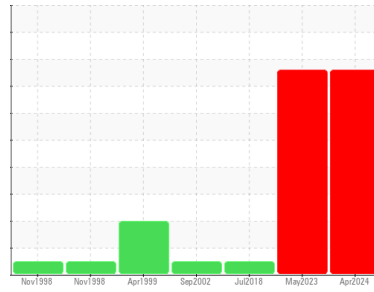




PROBLEM SUMMARY

Area
1 [2534809]
 Machine Id
01-0110-000-000 **TRANSFER CONV N°2 (1M21)**
 Component
1 Gearbox
 Fluid
MOBIL MOBILGEAR SHC 220 (2 GAL)

Sample Rating Trend

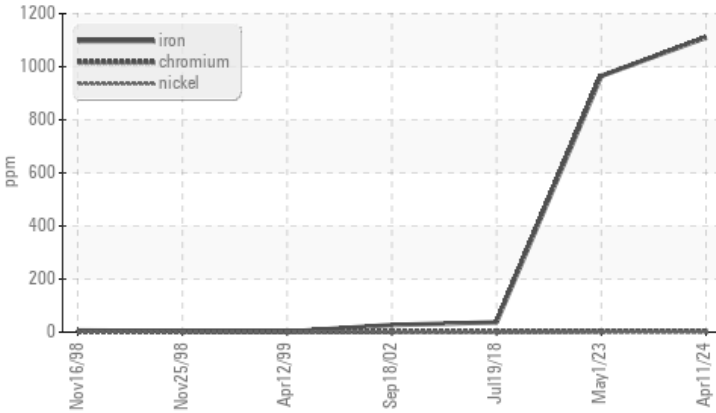


WEAR

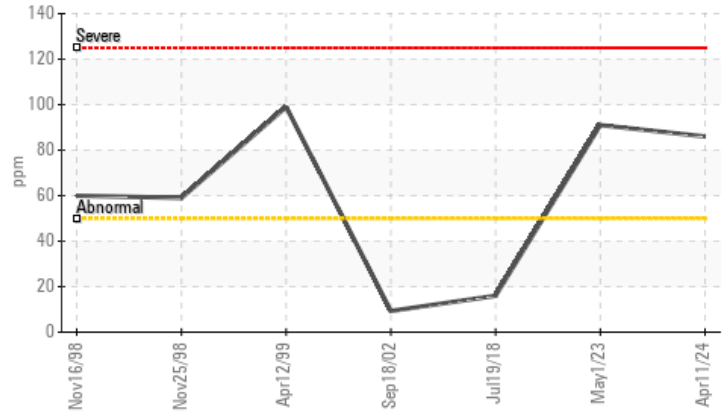


COMPONENT CONDITION SUMMARY

▲ Ferrous Alloys



▲ Silicon (ppm)



RECOMMENDATION

We advise that you check all areas where dirt 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. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

| Sample Status | | | SEVERE | SEVERE | NORMAL |
|---------------|-----|--------------------|--------|--------|--------|
| Iron | ppm | ASTM D5185(m) >200 | ▲ 1110 | ▲ 965 | 37 |
| Silicon | ppm | ASTM D5185(m) >50 | ▲ 86 | ▲ 91 | 16 |

Customer Id: MACPEM
 Sample No.: WC0857993
 Lab Number: 02629011
 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 Filter | --- | --- | ? | We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Check Breathers | --- | --- | ? | The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. |
| Check Dirt Access | --- | --- | ? | We advise that you check all areas where dirt can enter the system. |
| Filter Fluid | --- | --- | ? | We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. |

HISTORICAL DIAGNOSIS

WEAR



01 May 2023 Diag: Kevin Marson

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend an early resample to monitor this condition. Iron ppm levels are severe. Gear wear is indicated. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is a moderate concentration of dirt present 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.

[view report](#)



NORMAL



19 Jul 2018 Diag: Wes Davis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

[view report](#)



NORMAL



18 Sep 2002 Diag:

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the component. The condition of oil is suitable for further service.

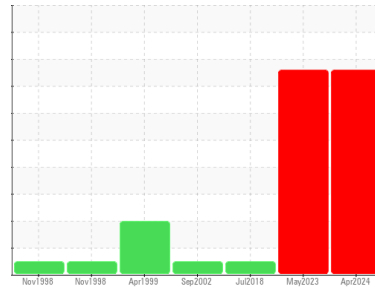
[view report](#)





OIL ANALYSIS REPORT

Sample Rating Trend



Area
1 [2534809]
 Machine Id
01-0110-000-000
 Component
1 Gearbox
 Fluid
MOBIL MOBILGEAR SHC 220 (2 GAL)

TRANSFER CONV N°2 (1M21)

DIAGNOSIS

▲ Recommendation

We advise that you check all areas where dirt 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. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend an early resample to monitor this condition.

