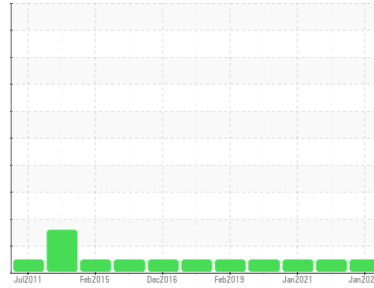


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
C304 (S/N 6412-01)

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

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

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			MHI025170	MHI018438	MHI017480
Sample Date	Client Info			18 Jan 2023	26 Jan 2022	05 Jan 2021
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	31169	24021
Oil Changed	Client Info			Not Changed	Not Changd	Not Changed
Sample Status				NORMAL	NORMAL	NORMAL

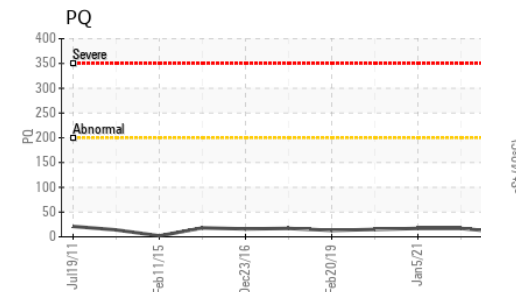
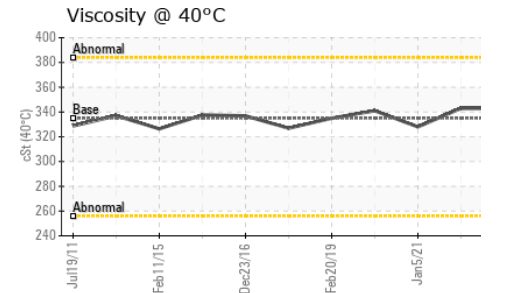
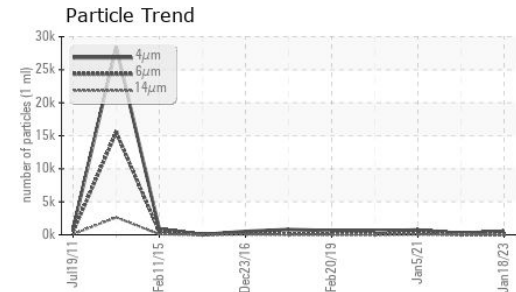
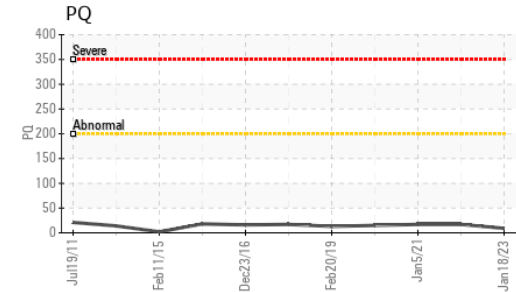
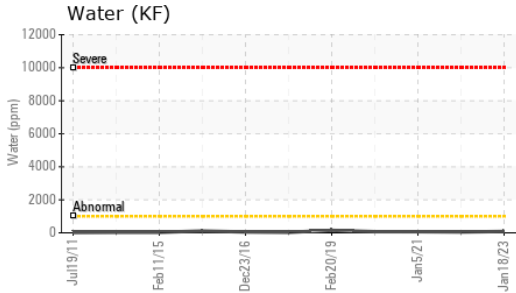
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184	>200	9	17	17
Iron	ppm	ASTM D5185m	>200	6	9	9
Chromium	ppm	ASTM D5185m	>3	0	0	0
Nickel	ppm	ASTM D5185m	>3	0	0	0
Titanium	ppm	ASTM D5185m	>10	0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>30	0	<1	0
Lead	ppm	ASTM D5185m	>15	<1	0	0
Copper	ppm	ASTM D5185m	>75	41	24	6
Tin	ppm	ASTM D5185m	>10	<1	<1	0
Antimony	ppm	ASTM D5185m	>5	---	0	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	3	3
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		1	0	0
Calcium	ppm	ASTM D5185m	0	0	0	0
Phosphorus	ppm	ASTM D5185m	485	327	425	414
Zinc	ppm	ASTM D5185m	0	22	13	12
Sulfur	ppm	ASTM D5185m		3476	3668	3737

