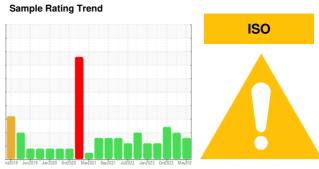


OIL ANALYSIS REPORT

North Plant-Fermentation AG1760A

Gearbox

HIGH PERFORMANCE LUBRICANTS GEAR LIFE 320 (20 GAL)



DIAGNOSIS

Recommendation

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

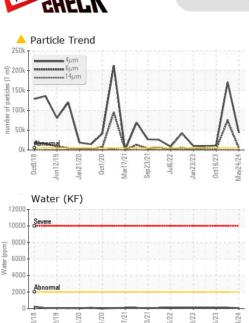
Fluid Condition

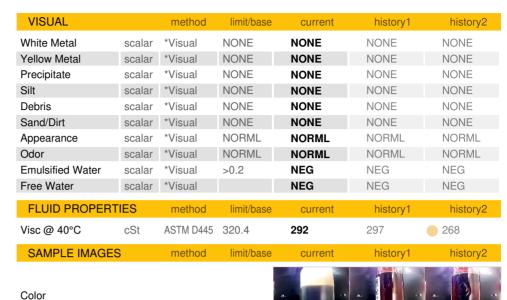
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample Number Client Info WC0941395 WC0850046 WC0850036 Sample Date Client Info 24 May 2024 24 Jan 2024 16 Oct 2023 16	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Cample Date Client Info Q4 May 2024 24 Jan 2024 16 Oct 2023	Sample Number		Client Info		WC0941395		
Machine Age hrs Client Info							
Dil Age	•	hre			-		
Dil Changed Client Info N/A ABNORMAL ABNORM							
Machine Ma	•	1110			-		-
WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >200 100 101 <1							ABNORMAL
Chromium			method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >10 <1 <1 0 Vickel ppm ASTM D5185m <10 <1 0 0 Silver ppm ASTM D5185m <1 0 0 0 Aluminum ppm ASTM D5185m >25 3 2 0 Aluminum ppm ASTM D5185m >50 <1 0 0 Lead ppm ASTM D5185m >50 <1 0 0 Copper ppm ASTM D5185m >10 <1 0 0 Vanadium ppm ASTM D5185m >10 <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 0 ADDITIVES method limit/base current history1 history2 Barium ppm ASTM D5185m <1 0 0 Barium ppm ASTM D5185m <1 0 0	Iron	ppm	ASTM D5185m	>200	100	101	<1
Distribution	Chromium		ASTM D5185m	>10	<1	<1	0
Silver	Nickel	ppm	ASTM D5185m	>10	<1	0	0
Aluminum	Titanium	ppm	ASTM D5185m		<1	0	0
Lead ppm ASTM D5185m >50 <1 0 0 Copper ppm ASTM D5185m >200 2 2 6 FLUID CLEANLINESS ppm ASTM D5185m >200 2 2 6 Ozadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Barium ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m <1 0 0 0 Barium ppm ASTM D5185m <1 0 0 0 Manganese ppm ASTM D5185m <1 0 0 0 Magnesium ppm ASTM D5185m <1 0 0 0 Phosphorus ppm ASTM D5185m <1 0 0 0 Phosphorus ppm ASTM D5185m 223 175 1	Silver	ppm	ASTM D5185m		0	0	0
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Copper ppm ASTM D5185m >200 2 2 6 Fin ppm ASTM D5185m >10 <1	_ead					0	0
Fin	Copper		ASTM D5185m	>200	2	2	6
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Baron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m <1 0 0 Molybdenum ppm ASTM D5185m <1 0 0 Wanganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m <1 0 0 Phosphorus ppm ASTM D5185m 223 175 14 Zinc ppm ASTM D5185m 223 175 14 Zinc ppm ASTM D5185m 51563 29207 22019 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 19 14	Tin		ASTM D5185m	>10	<1		0
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Soron ppm ASTM D5185m Q	Cadmium	ppm	ASTM D5185m		<1	0	0
Sarium	ADDITIVES		method	limit/base	current	history1	history2
Sarium	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 1 1 0 0 Calcium ppm ASTM D5185m 223 175 14 14 0 0 Phosphorus ppm ASTM D5185m 223 175 14 14 0 0 0 Sulfur ppm ASTM D5185m 51563 29207 22019 22019 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 19 14 31 Sodium ppm ASTM D5185m >50 19 14 31 Sodium ppm ASTM D5185m >50 19 14 31 Sodium ppm ASTM D5185m >20 2 <1 0 Vater % ASTM D5185m >20 2 <1 0 0 <th< td=""><td>Barium</td><td>ppm</td><td>ASTM D5185m</td><td></td><td><1</td><td>0</td><td>0</td></th<>	Barium	ppm	ASTM D5185m		<1	0	0
Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 1 1 0 0 Calcium ppm ASTM D5185m 223 175 14 14 0 0 Phosphorus ppm ASTM D5185m 223 175 14 14 0 0 0 Sulfur ppm ASTM D5185m 51563 29207 22019 22019 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 19 14 31 Sodium ppm ASTM D5185m >50 19 14 31 Sodium ppm ASTM D5185m >50 19 14 31 Sodium ppm ASTM D5185m >20 2 <1 0 Vater % ASTM D5185m >20 2 <1 0 0 <th< td=""><td>Molybdenum</td><td>ppm</td><td>ASTM D5185m</td><td></td><td><1</td><td>0</td><td>0</td></th<>	Molybdenum	ppm	ASTM D5185m		<1	0	0
Calcium ppm ASTM D5185m <1 0 0 Phosphorus ppm ASTM D5185m 223 175 14 Zinc ppm ASTM D5185m 14 0 0 Sulfur ppm ASTM D5185m 51563 29207 22019 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 19 14 31 Sodium ppm ASTM D5185m >20 2 <1		ppm	ASTM D5185m		<1	0	0
