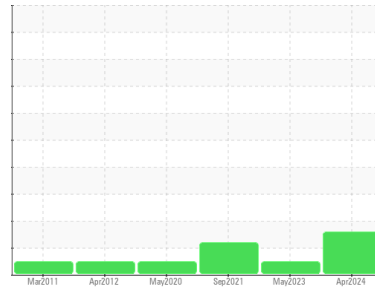


OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
H-05
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		MHI026417	MHI021594	MHI017368
Sample Date	Client Info		15 Apr 2024	02 May 2023	13 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			ABNORMAL	NORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2	
PQ	ASTM D8184	>200	30	15	23	
Iron	ppm	ASTM D5185m	>200	10	10	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	<1	2	0
Lead	ppm	ASTM D5185m	>15	0	0	0
Copper	ppm	ASTM D5185m	>75	3	5	5
Tin	ppm	ASTM D5185m	>10	0	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	4	5
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m	90	8	5	0
Calcium	ppm	ASTM D5185m		2	0	0
Phosphorus	ppm	ASTM D5185m		10	0	18
Zinc	ppm	ASTM D5185m		14	0	0
Sulfur	ppm	ASTM D5185m		20969	21109	15029

CONTAMINANTS

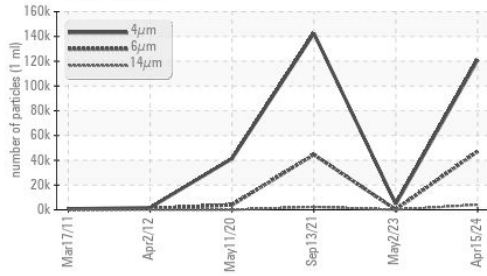
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>+30	3	3	3
Sodium	ppm	ASTM D5185m		<1	0	0
Potassium	ppm	ASTM D5185m	>20	2	1	0
Water	%	ASTM D6304	>0.1	0.003	0.006	0.005
ppm Water	ppm	ASTM D6304	>1000	27	65	51.3

FLUID CLEANLINESS

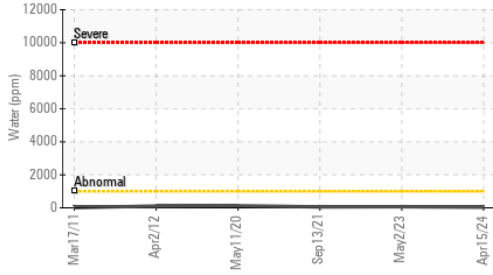
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		121006	4632	142551
Particles >6µm	ASTM D7647	>5000	▲ 47183	176	▲ 44607
Particles >14µm	ASTM D7647	>640	▲ 4066	11	▲ 2390
Particles >21µm	ASTM D7647	>160	▲ 849	5	▲ 308
Particles >38µm	ASTM D7647	>40	21	1	12
Particles >71µm	ASTM D7647	>10	2	0	1
Oil Cleanliness	ISO 4406 (c)	>--/19/16	▲ 24/23/19	19/15/11	▲ 24/23/18

OIL ANALYSIS REPORT

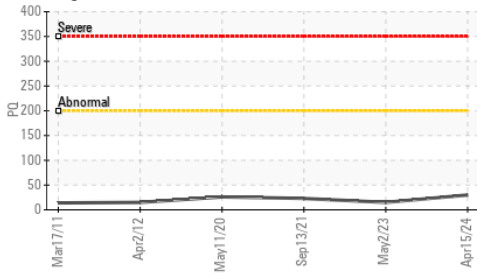
Particle Trend



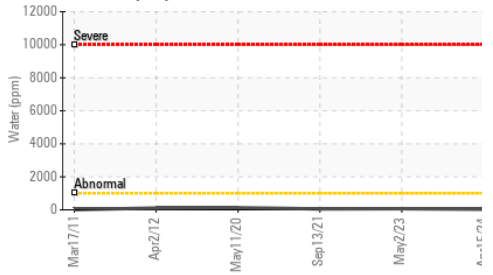
Water (KF)



