FLEET LUBE 360™ OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

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

Area
**{UNASSIGNED}**
Machine Id
**814041**
Component
**1 Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 5W30 (12 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

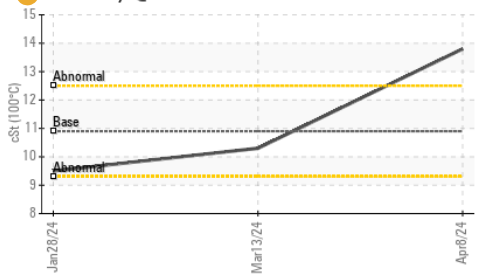
There is no indication of any contamination in the oil.

## FLUID CONDITION

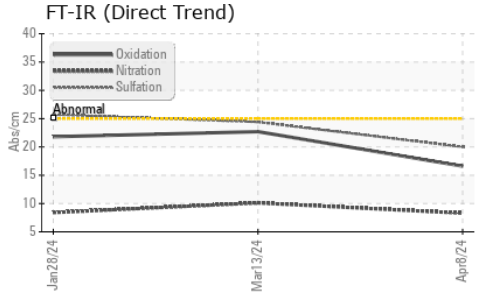
The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | GFL0118170 | GFL0109130 | GFL0109217 |
| Sample Date | | Client Info | | 08 Apr 2024 | 13 Mar 2024 | 28 Jan 2024 |
| Machine Age | hrs | Client Info | | 758 | 609 | 302 |
| Oil Age | hrs | Client Info | | 149 | 600 | 302 |
| Filter Age | hrs | Client Info | | 0 | 600 | 0 |
| Oil Changed | | Client Info | | N/A | Changed | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Changed | Not Changd |
| Sample Status | | | | ATTENTION | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >120 | 4 | 41 | 31 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | <1 | 1 |
| Nickel | ppm | ASTM D5185m | >5 | <1 | 13 | 10 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 5 | 6 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 2 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 0 | 276 | 41 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 1 | 2 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 3 | 70 | 70 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 4 | 7 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | 0.4 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >4 | 0.3 | 0.5 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.3 | 10.1 | 8.4 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.0 | 24.4 | 25.7 |
| 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 |
| Sodium | ppm | ASTM D5185m | | 4 | 3 | 4 |
| Boron | ppm | ASTM D5185m | 250 | 2 | 200 | 359 |
| Barium | ppm | ASTM D5185m | 10 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 59 | 117 | 125 |
| Manganese | ppm | ASTM D5185m | | 0 | 4 | 4 |
| Magnesium | ppm | ASTM D5185m | 450 | 1001 | 748 | 687 |
| Calcium | ppm | ASTM D5185m | 3000 | 1117 | 1515 | 1434 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1102 | 761 | 694 |
| Zinc | ppm | ASTM D5185m | 1350 | 1353 | 903 | 837 |
| Sulfur | ppm | ASTM D5185m | 4250 | 3804 | 2731 | 2394 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.6 | 22.7 | 21.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 8.2 | 7.7 | 9.1 |
| Visc @ 100°C | cSt | ASTM D445 | 10.9 | 13.8 | 10.3 | 9.5 |

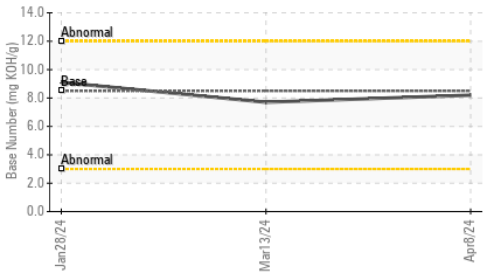
Viscosity @ 100°C



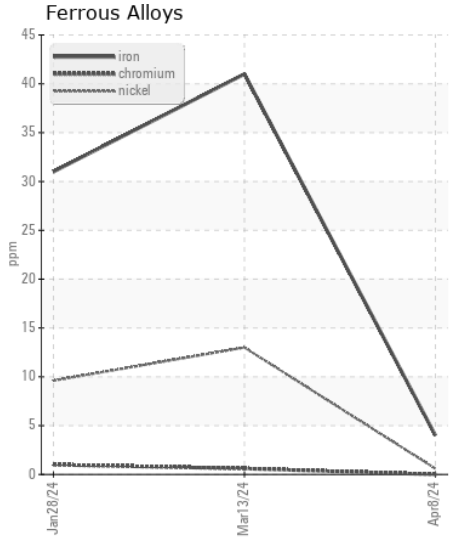

FT-IR (Direct Trend)



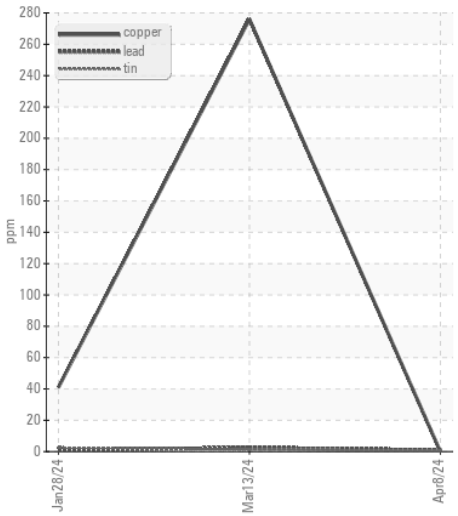

Base Number



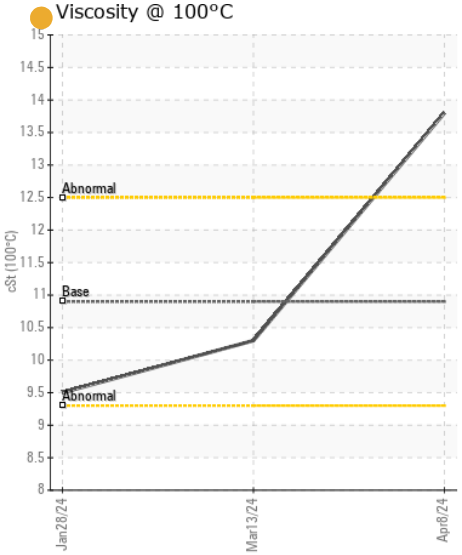

Ferrous Alloys




Non-ferrous Metals




Viscosity @ 100°C

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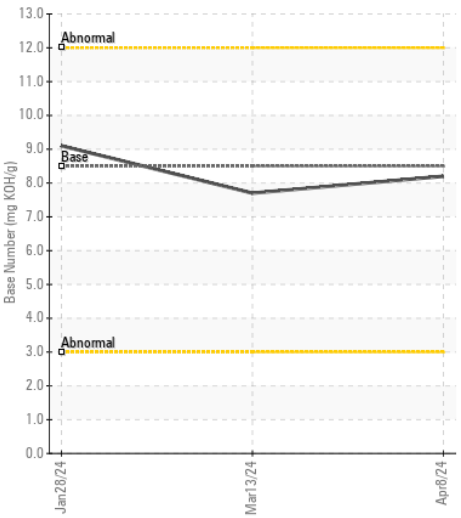


Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0118170
**Lab Number** : 06146333
**Unique Number** : 10976411
**Test Package** : FLEET

**Received** : 11 Apr 2024
**Tested** : 12 Apr 2024
**Diagnosed** : 15 Apr 2024 - Don Baldridge

*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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