

PROBLEM SUMMARY

Sample Rating Trend

WEAR

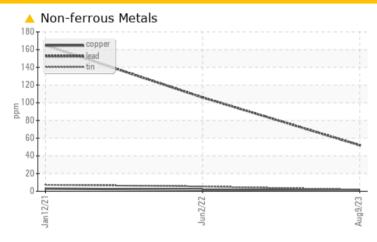
WEAR

BALL MILL WEST

Component **Bearing**

MOBIL MOBILGEAR SHC 220 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

PROBLEMATIC TEST RESULTS								
Sample Status				ABNORMAL	SEVERE	SEVERE		
Lead	ppm	ASTM D5185(m)	>20	<u>▲</u> 52	1 06	1 65		

Customer Id: REIBLI Sample No.: WC0750568 Lab Number: 02575501 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Kevin Marson +1 (289)291-4644 x4644 Kevin.Marson@wearcheck.com

To change component or sample information: Gloria Gonzalez +1 (289)291-4643 x4643 gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid			?	We recommend that you drain the oil from the component if this has not already been done.
Resample			?	We recommend an early resample to monitor this condition.
Information Required			?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

HISTORICAL DIAGNOSIS

02 Jun 2022 Diag: Kevin Marson

WEAR



We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.Lead ppm levels are severe. Antimony ppm levels are abnormal. Bearing wear is indicated. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.



WEAR



12 Jan 2021 Diag: Kevin Marson

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of laboratory tests is based on sample, as received from client. Source of sample and sampling technique cannot be verified. Lead ppm levels are severe. Iron and antimony ppm levels are abnormal. Bearing wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. Moderate concentration of visible dirt/debris present in the oil. The water content is negligible. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.





OIL ANALYSIS REPORT

Sample Rating Trend



BALL MILL WEST

Component

Bearing

MOBIL MOBILGEAR SHC 220 (--- GAL)

DIAGNOSIS

Recommendation

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

Lead ppm levels are abnormal. Bearing wear is indicated.

Contamination

There is no indication of any contamination in the oil.