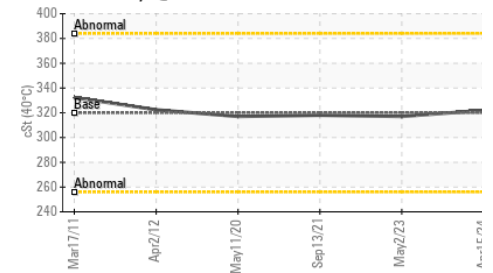
PQ



Water (KF)



Viscosity @ 40°C



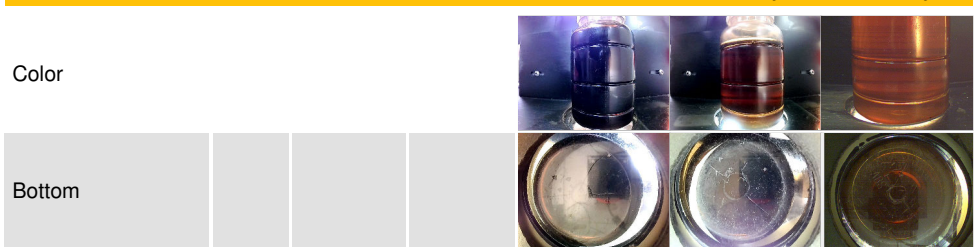
FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN) mg KOH/g	ASTM D8045 0.25	0.43	0.38	0.42
VISUAL				
method	limit/base	current	history1	history2
White Metal	scalar *Visual	NONE	NONE	LIGHT
Yellow Metal	scalar *Visual	NONE	NONE	NONE
Precipitate	scalar *Visual	NONE	NONE	NONE
Silt	scalar *Visual	NONE	NONE	NONE
Debris	scalar *Visual	NONE	LIGHT	LIGHT
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

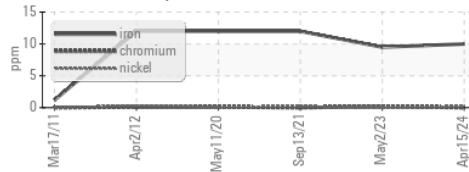
method	limit/base	current	history1	history2
Visc @ 40°C cSt	ASTM D445 320	322	317	318

SAMPLE IMAGES

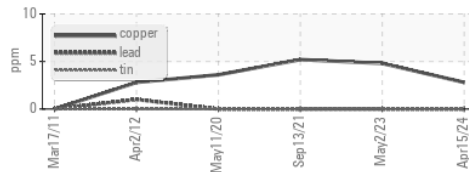


GRAPHS

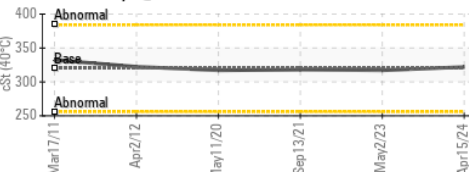
Ferrous Alloys



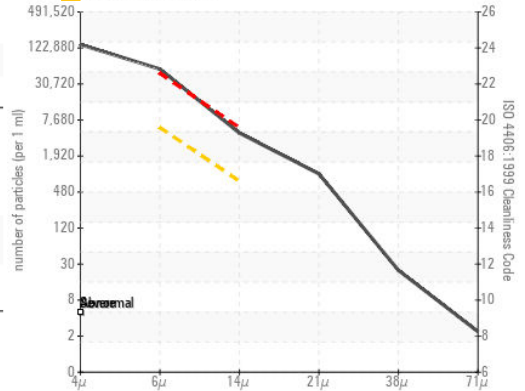
Non-ferrous Metals



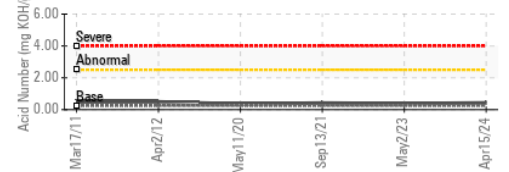
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : MHI026417

Lab Number : 06204579

Unique Number : 11072040

Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

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)

Received : 10 Jun 2024

Tested : 11 Jun 2024

Diagnosed : 12 Jun 2024 - Angela Borella

DIAMOND WTG - WHITE DEER SITE - MPS WD

PO BOX 872

WHITE DEER, TX

US 79097

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