▲ Wear

Iron ppm levels are severe. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion.

▲ Contamination

There is a moderate concentration of dirt present in the oil. High amount of ingressed dirt has caused abrasive wear to the component.

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 INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0857993 | WC0754110 | WC980908 |
| Sample Date | Client Info | | 11 Apr 2024 | 01 May 2023 | 19 Jul 2018 |
| Machine Age | yrs | Client Info | 0 | 0 | 0 |
| Oil Age | yrs | Client Info | 0 | 2 | 0 |
| Oil Changed | Client Info | | N/A | N/A | N/A |
| Sample Status | | | SEVERE | SEVERE | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.2 | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|-----------|-------------|--------------------|---------------|----------|----------|
| PQ | ASTM D8184* | | 1 | 3 | 28 |
| Iron | ppm | ASTM D5185(m) >200 | ▲ 1110 | ▲ 965 | 37 |
| Chromium | ppm | ASTM D5185(m) >15 | 3 | 3 | 1 |
| Nickel | ppm | ASTM D5185(m) >15 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185(m) >25 | <1 | 1 | 2 |
| Lead | ppm | ASTM D5185(m) >100 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185(m) >200 | <1 | 0 | <1 |
| Tin | ppm | ASTM D5185(m) >25 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) >5 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|---------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) | 20 | 20 | 24 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185(m) | 0 | 0 | <1 |
| Manganese | ppm | ASTM D5185(m) | 12 | 11 | <1 |
| Magnesium | ppm | ASTM D5185(m) | <1 | <1 | <1 |
| Calcium | ppm | ASTM D5185(m) | 33 | 37 | 28 |
| Phosphorus | ppm | ASTM D5185(m) | 323 | 384 | 241 |
| Zinc | ppm | ASTM D5185(m) | 4 | 4 | 11 |
| Sulfur | ppm | ASTM D5185(m) | 4278 | 4756 | 8610 |
| Lithium | ppm | ASTM D5185(m) | <1 | <1 | 4 |

CONTAMINANTS

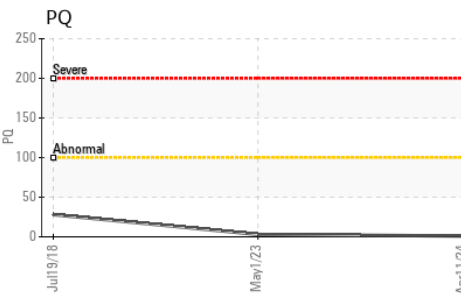
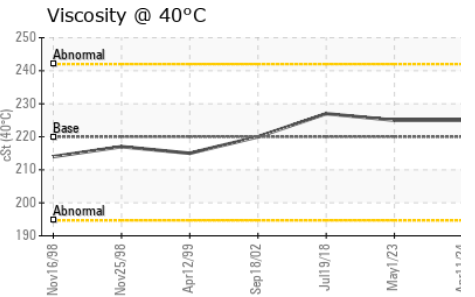
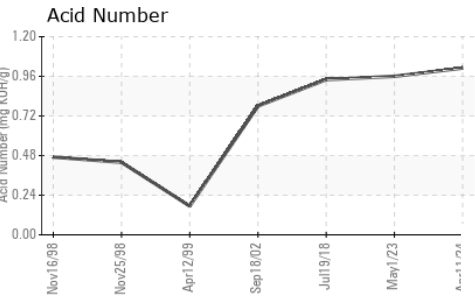
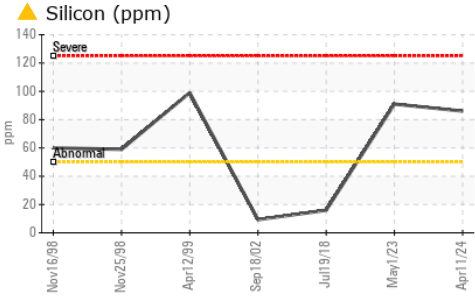
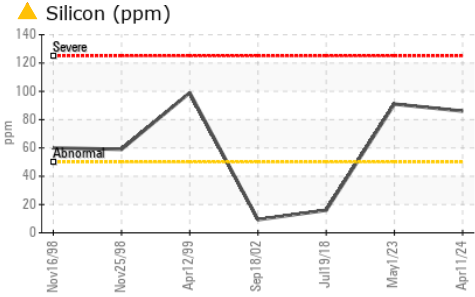
| | method | limit/base | current | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185(m) >50 | ▲ 86 | ▲ 91 | 16 |
| Sodium | ppm | ASTM D5185(m) | <1 | <1 | <1 |
| Potassium | ppm | ASTM D5185(m) >20 | <1 | 1 | 2 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 1.01 | 0.96 | 0.94 |