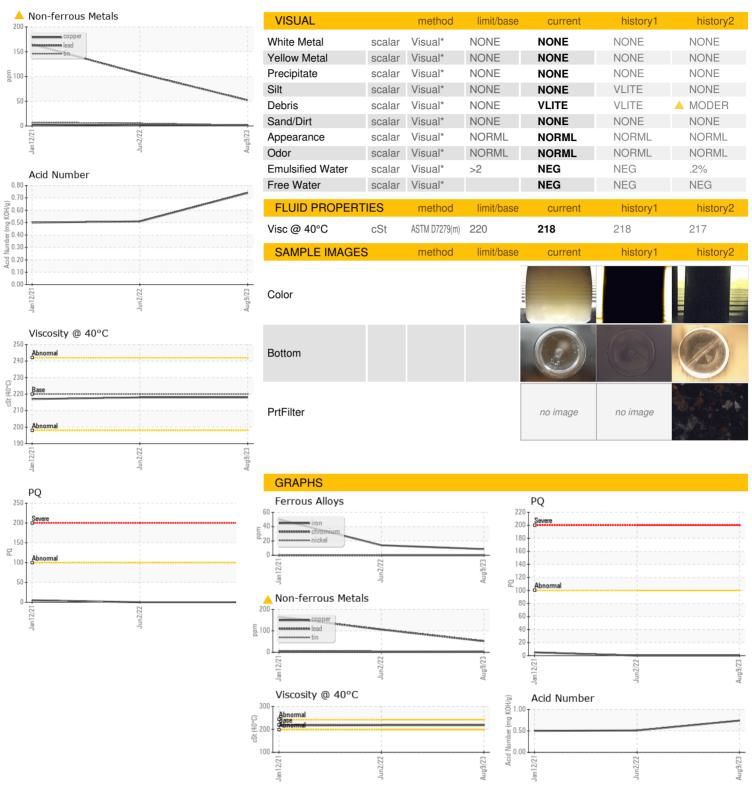
Fluid Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sample Number Client Info WC0750568 WC058996 WC053567 Sample Date Client Info 09 Aug 2023 02 Jun 2022 12 Jan 202 Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info N/A Not Changd Not Changd Oil Changed Client Info N/A Not Changd Not Changd Sample Status ABNORMAL SEVERE SEVERE WEAR METALS method limit/base current history1 history1 PQ ASTM D8184* 0 0 5 Iron ppm ASTM D5185(m) >20 9 14 △ 50 Chromium ppm ASTM D5185(m) >20 0 0 0 0 Nickel ppm ASTM D5185(m) >20 <1 <1 <1 <1 Titanium ppm ASTM D5185(m) >20 <1 2 2 Aluminum		Jan 2021 Jun 2022 Aug 2023							
Sample Date Client Info 09 Aug 2023 02 Jun 2022 12 Jan 202 Machine Age hrs Client Info 0 0 0 0 Oil Age hrs Client Info 0 0 0 0 Oil Changed Client Info N/A Not Changd Not Changd Not Changd Sample Status method limit/base current history! Nistory! WEAR METALS method limit/base current history! history! PQ ASTM D8184* 0 0 5 Iron ppm ASTM D8185(m) >20 9 14 50 Chromium ppm ASTM D5185(m) >20 0 0 0 Chromium ppm ASTM D5185(m) >20 <1	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2		
Machine Age hrs Client Info 0 0 0 0 Oil Age hrs Client Info 0 0 0 0 Oil Changed Client Info N/A Not Changd Not Changd Sample Status Client Info N/A Not Changd Not Changd WEAR METALS method limit/base current history1 history2 WEAR METALS method limit/base current history1 history3 VEAR METALS method limit/base current history1 history3 WEAR METALS method limit/base current history1 history3 WEAR METALS method limit/base current history1 history3 VEAR METALS method limit/base current history1 history3 VEAR METALS method limit/base current history1 no Devaluation ppm ASTM D5185(m) >20 <1	Sample Number		Client Info		WC0750568	WC0568996	WC0535675		
Oil Age hrs Client Info 0 0 0 0 Oil Changed Client Info N/A Not Changed Not	Sample Date		Client Info		09 Aug 2023	02 Jun 2022	12 Jan 2021		
Oil Changed Sample Status Client Info N/A Not Changed SEVERE Not Changed SEVERE WEAR METALS method limit/base current history1 history2 PQ ASTM D8184* 0 0 5 Iron ppm ASTM D5185(m) >20 9 14 ▲ 50 Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1 <1 <1 Titanium ppm ASTM D5185(m) >20 <1 2 1 Aluminum ppm ASTM D5185(m) >20 <1 2 2 Lead ppm ASTM D5185(m) >20 <1 2 2 Copper ppm ASTM D5185(m) >20 2 2 3 Tin ppm ASTM D5185(m) >20 2 5 7 Antimony ppm ASTM D5185(m) 0 0 0	Machine Age	hrs	Client Info		0	0	0		
MBNORMAL SEVERE SEVERE WEAR METALS method limit/base current history1 history2 PQ ASTM D8184* 0 0 5 Iron ppm ASTM D5185(m) >20 9 14 ▲ 50 Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1 <1 <1 Titanium ppm ASTM D5185(m) >20 <1 2 <1 Silver ppm ASTM D5185(m) >20 <1 2 2 Aluminum ppm ASTM D5185(m) >20 <1 2 2 Lead ppm ASTM D5185(m) >20 2 2 3 Copper ppm ASTM D5185(m) >20 2 2 3 Tin ppm ASTM D5185(m) 4 14 4 24 Vanadium ppm A	Oil Age	hrs	Client Info		0	0	0		
