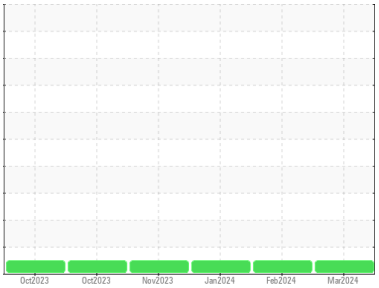
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**1706**
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## DIAGNOSIS

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

**Wear**
All component wear rates are normal.

**Contamination**
There is no indication of any contamination in the oil.

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

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0894058** | WC0893995 | WC0868185 |
| Sample Date | | Client Info | | **05 Mar 2024** | 05 Feb 2024 | 05 Jan 2024 |
| Machine Age | mls | Client Info | | **0** | 0 | 0 |
| Oil Age | mls | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >100 | **10** | 8 | 14 |
| Chromium | ppm | ASTM D5185m | >20 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **<1** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **3** | 3 | 3 |
| Lead | ppm | ASTM D5185m | >40 | **0** | <1 | <1 |
| Copper | ppm | ASTM D5185m | >330 | **21** | 32 | 47 |
| Tin | ppm | ASTM D5185m | >15 | **<1** | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

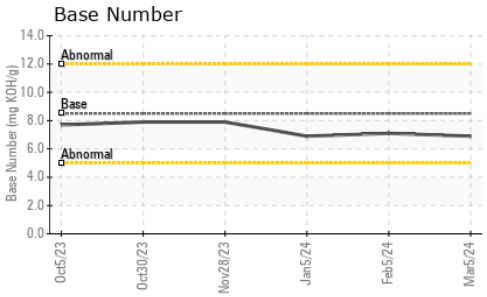
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 250 | **1** | <1 | 2 |
| Barium | ppm | ASTM D5185m | 10 | **2** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | **58** | 55 | 61 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | **889** | 991 | 1058 |
| Calcium | ppm | ASTM D5185m | 3000 | **1072** | 1053 | 1159 |
| Phosphorus | ppm | ASTM D5185m | 1150 | **997** | 998 | 1050 |
| Zinc | ppm | ASTM D5185m | 1350 | **1178** | 1240 | 1394 |
| Sulfur | ppm | ASTM D5185m | 4250 | **3106** | 2792 | 3272 |

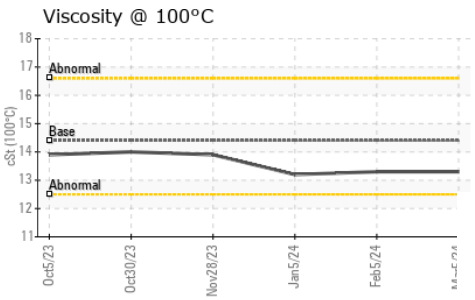
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **4** | 6 | 5 |
| Sodium | ppm | ASTM D5185m | >158 | **<1** | 2 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **4** | <1 | 3 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.2** | 0.2 | 0.2 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **7.8** | 7.6 | 7.8 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **22.9** | 22.5 | 22.3 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **23.7** | 22.9 | 22.4 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | **6.9** | 7.1 | 6.9 |

# OIL ANALYSIS REPORT

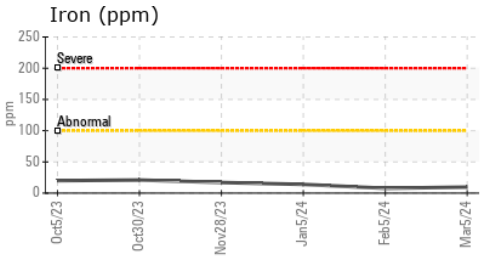


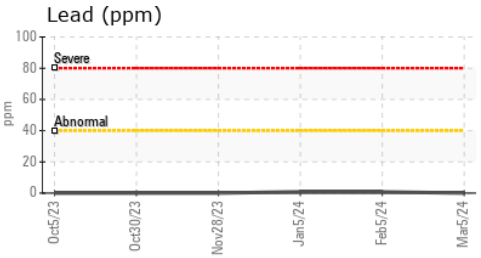



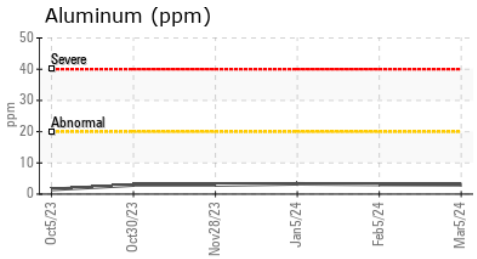

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

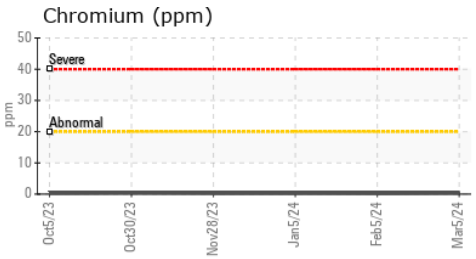
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | **13.3** | 13.3 | 13.2 |

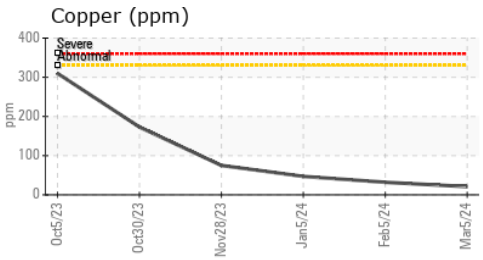
## GRAPHS

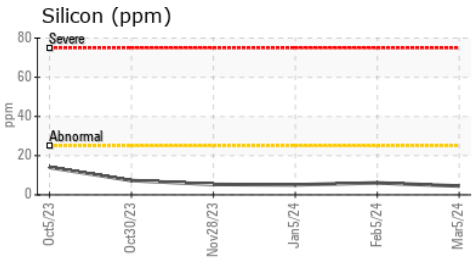


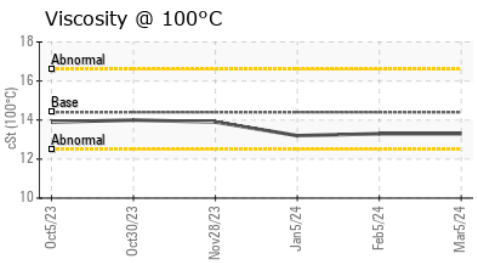



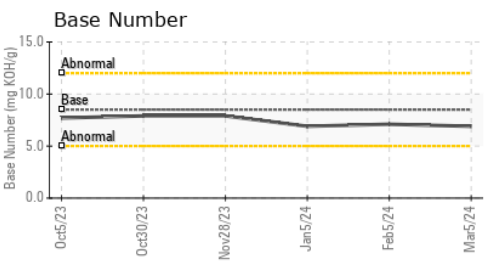




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0894058
**Lab Number** : 06124578
**Unique Number** : 10938729
**Test Package** : MOB 1 ( Additional Tests: TBN )

**Received** : 21 Mar 2024
**Tested** : 21 Mar 2024
**Diagnosed** : 21 Mar 2024 - Wes Davis

*To discuss this sample report, contact Customer Service at 1-800-237-1369.*
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
*Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)*

**GO DURHAM - RAPT**
1903 FAYETTEVILLE ST
DURHAM, NC
US 27701
Contact: Robert Iosiniecki
Robert.Iosiniecki@ratpdev.com
T:
F: