MOB III

WEAR CHECK

# OIL ANALYSIS REPORT

| | |
|---|---|
| WEAR | NORMAL |
| CONTAMINANTS | NORMAL |
| OIL CONDITION | NORMAL |

Area
**[26673]**
Machine Id
**MCI B1906**
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 10W30 (40 LTR)**

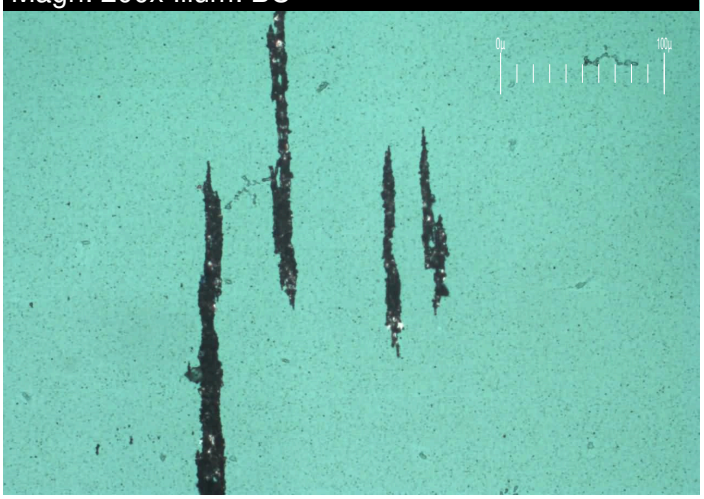
## RECOMMENDATION

Resample at the next service interval to monitor.

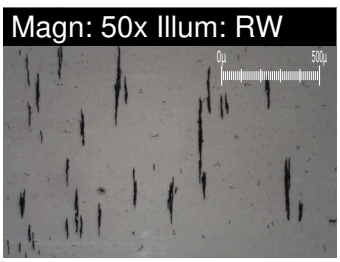
## WEAR

Metal levels are typical for a new component breaking in. The ferrography results are normal indicating no abnormal wear in the system.

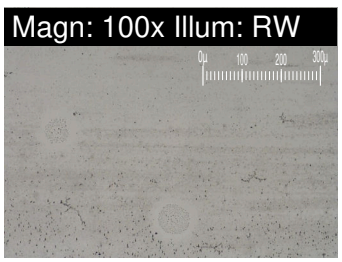
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW



| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | WC0907683 | AP99998 | --- |
| Sample Date | | Client Info | | 18 Mar 2024 | 14 Jan 2019 | --- |
| Machine Age | kms | Client Info | | 629073 | 25274 | --- |
| Oil Age | kms | Client Info | | 0 | 0 | --- |
| Filter Age | kms | Client Info | | 0 | 0 | --- |
| Oil Changed | | Client Info | | Changed | Changed | --- |
| Filter Changed | | Client Info | | Changed | Changed | --- |
| Sample Status | | | | NORMAL | NORMAL | --- |
| PQ | | ASTM D8184* | | 0 | --- | --- |
| Iron | ppm | ASTM D5185(m) | >100 | 16 | 25 | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | <1 | 1 | --- |
| Nickel | ppm | ASTM D5185(m) | >4 | 0 | <1 | --- |
| Titanium | ppm | ASTM D5185(m) | | <1 | <1 | --- |
| Silver | ppm | ASTM D5185(m) | >3 | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | 3 | 2 | --- |
| Lead | ppm | ASTM D5185(m) | >40 | 13 | 2 | --- |
| Copper | ppm | ASTM D5185(m) | >330 | <1 | 23 | --- |
| Tin | ppm | ASTM D5185(m) | >15 | 0 | <1 | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Large Particles | | DR-Ferr* | | 23.8 | --- | --- |
| Small Particles | | DR-Ferr* | | 10.6 | --- | --- |
| Total Particles | | DR-Ferr* | >--- | 34.4 | --- | --- |
| Large Particles Percentage | % | DR-Ferr* | | 38.4 | --- | --- |
| Severity Index | | DR-Ferr* | | 314 | --- | --- |
| Ferrous Rubbing | Scale 0-10 | ASTM D7684* | | 3 | | |
| Ferrous Sliding | Scale 0-10 | ASTM D7684* | | | | |
| 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* | | 1 | | |
| 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* | | | | |

## CONTAMINANTS

There is no indication of any contamination in the oil.

