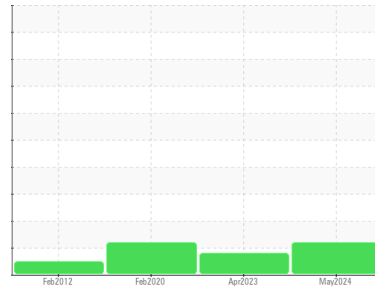


# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id  
**H-01**  
Component  
**Wind Turbine Gearbox**  
Fluid  
**ROYAL PURPLE SYNFILM GT 320 (65 GAL)**

## DIAGNOSIS

### Recommendation

Replace filter element and resample at later date. In case already attempted and cleanliness was not improved then proceed to replace oil.

### 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.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>MHI026368</b>	MHI021593	MHI023830
Sample Date	Client Info	<b>03 May 2024</b>	27 Apr 2023	14 Feb 2020
Machine Age	hrs	<b>0</b>	0	0
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR METALS

method	limit/base	current	history1	history2		
PQ	ASTM D8184	>200	<b>30</b>	12	30	
Iron	ppm	ASTM D5185m	>200	<b>20</b>	10	21
Chromium	ppm	ASTM D5185m	>3	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>&lt;1</b>	2	0
Lead	ppm	ASTM D5185m	>15	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>75	<b>2</b>	2	15
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185m	>5	<b>---</b>	---	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m		<b>0</b>	0	<1
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	<1	4
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m	90	<b>42</b>	57	1
Calcium	ppm	ASTM D5185m		<b>2</b>	1	<1
Phosphorus	ppm	ASTM D5185m		<b>7</b>	0	25
Zinc	ppm	ASTM D5185m		<b>10</b>	0	0
Sulfur	ppm	ASTM D5185m		<b>22149</b>	22918	12856

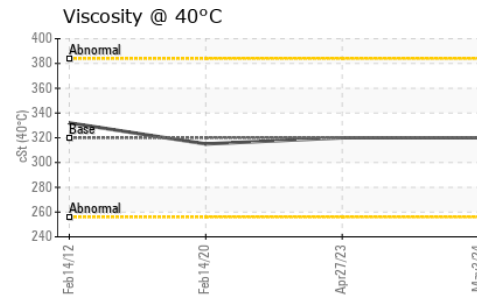
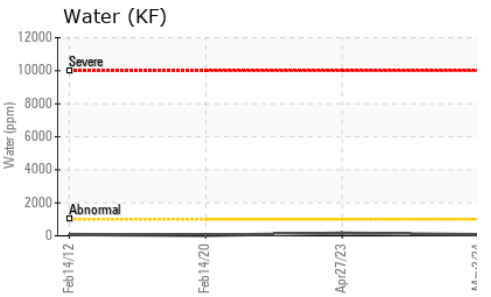
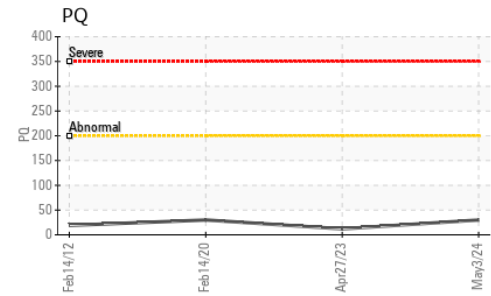
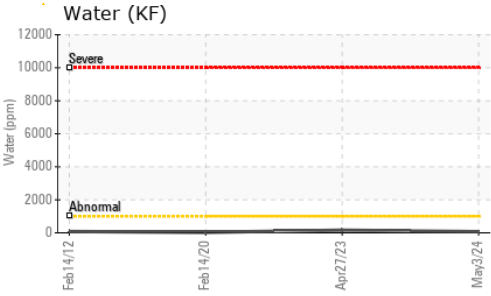
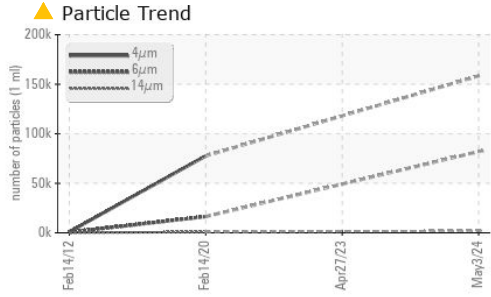
## CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>+30	<b>4</b>	4	2
Sodium	ppm	ASTM D5185m		<b>1</b>	0	0
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	0
Water	%	ASTM D6304	>0.1	<b>0.006</b>	0.016	0.003
ppm Water	ppm	ASTM D6304	>1000	<b>70</b>	161	27.5

