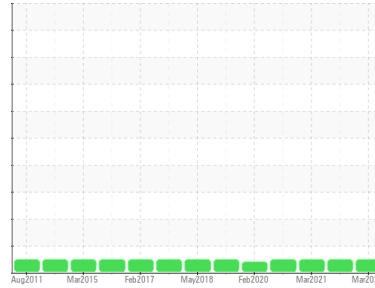


# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id  
**E311 (S/N 6412-12)**

Component  
**Wind Turbine Gearbox**

Fluid  
**MOBIL MOBILGEAR SHC XMP 320 (74 GAL)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

#### Fluid Condition

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

### SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>MHI025164</b>	MHI017494	MHI017437
Sample Date	Client Info		<b>17 Mar 2023</b>	04 May 2022	19 Mar 2021
Machine Age	hrs	Client Info	<b>0</b>	0	0
Oil Age	hrs	Client Info	<b>0</b>	80435	76441
Oil Changed	Client Info		<b>Not Changed</b>	Not Changed	Not Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

### WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>200	<b>9</b>	20	16
Iron	ppm	ASTM D5185m	>200	<b>1</b>	6
Chromium	ppm	ASTM D5185m	>3	<b>0</b>	0
Nickel	ppm	ASTM D5185m	>3	<b>0</b>	<1
Titanium	ppm	ASTM D5185m	>10	<b>0</b>	0
Silver	ppm	ASTM D5185m		<b>0</b>	<1
Aluminum	ppm	ASTM D5185m	>30	<b>&lt;1</b>	0
Lead	ppm	ASTM D5185m	>15	<b>0</b>	<1
Copper	ppm	ASTM D5185m	>75	<b>36</b>	42
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0
Antimony	ppm	ASTM D5185m	>5	<b>---</b>	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<b>0</b>	<1
Barium	ppm	ASTM D5185m		<b>0</b>	0
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1
Magnesium	ppm	ASTM D5185m		<b>0</b>	0
Calcium	ppm	ASTM D5185m	0	<b>0</b>	0
Phosphorus	ppm	ASTM D5185m	485	<b>334</b>	410
Zinc	ppm	ASTM D5185m	0	<b>0</b>	17
Sulfur	ppm	ASTM D5185m		<b>3205</b>	3415

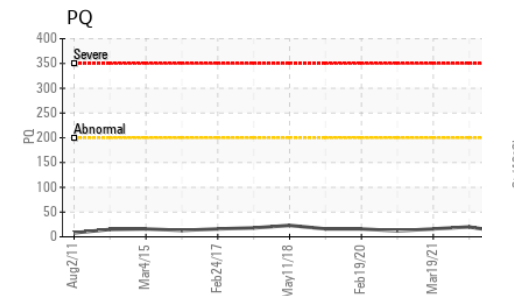
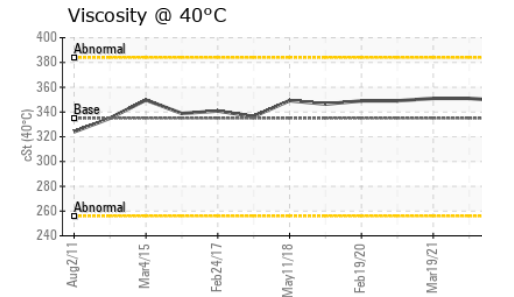
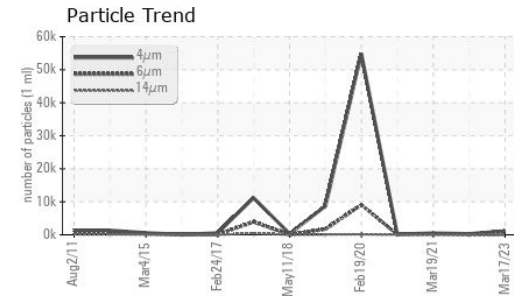
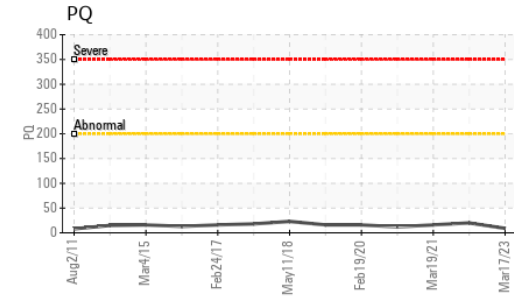
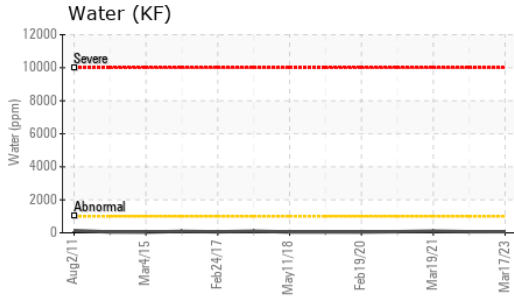
### CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+30	<b>0</b>	2
Sodium	ppm	ASTM D5185m	>15	<b>0</b>	0
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0
Water	%	ASTM D6304	>0.1	<b>0.006</b>	0.006
ppm Water	ppm	ASTM D6304	>1000	<b>69.6</b>	64.8

### FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>1180</b>	328	535
Particles >6µm	ASTM D7647	>5000	<b>215</b>	63	234
Particles >14µm	ASTM D7647	>640	<b>12</b>	10	52
Particles >21µm	ASTM D7647	>160	<b>4</b>	4	17
Particles >38µm	ASTM D7647	>40	<b>0</b>	2	0
Particles >71µm	ASTM D7647	>10	<b>0</b>	1	0
Oil Cleanliness	ISO 4406 (c)	>--/19/16	<b>17/15/11</b>	16/13/10	16/15/13

# OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.85	<b>0.75</b>	0.98	1.018

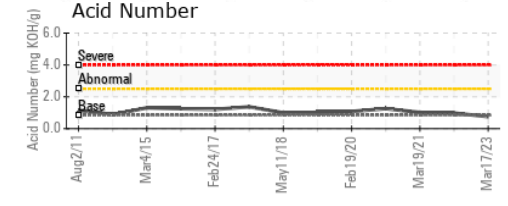
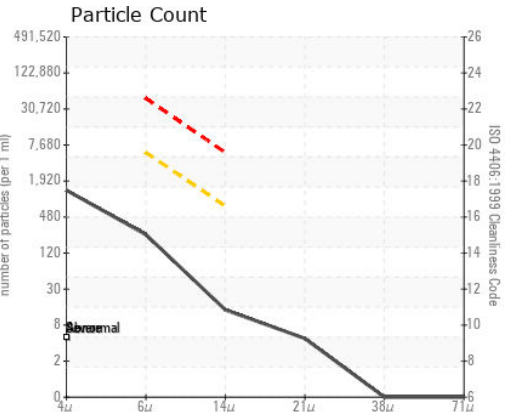
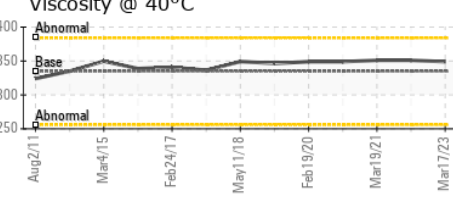
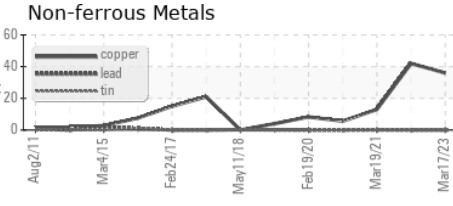
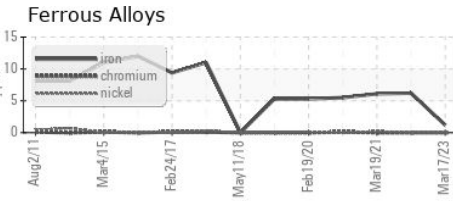
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	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	335	<b>349</b>	351	351

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MH1025164 **Received** : 05 May 2023  
**Lab Number** : 05839226 **Diagnosed** : 09 May 2023  
**Unique Number** : 10458029 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PQ, PrtCount )

**DIAMOND WTG - DILLON**  
P.O. BOX 880  
DESERT HOT SPRINGS, CA  
US 92240  
Contact: DANIEL BOYD  
daniel.boyd@diamondwtg.com  
T: (760)329-7171  
F: (760)329-7122

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)