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Zinc ppm ASTM D5185m 14 0 0 Sulfur ppm ASTM D5185m 51563 29207 22019 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 19 14 31 Sodium ppm ASTM D5185m >50 2 0 0 Potassium ppm ASTM D5185m ≥20 2 <1 0 Vater % ASTM D5185m >20 2 <1 0 Vater % ASTM D5185m >20 2 <1 0 Vater % ASTM D5185m >20 2 <1 0 Potassium ppm ASTM D5185m >20 2 <1 0 Vater % ASTM D5185m >20 2 <1 0 0 Particles > 4µm ASTM D6304 >2000 43619 170978 11377	Calcium	ppm	ASTM D5185m		<1	0	0
Sulfur ppm ASTM D5185m 51563 29207 22019 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 19 14 31 Sodium ppm ASTM D5185m 2 0 0 Potassium ppm ASTM D5185m >20 2 <1	Phosphorus	ppm	ASTM D5185m		223	175	14
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Soliticon ppm ASTM D5185m >50 19 14 31 31 Sodium ppm ASTM D5185m 2 0 0 0 0 0 0 0 0 0	Sulfur	ppm	ASTM D5185m		51563	29207	22019
Sodium ppm ASTM D5185m 2 0 0 0	CONTAMINANTS	}	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 <1 0 Water % ASTM D6304 >0.2 0.005 0.011 0.010 opm Water ppm ASTM D6304 >2000 58 115 101.3 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 43619 170978 11377 Particles >6μm ASTM D7647 >1300 4345 74026 2576 Particles >14μm ASTM D7647 >160 189 256 211 Particles >21μm ASTM D7647 >40 55 46 55 Particles >38μm ASTM D7647 >10 1 1 2 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 23/19/15 25/23/15 21/19/15	Silicon	ppm	ASTM D5185m	>50	19	14	31
Water % ASTM D6304 >0.2 0.005 0.011 0.010 Opm Water ppm ASTM D6304 >2000 58 115 101.3 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 43619 170978 11377 Particles >6μm ASTM D7647 >1300 4345 74026 2576 Particles >14μm ASTM D7647 >160 189 256 211 Particles >21μm ASTM D7647 >40 55 46 55 Particles >38μm ASTM D7647 >10 1 1 2 Particles >71μm ASTM D7647 >3 0 0 0 Dil Cleanliness ISO 4406 (c) >19/17/14 23/19/15 25/23/15 21/19/15 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		2	0	0
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Particles >4μm ASTM D7647 >5000 43619 170978 11377 Particles >6μm ASTM D7647 >1300 4345 74026 2576 Particles >14μm ASTM D7647 >160 189 256 211 Particles >21μm ASTM D7647 >40 55 46 55 Particles >38μm ASTM D7647 >10 1 1 2 Particles >71μm ASTM D7647 >3 0 0 0 Dil Cleanliness ISO 4406 (c) >19/17/14 23/19/15 25/23/15 21/19/15 FLUID DEGRADATION method limit/base current history1 history2	opm Water	ppm	ASTM D6304	>2000	58	115	101.3
Particles >6μm ASTM D7647 >1300 4345 74026 2576 Particles >14μm ASTM D7647 >160 189 256 211 Particles >21μm ASTM D7647 >40 55 46 55 Particles >38μm ASTM D7647 >10 1 1 2 Particles >71μm ASTM D7647 >3 0 0 0 Dil Cleanliness ISO 4406 (c) >19/17/14 23/19/15 25/23/15 21/19/15 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
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Particles >21μm ASTM D7647 >40 55 ▲ 46 ▲ 55 Particles >38μm ASTM D7647 >10 1 1 2 Particles >71μm ASTM D7647 >3 0 0 0 Dil Cleanliness ISO 4406 (c) >19/17/14 ▲ 23/19/15 ▲ 25/23/15 ▲ 21/19/15 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>1300	4345	<u>▲</u> 74026	<u>\$\text{2576}\$</u>
Particles >38μm ASTM D7647 >10 1 1 2 Particles >71μm ASTM D7647 >3 0 0 0 Dil Cleanliness ISO 4406 (c) >19/17/14 Δ 23/19/15 Δ 25/23/15 Δ 21/19/15 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>160	189	<u>\$\times\$ 256</u>	<u>^</u> 211
Particles >71μm ASTM D7647 >3 0 0 0 Dil Cleanliness ISO 4406 (c) >19/17/14 ▲ 23/19/15 ▲ 25/23/15 ▲ 21/19/15 FLUID DEGRADATION method limit/base current history1 history2	Particles >21μm		ASTM D7647	>40	55	4 6	<u></u> 55
Dil Cleanliness ISO 4406 (c) >19/17/14 ▲ 23/19/15 ▲ 25/23/15 ▲ 21/19/15 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>10	1	1	2
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>3	0	0	0
	Oil Cleanliness		ISO 4406 (c)	>19/17/14	23/19/15	<u>△</u> 25/23/15	△ 21/19/15
Acid Number (AN) mg KOH/g ASTM D8045 0.82 0.96 0.82	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	A =!=! N!:!= = (ANI)	ma K∩H/a	ASTM D8045		0.82	0.96	0.82



