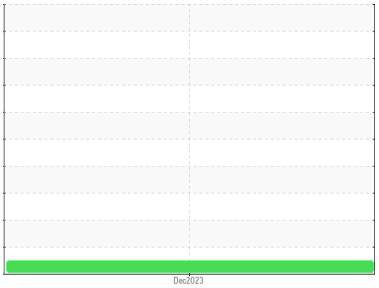
# GREASE ANALYSIS

Sample Rating Trend




NORMAL

Machine Id
## ID FAN #4 DRIVE END BEARING
Component
**Drive End Grease**
Fluid
**MOBIL MOBILITH SHC SERIES 100 (--- GAL)**

## DIAGNOSIS

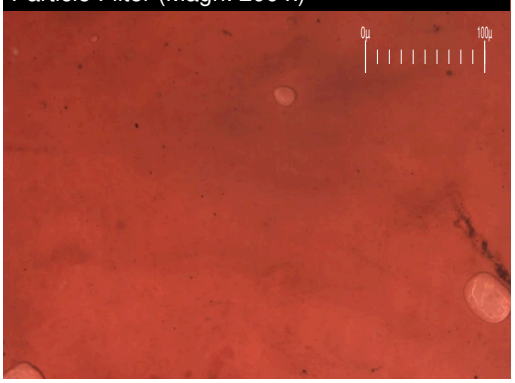
**Recommendation**
Resample at the next service interval to monitor.

**Wear**
All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

**Grease Condition**
Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present in the oil. There was only a minor decrease in the oil bleed of the grease. The condition of the grease is acceptable for the time in service.

**Contaminants**
There is no indication of any contamination in the grease.

Particle Filter (Magn: 200 x)




| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0896568** | --- | --- |
| Sample Date | | Client Info | | **14 Dec 2023** | --- | --- |
| Machine Age | hrs | Client Info | | **0** | --- | --- |
| Grease Age | hrs | Client Info | | **0** | --- | --- |
| Grease Serviced | | Client Info | | **N/A** | --- | --- |
| Sample Status | | | | **NORMAL** | --- | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184* | >200 | **160** | --- | --- |
| Iron | ppm | ASTM D5185(m) | >250 | **116** | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >10 | **<1** | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >5 | **<1** | --- | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Titanium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Lead | ppm | ASTM D5185(m) | >25 | **0** | --- | --- |
| Copper | ppm | ASTM D5185(m) | >75 | **<1** | --- | --- |
| Tin | ppm | ASTM D5185(m) | >5 | **0** | --- | --- |
| Silver | ppm | ASTM D5185(m) | >5 | **0** | --- | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Manganese | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | 200 | **190** | --- | --- |
| Zinc | ppm | ASTM D5185(m) | 250 | **272** | --- | --- |
| Antimony | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |

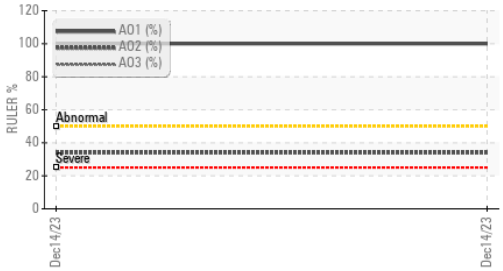
| THICKENER/SOAP | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Aluminum | ppm | ASTM D5185(m) | 0 | **<1** | --- | --- |
| Barium | ppm | ASTM D5185(m) | 0 | **0** | --- | --- |
| Calcium | ppm | ASTM D5185(m) | 0 | **4** | --- | --- |
| Sodium | ppm | ASTM D5185(m) | 2 | **2** | --- | --- |
| Lithium | ppm | ASTM D5185(m) | 400 | **473** | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | 750 | **777** | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >150 | **1** | --- | --- |
| Potassium | ppm | ASTM D5185(m) | | **<1** | --- | --- |
| Water | % | ASTM D6304* | >0.1 | **0.045** | --- | --- |
| ppm Water | ppm | ASTM D6304* | >1000 | **453** | --- | --- |

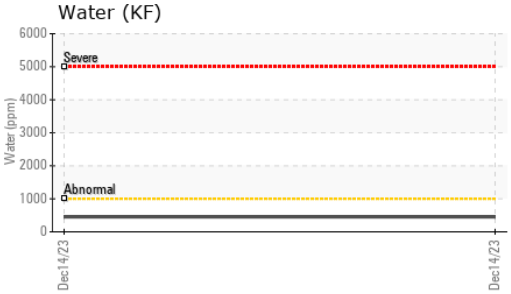
| GREASE CONDITION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Grease Color | | Visual* | red | **Red** | --- | --- |
| Texture | | In-house* | | **Short fiber** | --- | --- |
| NLGI Consistency | NLGI Scale | SKF Method* | 2 | **2** | --- | --- |
| Oil Separation (Bleed) | % | SKF Method* | >+/-25% | **-8.8** | --- | --- |
| Anti-Oxidant 1 | % | ASTM D6971* | <25% | **100** | --- | --- |
| Anti-Oxidant 2 | % | ASTM D6971* | <25% | **34** | --- | --- |

# GREASE ANALYSIS

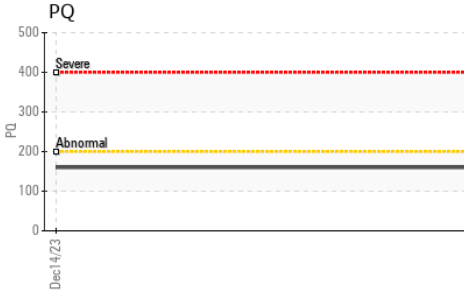
Remaining Life (RULER)

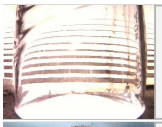
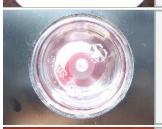
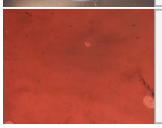



Water (KF)



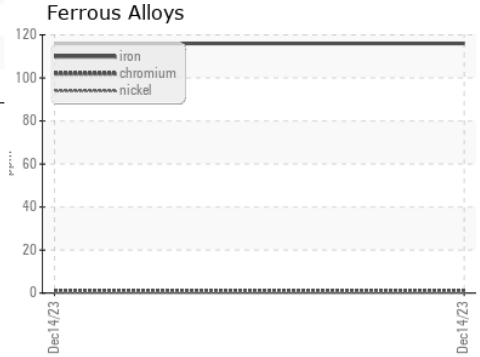

PQ



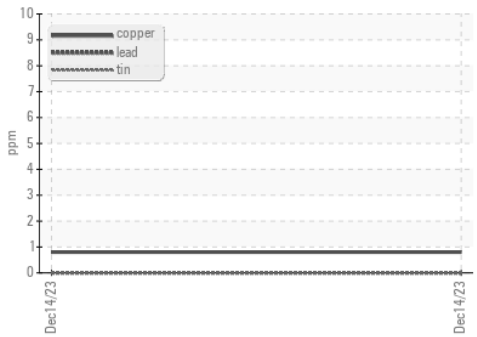

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | no image | no image |
| Bottom | | |  | no image | no image |
| PrtFilter | | |  | no image | no image |

## GRAPHS

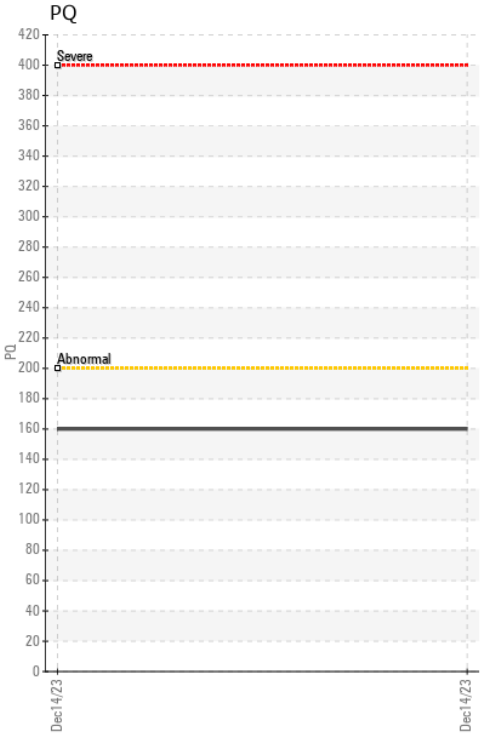
Ferrous Alloys



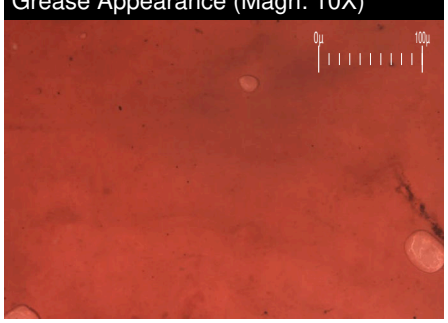

Non-ferrous Metals



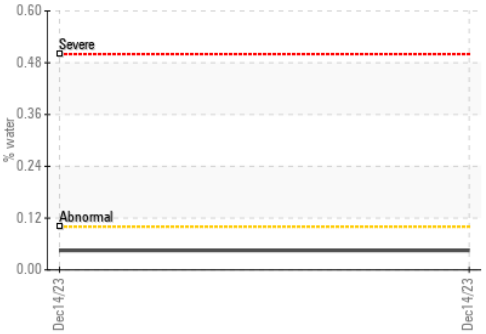

PQ




Grease Appearance (Magn: 10X)




Water





ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **DUFFIN CREEK (YORK-DURHAM) WPCP**
**Sample No.** : WC0896568 **Recieved** : 05 Jan 2024 901 MCKAY ROAD
**Lab Number** : 02606865 **Diagnosed** : 17 Jan 2024 PICKERING, ON
**Unique Number** : 5707951 **Diagnostician** : Bill Quesnel CA L1W 3A3
**Test Package** : GRS 3 ( Additional Tests: BottomAnalysis, PrtCount, PrtFilter ) Contact: Al Roffey


*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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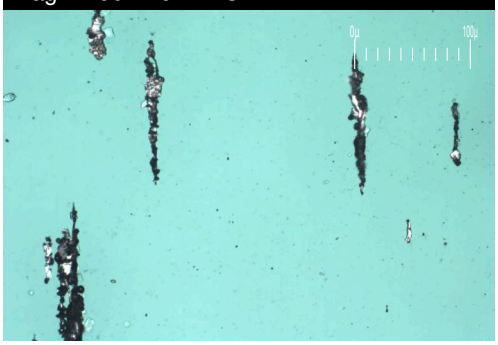
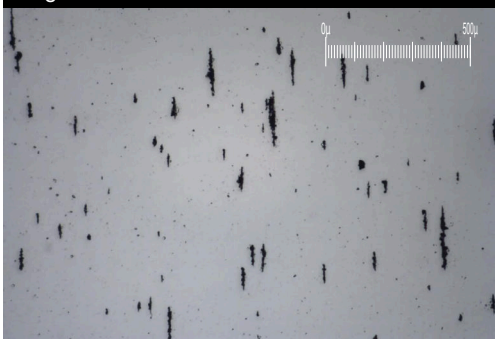
# FERROGRAPHY REPORT

Machine Id
## ID FAN #4 DRIVE END BEARING
Component
**Drive End Grease**
Fluid
**MOBIL MOBILITH SHC SERIES 100 (--- GAL)**

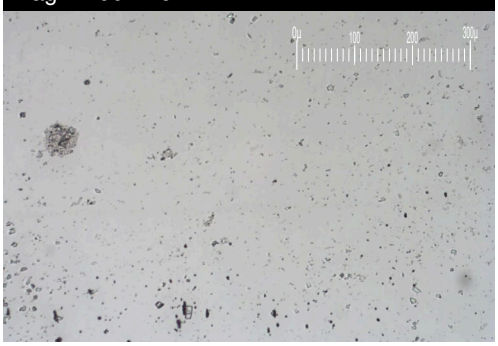
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW



| FERROGRAPHY | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Ferrous Rubbing | Scale 0-10 | ASTM D7684* | | 2 | | |
| Ferrous Sliding | Scale 0-10 | ASTM D7684* | | 1 | | |
| Ferrous Cutting | Scale 0-10 | ASTM D7684* | | | | |
| Ferrous Rolling | Scale 0-10 | ASTM D7684* | | 1 | | |
| Ferrous Break-in | Scale 0-10 | ASTM D7684* | | | | |
| Ferrous Spheres | Scale 0-10 | ASTM D7684* | | | | |
| Ferrous Black Oxides | Scale 0-10 | ASTM D7684* | | 2 | | |
| Ferrous Red Oxides | Scale 0-10 | ASTM D7684* | | | | |
| Ferrous Corrosive | Scale 0-10 | ASTM D7684* | | | | |
| Ferrous Other | Scale 0-10 | ASTM D7684* | | | | |
| Nonferrous Rubbing | Scale 0-10 | ASTM D7684* | | | | |
| Nonferrous Sliding | Scale 0-10 | ASTM D7684* | | | | |
| Nonferrous Cutting | Scale 0-10 | ASTM D7684* | | | | |
| Nonferrous Rolling | Scale 0-10 | ASTM D7684* | | | | |
| Nonferrous Other | Scale 0-10 | ASTM D7684* | | | | |
| Carbonaceous Material | Scale 0-10 | ASTM D7684* | | | | |
| Lubricant Degradation | Scale 0-10 | ASTM D7684* | | | | |
| Sand/Dirt | Scale 0-10 | ASTM D7684* | | 3 | | |
| Fibres | Scale 0-10 | ASTM D7684* | | | | |
| Spheres | Scale 0-10 | ASTM D7684* | | | | |
| Other | Scale 0-10 | ASTM D7684* | | | | |

### WEAR

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

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