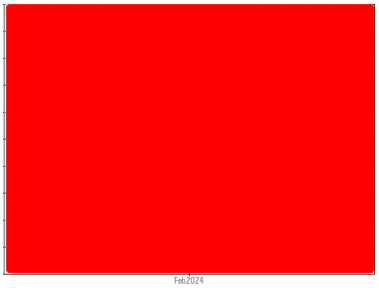
# OIL ANALYSIS REPORT

Sample Rating Trend




**WEAR**

Machine Id
## FORD 27202-01O
Component
**Gasoline Engine**
Fluid
**{not provided} (--- GAL)**

## DIAGNOSIS

**Recommendation**
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We advise that you inspect for the source(s) of wear.

**Wear**
Cylinder, crank, or cam shaft wear is indicated. Bearing and/or bushing wear is indicated.

**Contamination**
Sodium and/or potassium levels are high. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Test for glycol is negative.

**Fluid Condition**
The AN level is acceptable for this fluid.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WCM2308239** | --- | --- |
| Sample Date | | Client Info | | **21 Feb 2024** | --- | --- |
| Machine Age | mls | Client Info | | **0** | --- | --- |
| Oil Age | mls | Client Info | | **0** | --- | --- |
| Oil Changed | | Client Info | | **N/A** | --- | --- |
| Sample Status | | | | **SEVERE** | --- | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >4.0 | **<1.0** | --- | --- |
| Water | | WC Method | >0.2 | **NEG** | --- | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >150 | ▲ **220** | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | **2** | --- | --- |
| Nickel | ppm | ASTM D5185m | >5 | ▲ **5** | --- | --- |
| Titanium | ppm | ASTM D5185m | | **1** | --- | --- |
| Silver | ppm | ASTM D5185m | >2 | **<1** | --- | --- |
| Aluminum | ppm | ASTM D5185m | >40 | ▲ **100** | --- | --- |
| Lead | ppm | ASTM D5185m | >50 | ⬢ **264** | --- | --- |
| Copper | ppm | ASTM D5185m | >155 | ▲ **200** | --- | --- |
| Tin | ppm | ASTM D5185m | >10 | ▲ **19** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **<1** | --- | --- |
| Cadmium | ppm | ASTM D5185m | | **<1** | --- | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **42** | --- | --- |
| Barium | ppm | ASTM D5185m | | **7** | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | **54** | --- | --- |
| Manganese | ppm | ASTM D5185m | | **28** | --- | --- |
| Magnesium | ppm | ASTM D5185m | | **433** | --- | --- |
| Calcium | ppm | ASTM D5185m | | **823** | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | **604** | --- | --- |
| Zinc | ppm | ASTM D5185m | | **661** | --- | --- |
| Sulfur | ppm | ASTM D5185m | | **2771** | --- | --- |

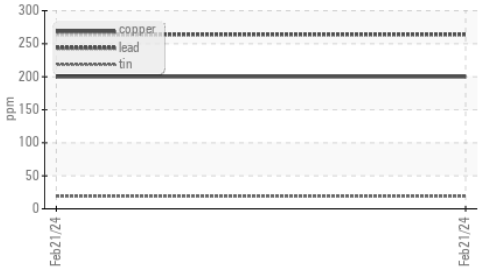
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >30 | ⬢ **132** | --- | --- |
| Sodium | ppm | ASTM D5185m | >400 | **52** | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | ▲ **59** | --- | --- |
| Glycol | % | *ASTM D2982 | | **0.0** | --- | --- |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | | **0.1** | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **10.2** | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **18.7** | --- | --- |

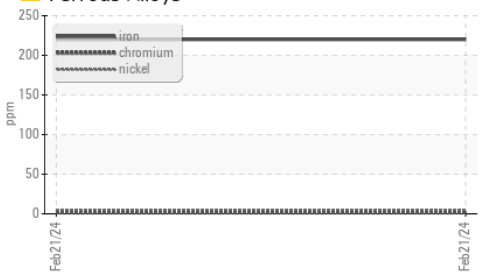
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **12.8** | --- | --- |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **1.60** | --- | --- |

# OIL ANALYSIS REPORT

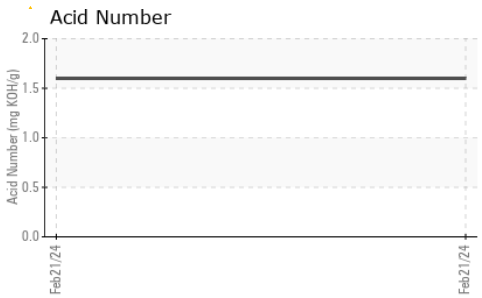
Non-ferrous Metals



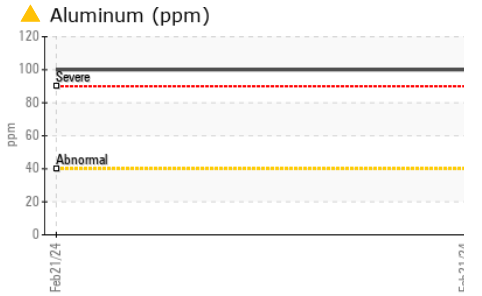

Ferrous Alloys



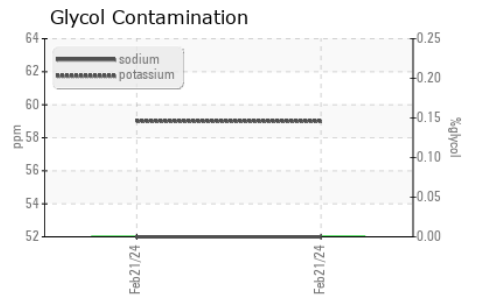

Acid Number




Aluminum (ppm)