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+30	0	0	0
Sodium	ppm	ASTM D5185m	>15	0	0	<1
Potassium	ppm	ASTM D5185m	>20	<1	0	0
Water	%	ASTM D6304	>0.1	0.008	0.004	0.006
ppm Water	ppm	ASTM D6304	>1000	82.6	49.5	66.9

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		568	211	741
Particles >6µm		ASTM D7647	>5000	47	53	276
Particles >14µm		ASTM D7647	>640	4	11	47
Particles >21µm		ASTM D7647	>160	1	4	21
Particles >38µm		ASTM D7647	>40	0	0	8
Particles >71µm		ASTM D7647	>10	0	0	7
Oil Cleanliness		ISO 4406 (c)	>--/19/16	16/13/9	15/13/11	17/15/13

OIL ANALYSIS REPORT

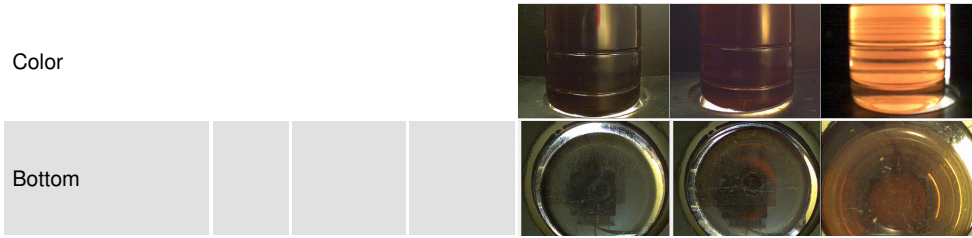


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.85	1.10	1.25	1.452

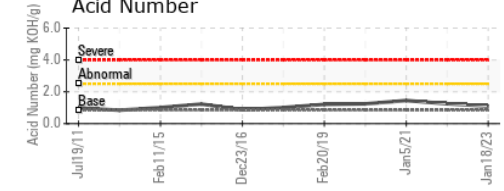
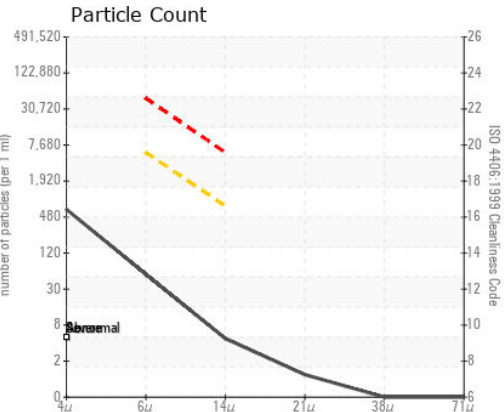
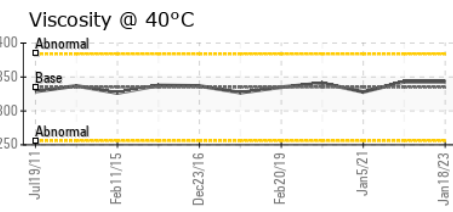
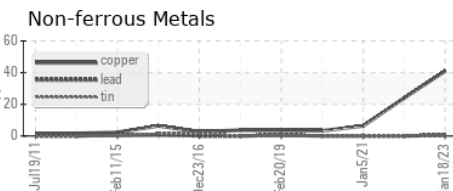
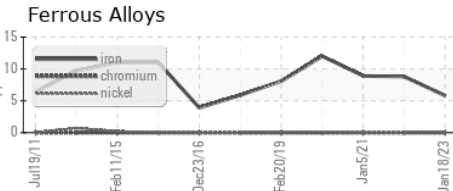
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	335	343	343	328

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MH1025170 **Received** : 14 Feb 2023
Lab Number : 05767640 **Diagnosed** : 16 Feb 2023
Unique Number : 10337248 **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)