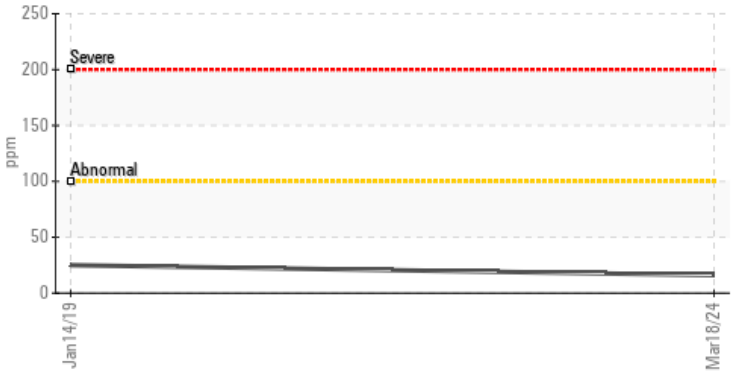
| | | | | | | |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >25 | **8** | 80 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **1** | 4 | --- |
| Fuel | | WC Method | >5 | **<1.0** | 0.2 | --- |
| Water | | WC Method | >0.2 | **NEG** | NEG | --- |
| Glycol | | WC Method | | **NEG** | NEG | --- |
| Soot % | % | ASTM D7844* | >3 | **0.1** | 0 | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | **10.9** | 9.6 | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **23.6** | 23.2 | --- |
| Silt | scalar | Visual* | NONE | **NONE** | --- | --- |
| Debris | scalar | Visual* | NONE | **VLITE** | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | **NONE** | --- | --- |
| Appearance | scalar | Visual* | NORML | **NORML** | --- | --- |
| Odor | scalar | Visual* | NORML | **NORML** | --- | --- |
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | --- |
| Carbonaceous Material | Scale 0-10 | ASTM D7684* | | | | |
| Sand/Dirt | Scale 0-10 | ASTM D7684* | | **1** | | |
| Fibres | Scale 0-10 | ASTM D7684* | | | | |
| Spheres | Scale 0-10 | ASTM D7684* | | | | |
| Other | Scale 0-10 | ASTM D7684* | | **2** | | |

## OIL CONDITION

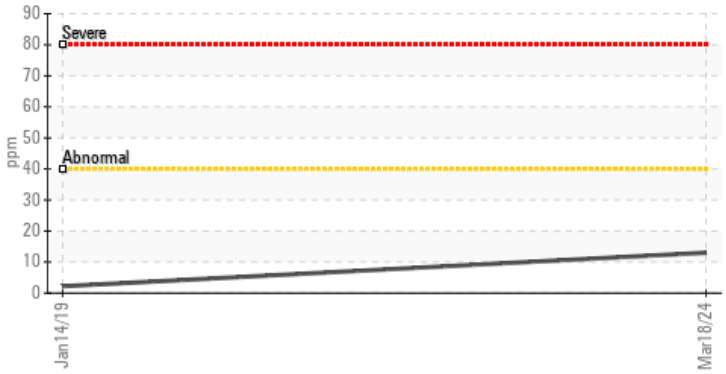
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|---|---|---|---|---|---|---|
| Sodium | ppm | ASTM D5185(m) | | **3** | 8 | --- |
| Boron | ppm | ASTM D5185(m) | 250 | **31** | 32 | --- |
| Barium | ppm | ASTM D5185(m) | 10 | **0** | 4 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 100 | **81** | 42 | --- |
| Manganese | ppm | ASTM D5185(m) | | **0** | 3 | --- |
| Magnesium | ppm | ASTM D5185(m) | 450 | **91** | 504 | --- |
| Calcium | ppm | ASTM D5185(m) | 3000 | **2313** | 1708 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 1150 | **1035** | 785 | --- |
| Zinc | ppm | ASTM D5185(m) | 1350 | **1199** | 956 | --- |
| Sulfur | ppm | ASTM D5185(m) | 4250 | **3049** | 2114 | --- |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **19.6** | 21.7 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896* | 8.5 | **6.41** | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 10.9 | **11.1** | 11.7 | --- |
| Lubricant Degradation | Scale 0-10 | ASTM D7684* | | | | |

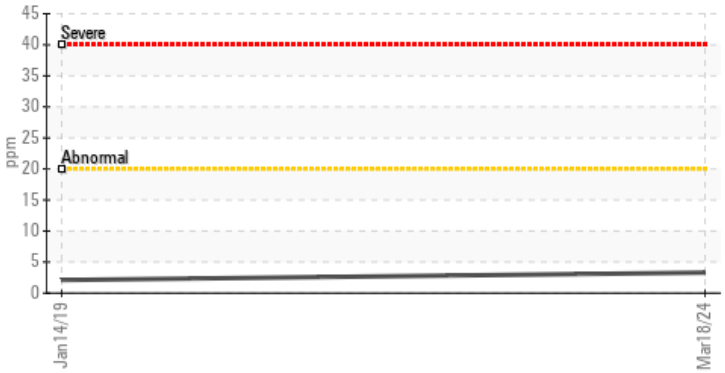
## Iron (ppm)



