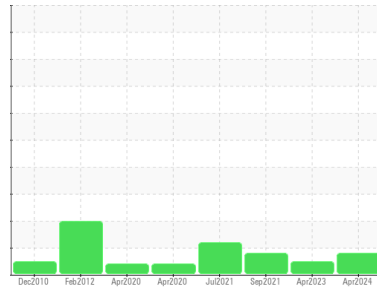


OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
F-06
Component
Wind Turbine Gearbox
Fluid
ROYAL PURPLE SYNFILM GT 320 (65 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All 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 condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		MHI026437	MHI021539	MHI017367
Sample Date	Client Info		05 Apr 2024	20 Apr 2023	03 Sep 2021
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ATTENTION	NORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2	
PQ	ASTM D8184	>200	22	13	24	
Iron	ppm	ASTM D5185m	>200	4	7	12
Chromium	ppm	ASTM D5185m	>3	0	<1	0
Nickel	ppm	ASTM D5185m	>3	<1	0	<1
Titanium	ppm	ASTM D5185m	>10	0	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>30	0	2	0
Lead	ppm	ASTM D5185m	>15	0	0	<1
Copper	ppm	ASTM D5185m	>75	8	8	6
Tin	ppm	ASTM D5185m	>10	<1	0	0
Antimony	ppm	ASTM D5185m	>5	---	---	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		0	0	<1
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		3	6	5
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m	90	<1	2	2
Calcium	ppm	ASTM D5185m		1	0	0
Phosphorus	ppm	ASTM D5185m		15	0	25
Zinc	ppm	ASTM D5185m		6	0	0
Sulfur	ppm	ASTM D5185m		20241	20317	15135

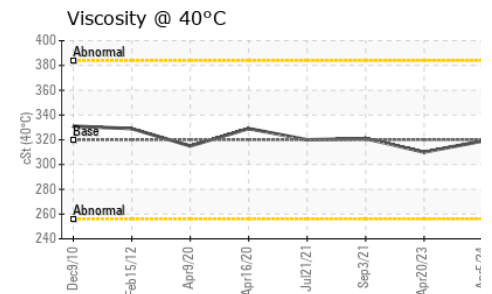
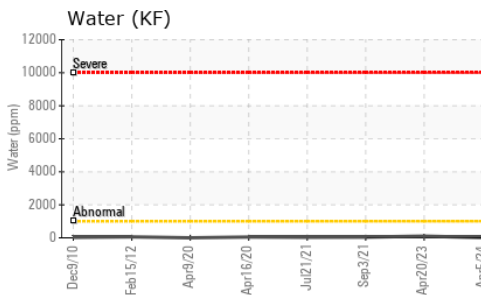
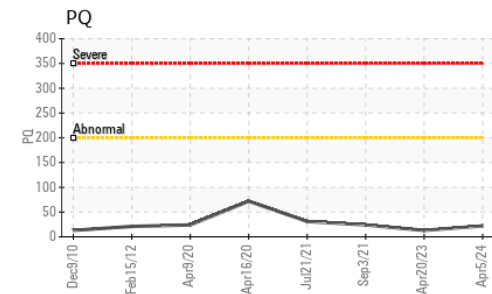
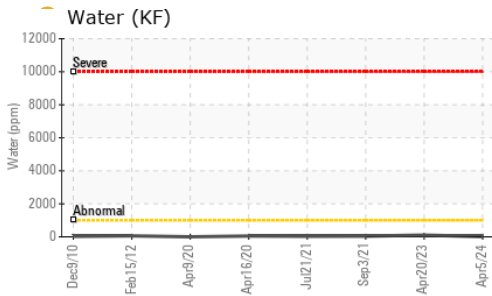
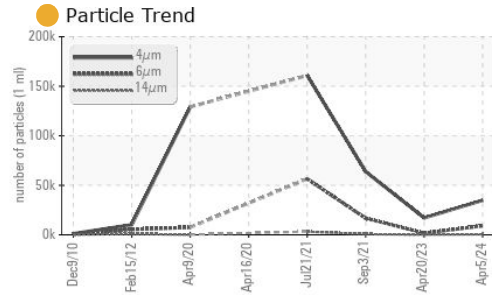
CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>+30	3	3	3
Sodium	ppm	ASTM D5185m		1	0	0
Potassium	ppm	ASTM D5185m	>20	2	1	0
Water	%	ASTM D6304	>0.1	0.001	0.010	0.004
ppm Water	ppm	ASTM D6304	>1000	9	104	40.0

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		34853	17086	63829
Particles >6µm	ASTM D7647	>5000	9143	1686	▲ 16728
Particles >14µm	ASTM D7647	>640	468	23	▲ 691
Particles >21µm	ASTM D7647	>160	72	5	70
Particles >38µm	ASTM D7647	>40	1	0	3
Particles >71µm	ASTM D7647	>10	0	0	0
Oil Cleanliness	ISO 4406 (c)	>--/19/16	22/20/16	21/18/12	▲ 23/21/17

OIL ANALYSIS REPORT

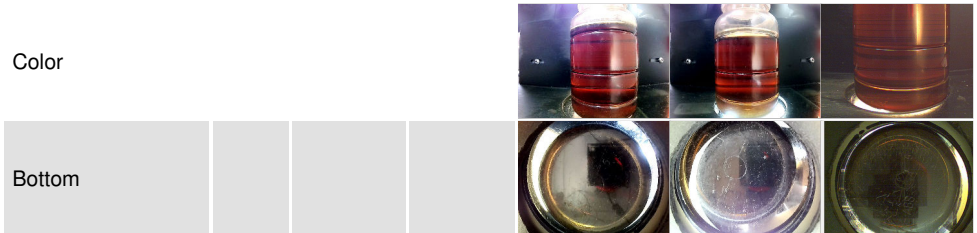


FLUID DEGRADATION	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	0.25	0.39	0.41	0.42

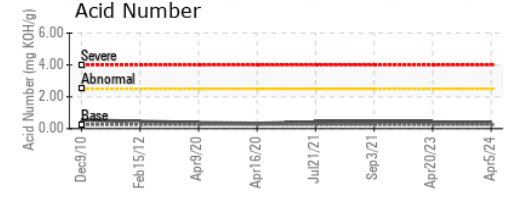
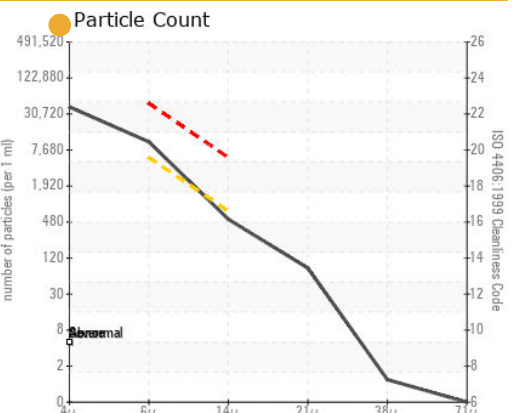
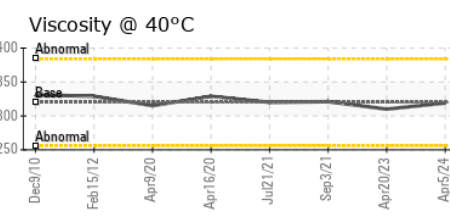
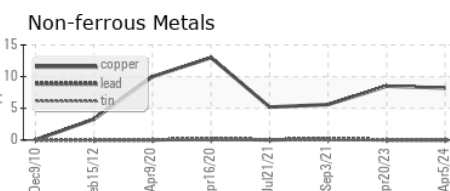
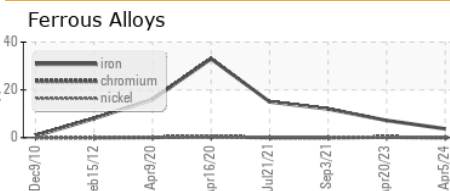
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	VLITE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	320	319	310	321

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MHI026437 **Received** : 10 Jun 2024
Lab Number : **06204583** **Tested** : 11 Jun 2024
Unique Number : 11072044 **Diagnosed** : 12 Jun 2024 - Angela Borella
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

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