## FLUID CLEANLINESS

method	limit/base	current	history1	history2		
Particles >4µm	ASTM D7647			<b>158419</b>	---	77682
Particles >6µm	ASTM D7647	>5000	<b>82029</b>	---	---	16424
Particles >14µm	ASTM D7647	>640	<b>2021</b>	---	---	811
Particles >21µm	ASTM D7647	>160	<b>149</b>	---	---	203
Particles >38µm	ASTM D7647	>40	<b>1</b>	---	---	5
Particles >71µm	ASTM D7647	>10	<b>1</b>	---	---	0
Oil Cleanliness	ISO 4406 (c)	>--/19/16	<b>24/24/18</b>	---	---	23/21/17

# OIL ANALYSIS REPORT

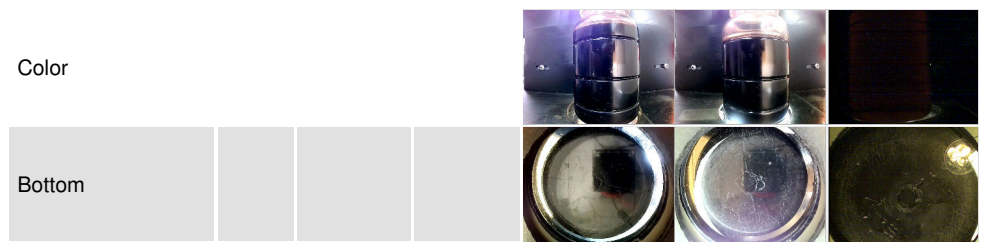


FLUID DEGRADATION	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	0.25	<b>0.38</b>	0.36	0.394

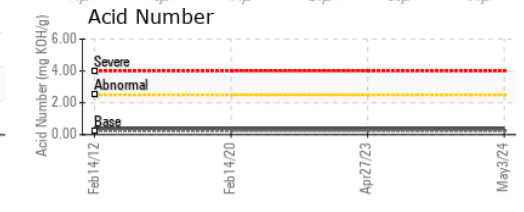
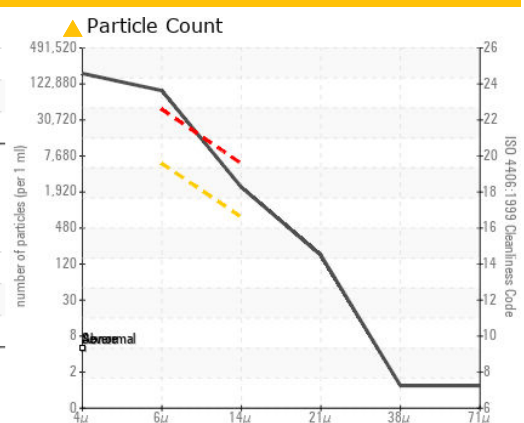
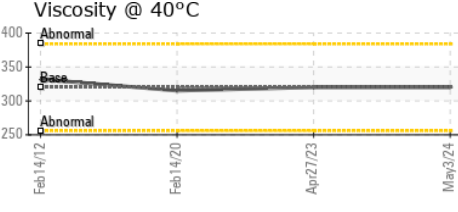
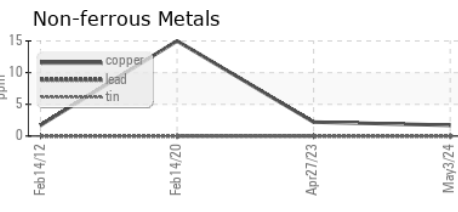
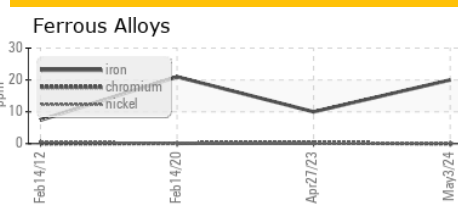
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	▲ HEAVY	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>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

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	320	<b>320</b>	320	315

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MHI026368 **Received** : 10 Jun 2024  
**Lab Number** : **06204585** **Tested** : 12 Jun 2024  
**Unique Number** : 11072046 **Diagnosed** : 12 Jun 2024 - Angela Borella  
**Test Package** : IND 2 ( Additional Tests: KF, PQ, PrtCount )

**DIAMOND WTG - WHITE DEER SITE - MPS WD**  
 PO BOX 872  
 WHITE DEER, TX  
 US 79097

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