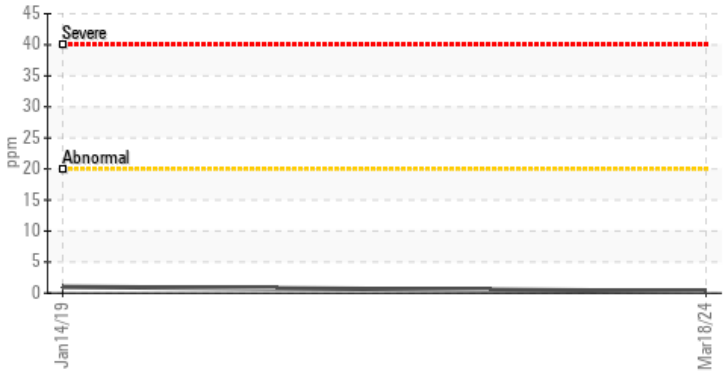

## Lead (ppm)



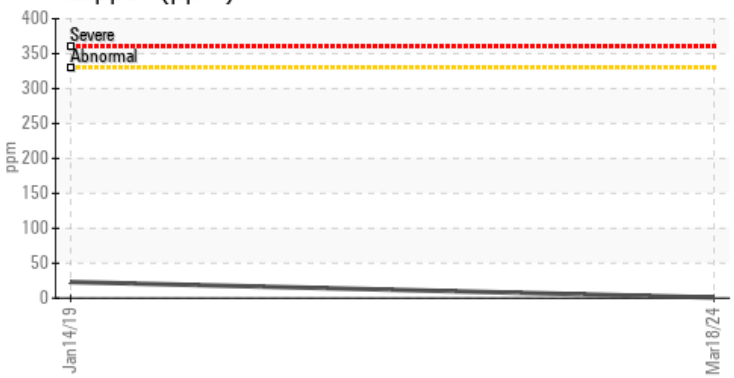

## Aluminum (ppm)



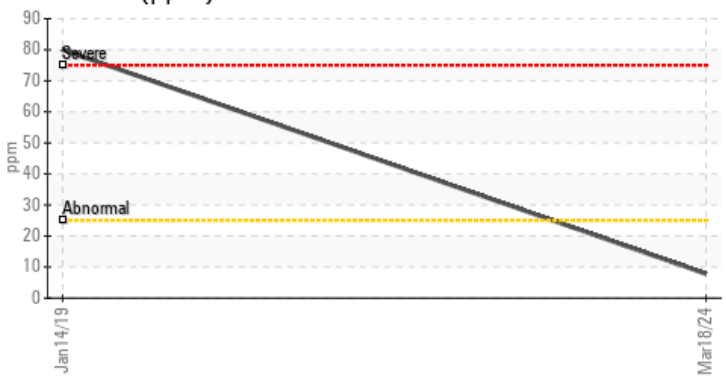

## Chromium (ppm)



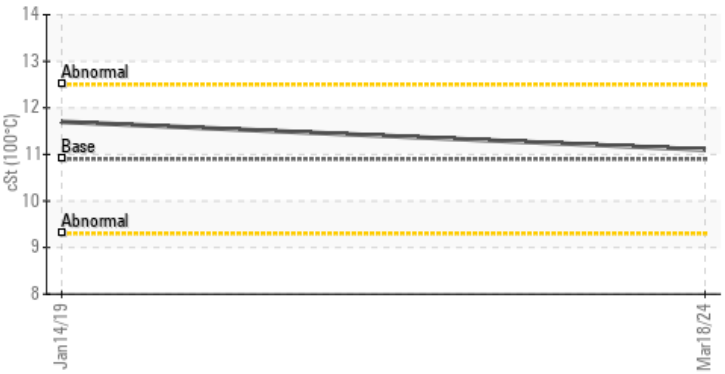

## Copper (ppm)



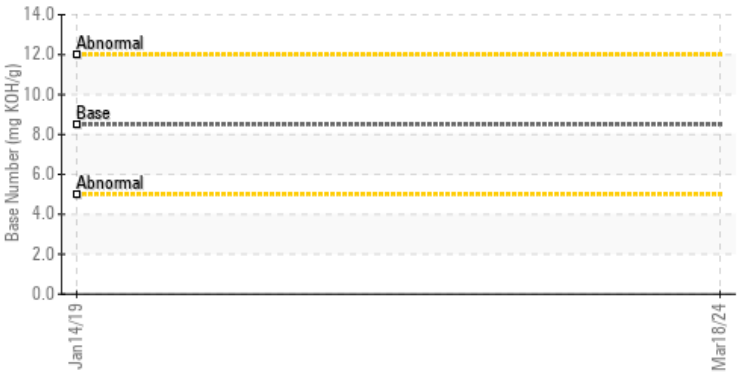

## Silicon (ppm)




## Viscosity @ 100°C




## Base Number




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0907683
**Lab Number** : 02626374
**Unique Number** : 5759506
**Test Package** : MOB 3

**Received** : 03 Apr 2024
**Tested** : 05 Apr 2024
**Diagnosed** : 05 Apr 2024 - Kevin Marson

*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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