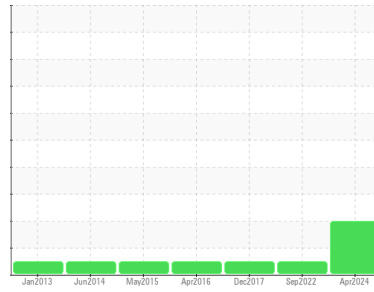




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id  
**CHW-004 (S/N 9459-06)**

Component  
**Wind Turbine Gearbox**

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

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

### 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. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0925986</b>	WC0778716	MHI143214
Sample Date	Client Info		<b>17 Apr 2024</b>	16 Sep 2022	19 Dec 2017
Machine Age	hrs	Client Info	<b>0</b>	0	4128
Oil Age	hrs	Client Info	<b>0</b>	0	4128
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>ABNORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2	
PQ	ASTM D8184	>50	<b>9</b>	7	19	
Iron	ppm	ASTM D5185m	>30	<b>13</b>	23	3
Chromium	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>0</b>	0	<1
Lead	ppm	ASTM D5185m	>15	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>10	<b>4</b>	3	6
Tin	ppm	ASTM D5185m	>10	<b>0</b>	<1	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	0	<b>0</b>	0	<1
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>0</b>	0	0
Calcium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Phosphorus	ppm	ASTM D5185m	485	<b>390</b>	404	358
Zinc	ppm	ASTM D5185m	0	<b>36</b>	40	11
Sulfur	ppm	ASTM D5185m		<b>5474</b>	4996	3668

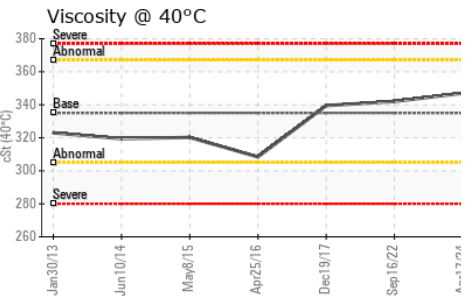
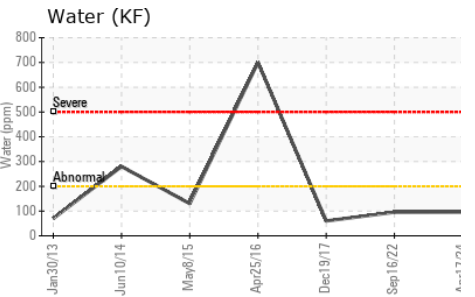
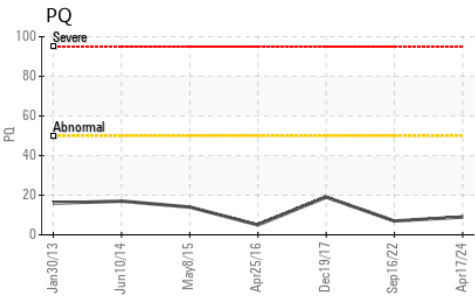
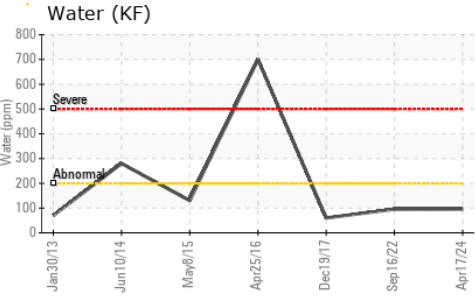
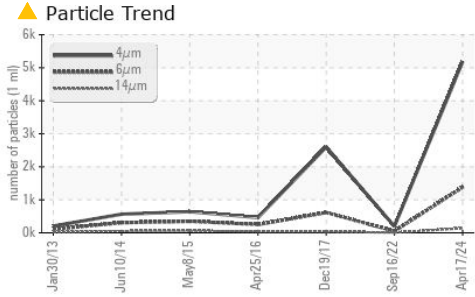
## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>+15	<b>2</b>	2	19
Sodium	ppm	ASTM D5185m	>15	<b>0</b>	0	2
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	1
Water	%	ASTM D6304	>0.02	<b>0.009</b>	0.009	0.006
ppm Water	ppm	ASTM D6304	>200	<b>96</b>	95.4	60

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>5183</b>	196	2599
Particles >6µm	ASTM D7647	>320	<b>▲ 1382</b>	50	615
Particles >14µm	ASTM D7647	>40	<b>▲ 139</b>	7	33
Particles >21µm	ASTM D7647	>10	<b>▲ 44</b>	2	5
Particles >38µm	ASTM D7647	>3	<b>▲ 4</b>	0	0
Particles >71µm	ASTM D7647	>3	<b>1</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>--/15/12	<b>▲ 20/18/14</b>	15/13/10	19/16/12

# OIL ANALYSIS REPORT



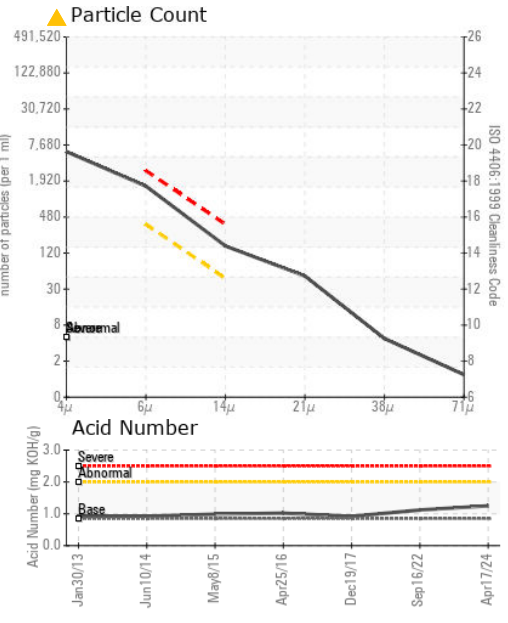
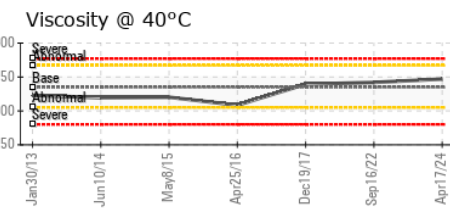
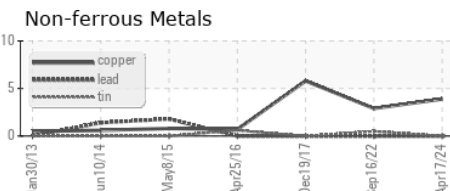
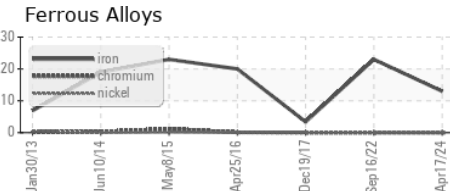
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.85	<b>1.25</b>	1.12	0.920

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>LIGHT</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	>0.02	<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>347</b>	342.0	339.5

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0925986 **Received** : 25 Apr 2024  
**Lab Number** : **06160372** **Tested** : 26 Apr 2024  
**Unique Number** : 10995795 **Diagnosed** : 27 Apr 2024 - Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PQ, PrtCount )

**DEUTSCHE WINDTECHNIK - CANADIAN HILLS - MPS CH**  
 14730 EDMOND RD NW  
 CALUMET, OK  
 US 73014  
 Contact: ANGEL LAUZARA  
 a.lauzara@deutsche-windtechnik.com

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)