MOB I LUBE 360 OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

| | |
|---|---|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
**3723091**
Component
**Diesel Engine**
Fluid
**SHELL ROTELLA T 10W30 (--- GAL)**

## RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill.
Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

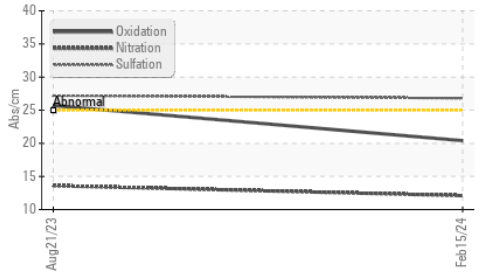
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

## FLUID CONDITION

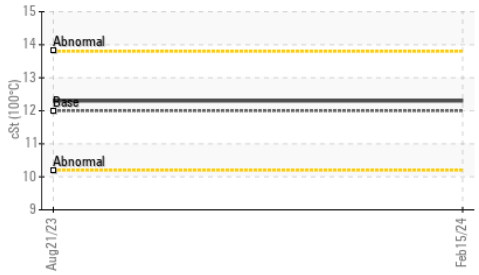
Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PC0083971** | PC0071804 | --- |
| Sample Date | | Client Info | | **15 Feb 2024** | 21 Aug 2023 | --- |
| Machine Age | mls | Client Info | | **161427** | 110075 | --- |
| Oil Age | mls | Client Info | | **51000** | 58000 | --- |
| Filter Age | mls | Client Info | | **51000** | 58000 | --- |
| Oil Changed | | Client Info | | **Changed** | Changed | --- |
| Filter Changed | | Client Info | | **Changed** | Changed | --- |
| Sample Status | | | | **NORMAL** | NORMAL | --- |
| Iron | ppm | ASTM D5185(m) | >200 | **55** | 74 | --- |
| Chromium | ppm | ASTM D5185(m) | >6 | **2** | 3 | --- |
| Nickel | ppm | ASTM D5185(m) | >3 | **0** | <1 | --- |
| Titanium | ppm | ASTM D5185(m) | >2 | **0** | 0 | --- |
| Silver | ppm | ASTM D5185(m) | >2 | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >50 | **19** | 45 | --- |
| Lead | ppm | ASTM D5185(m) | >10 | **1** | 4 | --- |
| Copper | ppm | ASTM D5185(m) | >50 | **73** | 154 | --- |
| Tin | ppm | ASTM D5185(m) | >6 | **<1** | 2 | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| White Metal | scalar | Visual* | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | --- | --- |
| Silicon | ppm | ASTM D5185(m) | >50 | **7** | 8 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **44** | 89 | --- |
| Fuel | | WC Method | >3.0 | **<1.0** | <1.0 | --- |
| Water | | WC Method | >0.2 | **NEG** | NEG | --- |
| Glycol | | WC Method | | **NEG** | NEG | --- |
| Soot % | % | ASTM D7844* | >3 | **1.4** | 1.4 | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | **12.1** | 13.6 | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | **26.8** | 27.2 | --- |
| Silt | scalar | Visual* | NONE | **NONE** | --- | --- |
| Debris | scalar | Visual* | NONE | **NONE** | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | **NONE** | --- | --- |
| Appearance | scalar | Visual* | NORML | **NORML** | --- | --- |
| Odor | scalar | Visual* | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | Visual* | >0.2 | **NEG** | NEG | --- |
| Sodium | ppm | ASTM D5185(m) | | **3** | 4 | --- |
| Boron | ppm | ASTM D5185(m) | | **9** | 16 | --- |
| Barium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Molybdenum | ppm | ASTM D5185(m) | | **19** | 55 | --- |
| Manganese | ppm | ASTM D5185(m) | | **1** | 2 | --- |
| Magnesium | ppm | ASTM D5185(m) | | **166** | 469 | --- |
| Calcium | ppm | ASTM D5185(m) | | **2262** | 1873 | --- |
| Phosphorus | ppm | ASTM D5185(m) | | **902** | 943 | --- |
| Zinc | ppm | ASTM D5185(m) | | **1119** | 1155 | --- |
| Sulfur | ppm | ASTM D5185(m) | | **2339** | 1996 | --- |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | **20.4** | 25.7 | --- |
| Visc @ 40°C | cSt | ASTM D7279(m) | 81 | **86.8** | 85.5 | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 12. | **12.3** | 12.3 | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 141 | **136** | 139 | --- |

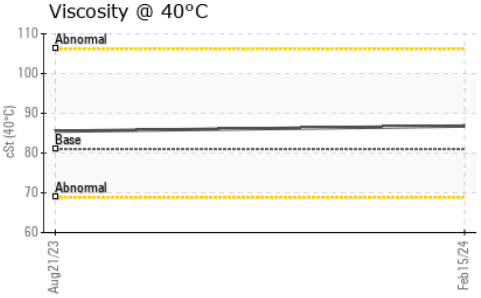
FT-IR (Direct Trend)