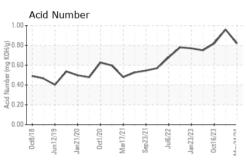
OIL ANALYSIS REPORT

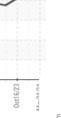




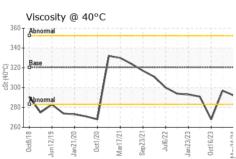
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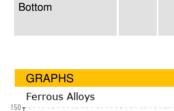
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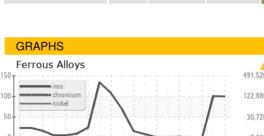


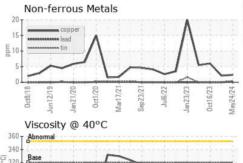


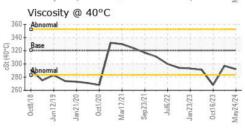


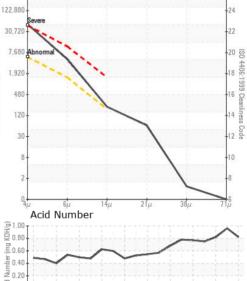












Particle Count



Water (KF)

1000

600

4000



Certificate 12367

Laboratory Sample No. Lab Number

: WC0941395 : 06195453 Unique Number : 11057576 Test Package : PLANT

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 30 May 2024

> Tested : 31 May 2024 Diagnosed : 31 May 2024 - Angela Borella

To discuss this sample report, contact Customer Service at 1-800-237-1369.

 st - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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