 10 470 492 1009 <1 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	5 5 25 200 300 370 2500	Current 0 9 0 0 <1 6 414 469 938 <1 2 Current 0	history1 <1 12 0 1 10 470 492 1009 <1 history1 0	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	5 5 5 25 200 300 370 2500 2500 limit/base >15	Current 0 9 0 0 <1 6 414 469 938 <1 2 Current 0 0	history1 <1 12 0 112 0 12 0 12 0 12 0 10 470 492 1009 <1 history1 0 0 0 0 0 0 0 0 0 0 0	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	5 5 5 200 300 370 2500 2500 limit/base >15	Current 0 9 0 0 <1 6 414 469 938 <1 Current 0 0 <1	history1 <1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	5 5 5 25 200 300 370 2500 2500 imit/base >20 imit/base	Current 0 9 0 0 <1 6 414 469 938 <1 Current 0 0 <1 Current	history1 <1 12 0 0 1 10 470 492 1009 <1 history1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Sodium Potassium Potassium Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	5 5 5 25 200 300 370 2500 2500 Imit/base >20 Imit/base >20	Current 0 9 0 - 6 414 469 938 <1 current 0 0 - 0 0 - 0 0 2780	history1 <1 12 0 112 0 12 0 12 0 12 0 12 0 12 0 492 1009 <1 history1 0 0 0 0 0 0 history1	history2 history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Solicon Solium Potassium Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	5 5 5 200 300 370 2500 2500 imit/base >15 >20 imit/base >5000 >1300 >160	Current 0 9 0 0 <11 6 414 469 938 <1 Current 0 0 <1 Current 0 <1 2780 553	history1 <1 12 0 112 0 112 0 112 0 11 10 470 492 1009 <1 history1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1000000000000000000000000000000000000	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Particles >4µm Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 200 300 370 2500 2500 imit/base >15 >20 imit/base >5000 >1300 >160	Current 0 9 0 - 6 414 469 938 <1 Current 0 0 <1 Current 0 0 2780 553 36	history1 <1 12 0 112 0 12 0 112 0 10 470 492 1009 <1 history1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1000000000000000000000000000000000000	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Particles >4µm Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 2500 imit/base >15 >20 imit/base >5000 >1300 >160 >40 >10	Current 0 9 0 (0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) 0 (1) (1)	history1 <1 12 0 112 0 0 10 470 492 1009 <1 history1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Particles >4µm Particles >14µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 2500 imit/base >15 >20 imit/base >5000 >1300 >160 >40 >10	Current 0 9 0 4 0 0 4 0 0 4 1 6 4 1 4 6 9 9 3 8 < 1 0 0 0 < 1 Current 0 0 0 < 1 Current 2 7 8 0 5 5 3 3 6 9 1	history1 <1	history2 history2 history2 history2



OIL ANALYSIS REPORT

k Τ	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
k - Generation 64mm	Acid Number (AN)	mg KOH/g	ASTM D974*	0.57	0.53	0.57	
k+	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	Visual*	NONE	NONE	NONE	
k •	Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
	Precipitate	scalar	Visual*	NONE	NONE	NONE	
23 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 123 × 1	Silt	scalar	Visual*	NONE	NONE	NONE	
Feb 20/23 Mari 1/24	Debris	scalar	Visual*	NONE	NONE	NONE	
	Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
Acid Number	Appearance	scalar	Visual*	NORML	NORML	NORML	
	Odor	scalar	Visual*	NORML	NORML	NORML	
)- -	Emulsified Water	scalar	Visual*	>0.05	NEG	NEG	
Base	Free Water	scalar	Visual*		NEG	NEG	
Abaamal	FLUID PROPER	TIES	method	limit/base	current	history1	history2
Abnormal	Visc @ 40°C	cSt	ASTM D7279(m)	46	42.7	42.3	
Feb20/23 + Mar11/24 +	SAMPLE IMAGE	S	method	limit/base	current	history1	history2
Viscosity @ 40°C	Color						no image
Base	Bottom						no image
Abnormal	GRAPHS						
Feb 20/23	Ferrous Alloys				Particle Count		
Feb	10 iron 1			491,520	1		T21
Particle Trend	E 5-			122,880	Severe		-2
	۵.			30,720			-2
Pantonna 1/µm	0			= 7,680	Abnormal		-2
†	Feb 20/23			Mar11/24 10661 ml			-2/ -11 -11
	—			- as			
	Non-ferrous Meta	IS				N	
•	copper			ia 120		\	-1
	E. 5-			E 30	-		-1
Feb20/23				8	-		-1
	2 2 2			/24			8
	Feb 20,			Mar11/24			
	Viscosity @ 40°C				4 مۇ Acid Number	14μ 21μ	38µ 71µ
	55			₹1.00	Acid Number		
	00 00 00 00 00 00 00 00 00 00			DX Bu	Base		
				ja 0.50			
	40 - 4		*****************	0.50 agin Mumber	Abnormal		
	354			Aci Aci	123+1		
	Feb20/23			Mar11/24	Feb20/23		
Accredited Unique Number		5 Appleby Recei Teste Diagr	ved : 12 d : 13	gton, ON L7I 2 Mar 2024 3 Mar 2024 Mar 2024 - W		245 Britar	nia Road Ea ssissauga, C CA L4Z 4