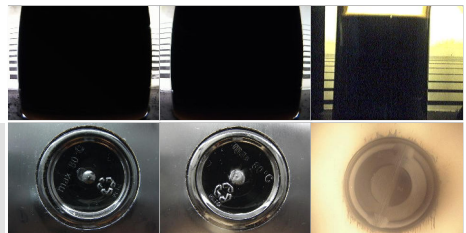
OIL ANALYSIS REPORT



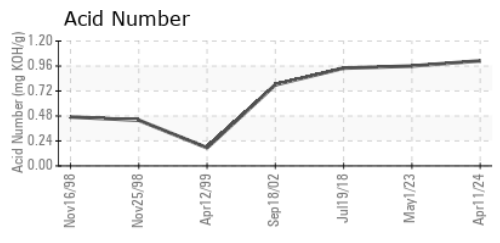
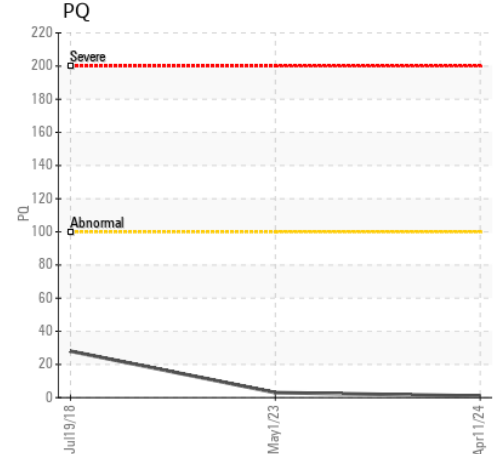
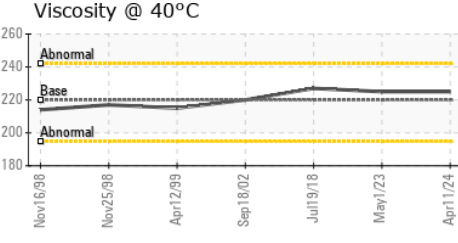
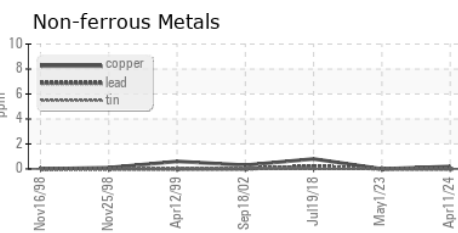
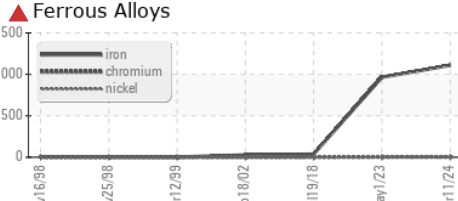
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | NONE | NONE |
| Silt | scalar | Visual* | NONE | NONE | NONE |
| Debris | scalar | Visual* | NONE | NONE | VLITE |
| Sand/Dirt | scalar | Visual* | NONE | VLITE | NONE |
| Appearance | scalar | Visual* | NORML | NORML | NORML |
| Odor | scalar | Visual* | NORML | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG |
| Free Water | scalar | Visual* | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 220 | 225 | 227 |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
| Color | | | | | |
| Bottom | | | | | |



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0857993 **Received** : 15 Apr 2024
Lab Number : 02629011 **Tested** : 16 Apr 2024
Unique Number : 5762143 **Diagnosed** : 17 Apr 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: TAN Man)

Roseburg Pembroke MDF Inc.
 777 Fibreboard Drive
 Pembroke, ON
 CA K8A 6W5
 Contact: Dan Havis
 danielh@rfpco.com
 T: (613)732-3939
 F: (613)732-2869

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.