WEAR METALS method limit/base current history1 history2 PQ ASTM D8184* 0 0 5 Iron ppm ASTM D5185(m) >20 9 14 ▲ 50 Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1 <1 <1 Titanium ppm ASTM D5185(m) 0 0 0 <1 Silver ppm ASTM D5185(m) >20 <1 2 2 Aluminum ppm ASTM D5185(m) >20 <1 2 2 Lead ppm ASTM D5185(m) >20 <1 2 2 Lead ppm ASTM D5185(m) >20 2 2 3 Tin ppm ASTM D5185(m) >20 2 2 3 Antimony ppm ASTM D5185(m) 0 0 0 0 <	Oil Changed		Client Info		N/A	Not Changd	Not Changd		
PQ ASTM D8184* 0 0 5 Iron ppm ASTM D5185(m) >20 9 14 ▲ 50 Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1	Sample Status				ABNORMAL	SEVERE	SEVERE		
Iron ppm ASTM D5185(m) >20 9 14 ▲ 50 Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1	WEAR METALS		method	limit/base	current	history1	history2		
Chromium ppm ASTM D5185(m) >20 0 0 0 Nickel ppm ASTM D5185(m) >20 <1	PQ		ASTM D8184*		0	0	5		
Nickel ppm ASTM D5185(m) >20 <1	Iron	ppm	ASTM D5185(m)	>20	9	14	△ 50		
Titanium ppm ASTM D5185(m) 0 0 0 Silver ppm ASTM D5185(m) 0 0 <1	Chromium	ppm	ASTM D5185(m)	>20	0	0	0		
Silver ppm ASTM D5185(m) 0 0 <1	Nickel	ppm	ASTM D5185(m)	>20	<1	<1	<1		
Aluminum ppm ASTM D5185(m) >20 <1 2 2 Lead ppm ASTM D5185(m) >20 52 106 165 Copper ppm ASTM D5185(m) >20 2 2 3 Tin ppm ASTM D5185(m) >20 2 5 7 Antimony ppm ASTM D5185(m) 4 14 △ 24 Vanadium ppm ASTM D5185(m) 0 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 0 Cadmium ppm ASTM D5185(m) <1 <1 1 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185(m) <1 <1 4 Barium ppm ASTM D5185(m) 0 0 <1 Molybdenum ppm ASTM D5185(m) <1 0 <1 Magnesium ppm ASTM D5185(m) <1 1 2 Calcium	Titanium	ppm	ASTM D5185(m)		0	0	0		
Lead ppm ASTM D5185(m) >20 52 106 165 Copper ppm ASTM D5185(m) >20 2 2 3 Tin ppm ASTM D5185(m) >20 2 5 7 Antimony ppm ASTM D5185(m) 4 14 24 Vanadium ppm ASTM D5185(m) 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) <1 <1 1 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185(m) <1 <1 4 Barium ppm ASTM D5185(m) 0 0 <1 Molybdenum ppm ASTM D5185(m) <1 0 <1 Magnesium ppm ASTM D5185(m) <1 1 2 Calcium ppm ASTM D5185(m) 28	Silver	ppm	ASTM D5185(m)		0	0	<1		
Copper ppm ASTM D5185(m) >20 2 2 3 Tin ppm ASTM D5185(m) >20 2 5 7 Antimony ppm ASTM D5185(m) 4 14 24 Vanadium ppm ASTM D5185(m) 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) <1	Aluminum	ppm	ASTM D5185(m)	>20	<1	2	2		
Tin ppm ASTM D5185(m) >20 2 5 7 Antimony ppm ASTM D5185(m) 4 14 24 Vanadium ppm ASTM D5185(m) 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) <1	Lead	ppm	ASTM D5185(m)	>20	<u> </u>	1 06	165		
Antimony ppm ASTM D5185(m) 4 14 ≥24 Vanadium ppm ASTM D5185(m) 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 Cadmium ppm ASTM D5185(m) <1 <1 1 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185(m) <1 <1 4 Barium ppm ASTM D5185(m) 0 0 <1 Molybdenum ppm ASTM D5185(m) <1 0 <1 Magnesium ppm ASTM D5185(m) <1 1 2 Calcium ppm ASTM D5185(m) 28 25 38	Copper	ppm	ASTM D5185(m)	>20	2	2	3		
Vanadium ppm ASTM D5185(m) 0 0 0 0 Beryllium ppm ASTM D5185(m) 0 0 0 0 Cadmium ppm ASTM D5185(m) <1 <1 1 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185(m) <1 <1 4 Barium ppm ASTM D5185(m) 0 0 <1 Molybdenum ppm ASTM D5185(m) <1 0 <1 Magnesium ppm ASTM D5185(m) <1 1 2 Calcium ppm ASTM D5185(m) 28 25 38	Tin	ppm	ASTM D5185(m)	>20	2	5	7		
Beryllium ppm ASTM D5185(m) 0 0 0 0 Cadmium ppm ASTM D5185(m) <1	Antimony	ppm	ASTM D5185(m)		4	<u> </u>	<u> </u>		
Cadmium ppm ASTM D5185(m) <1	Vanadium	ppm	ASTM D5185(m)		0	0	0		
ADDITIVES method limit/base current history1 history3 Boron ppm ASTM D5185(m) <1 <1 4 Barium ppm ASTM D5185(m) 0 0 <1 Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) <1 0 <1 Magnesium ppm ASTM D5185(m) <1 1 2 Calcium ppm ASTM D5185(m) 28 25 38	Beryllium	ppm	ASTM D5185(m)		0	0	0		
Boron ppm ASTM D5185(m) <1	Cadmium	ppm	ASTM D5185(m)		<1	<1	1		
Barium ppm ASTM D5185(m) 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2		
Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) <1	Boron	ppm	ASTM D5185(m)		<1	<1	4		
Manganese ppm ASTM D5185(m) <1	Barium	ppm	ASTM D5185(m)		0	0	<1		
Magnesium ppm ASTM D5185(m) <1	Molybdenum	ppm	ASTM D5185(m)		0	0	0		
Calcium ppm ASTM D5185(m) 28 25 38	Manganese	ppm	ASTM D5185(m)		<1	0	<1		
	Magnesium	ppm	ASTM D5185(m)		<1	1	2		
Phosphorus ppm ASTM D5185(m) 440 365 336	Calcium	ppm	ASTM D5185(m)		28	25	38		
	Phosphorus	ppm	ASTM D5185(m)		440	365	336		
Zinc ppm ASTM D5185(m) 6 2 6	Zinc	ppm	ASTM D5185(m)		6	2	6		
Sulfur ppm ASTM D5185(m) 1621 1905 1942	Sulfur	ppm	ASTM D5185(m)		1621	1905	1942		
Lithium ppm ASTM D5185(m) <1	Lithium	ppm	ASTM D5185(m)		<1	<1	<1		
CONTAMINANTS method limit/base current history1 history1	CONTAMINANTS		method	limit/base	current	history1	history2		
Silicon ppm ASTM D5185(m) >15 19 20 14	Silicon	ppm	ASTM D5185(m)	>15	19	20	14		
Sodium ppm ASTM D5185(m) 0 0 1	Sodium	ppm	ASTM D5185(m)		0	0	1		
Potassium ppm ASTM D5185(m) >20 <1	Potassium	ppm	ASTM D5185(m)	>20	<1	3	26		
FLUID DEGRADATION method limit/base current history1 history1	1 Otassiaiii								
Acid Number (AN) mg KOH/g ASTM D974* 0.74 0.51 0.50		TION	method	limit/base	current	history1	history2		



OIL ANALYSIS REPORT





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number **Unique Number**

: WC0750568 : 02575501

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received

: 11 Aug 2023 Diagnosed Diagnostician

: 12 Aug 2023 : Kevin Marson

: 5620552 Test Package : IND 2 (Additional Tests: TAN Man)

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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