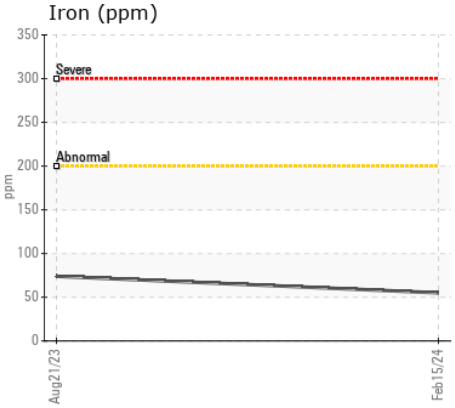

Viscosity @ 100°C



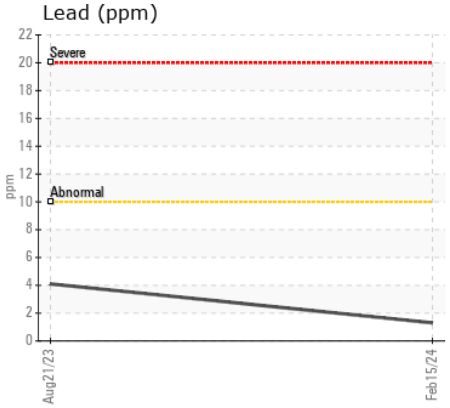

Viscosity @ 40°C



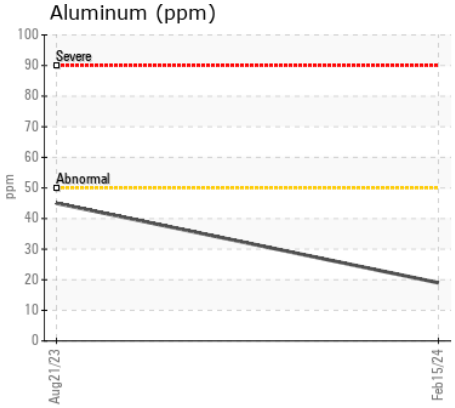

Iron (ppm)



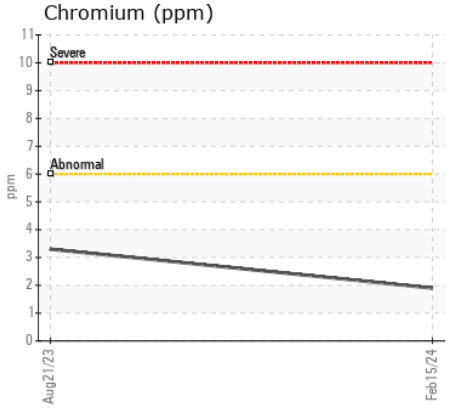

Lead (ppm)



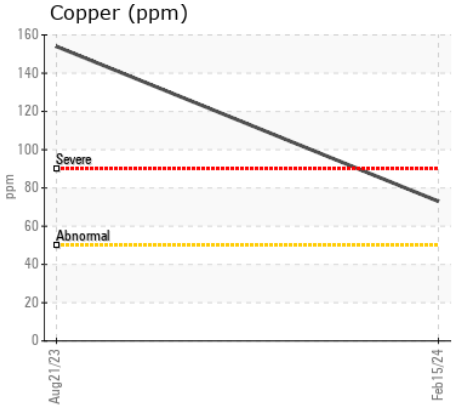

Aluminum (ppm)



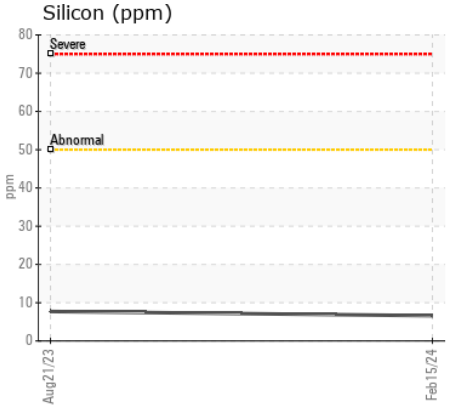

Chromium (ppm)



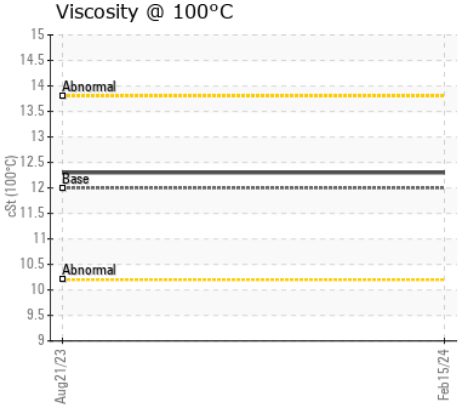

Copper (ppm)



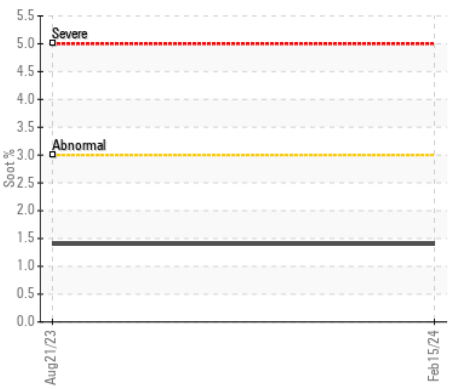

Silicon (ppm)




Viscosity @ 100°C




Soot %




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : PC0083971 **Received** : 03 Jun 2024
**Lab Number** : 02639363 **Tested** : 03 Jun 2024
**Unique Number** : 5788525 **Diagnosed** : 03 Jun 2024 - Kevin Marson
**Test Package** : MOB 1 ( Additional Tests: KV40, VI, Visual )

*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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