Glycol Contamination

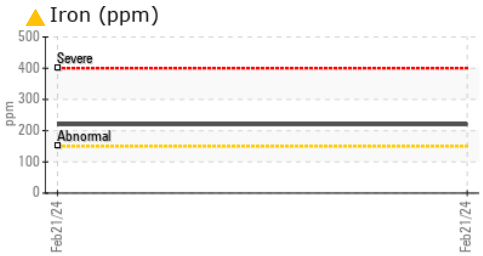



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | --- | --- |
| Silt |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

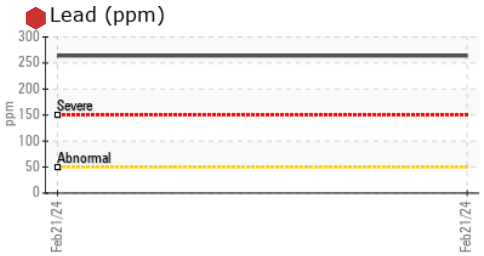
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | | **9.4** | --- | --- |

GRAPHS

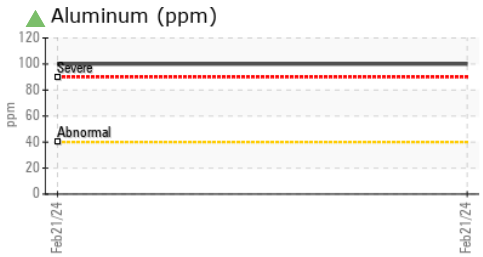
Iron (ppm)



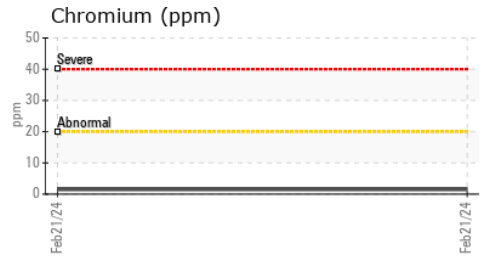

Lead (ppm)



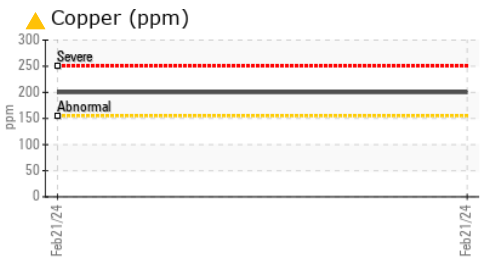

Aluminum (ppm)



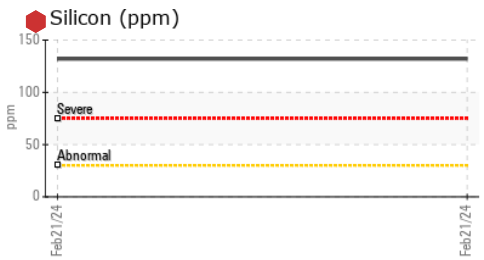

Chromium (ppm)



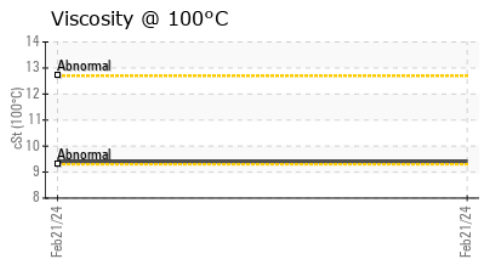

Copper (ppm)



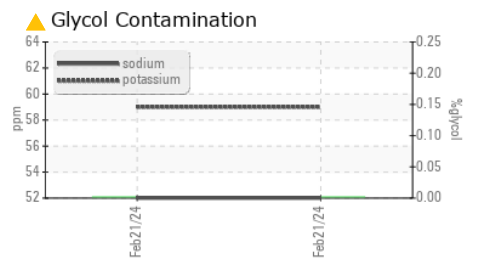

Silicon (ppm)




Viscosity @ 100°C




Glycol Contamination




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WCM2308239
**Lab Number** : 06097895
**Unique Number** : 10896125
**Test Package** : MOB 2 ( Additional Tests: Glycol )

**Received** : 22 Feb 2024
**Tested** : 27 Feb 2024
**Diagnosed** : 27 Feb 2024 - Jonathan Hester

*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)*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