FLEET LUBE 360 OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

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

Machine Id
**426115**
Component
**Diesel Engine**
Fluid
**MOBIL 15W40 (11 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

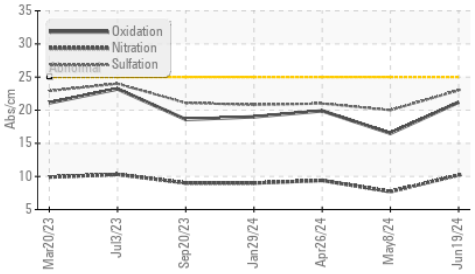
There is no indication of any contamination in the oil.

## FLUID CONDITION

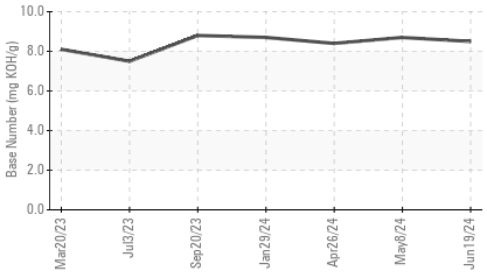
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | GFL0120462 | GFL0120449 | GFL0108604 |
| Sample Date | | Client Info | | 19 Jun 2024 | 08 May 2024 | 26 Apr 2024 |
| Machine Age | hrs | Client Info | | 20411 | 19405 | 19405 |
| Oil Age | hrs | Client Info | | 500 | 19405 | 500 |
| Filter Age | hrs | Client Info | | 500 | 0 | 500 |
| Oil Changed | | Client Info | | Changed | Not Changd | Changed |
| Filter Changed | | Client Info | | Changed | Not Changd | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >110 | 32 | 8 | 12 |
| Chromium | ppm | ASTM D5185m | >4 | 1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | <1 | 1 | <1 |
| Lead | ppm | ASTM D5185m | >45 | 8 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >85 | 6 | 2 | 2 |
| Tin | ppm | ASTM D5185m | >4 | 0 | 1 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >30 | 3 | 3 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | 2 | 0 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.4 | 0.3 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.2 | 7.7 | 9.4 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.0 | 20.0 | 21.0 |
| 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 | >118 | 3 | 1 | 1 |
| Boron | ppm | ASTM D5185m | | 13 | 9 | 13 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m | | 71 | 60 | 57 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 1226 | 1073 | 963 |
| Calcium | ppm | ASTM D5185m | | 1452 | 1250 | 1121 |
| Phosphorus | ppm | ASTM D5185m | | 1278 | 1143 | 1060 |
| Zinc | ppm | ASTM D5185m | | 1582 | 1430 | 1305 |
| Sulfur | ppm | ASTM D5185m | | 4304 | 4131 | 3561 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 21.2 | 16.5 | 19.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 8.5 | 8.7 | 8.4 |
| Visc @ 100°C | cSt | ASTM D445 | | 14.1 | 14.1 | 13.8 |

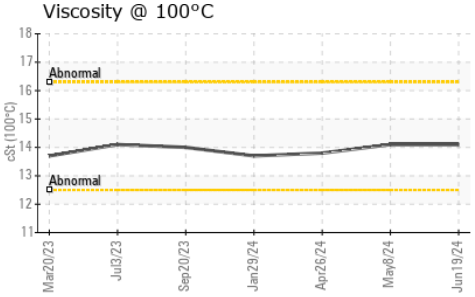
FT-IR (Direct Trend)



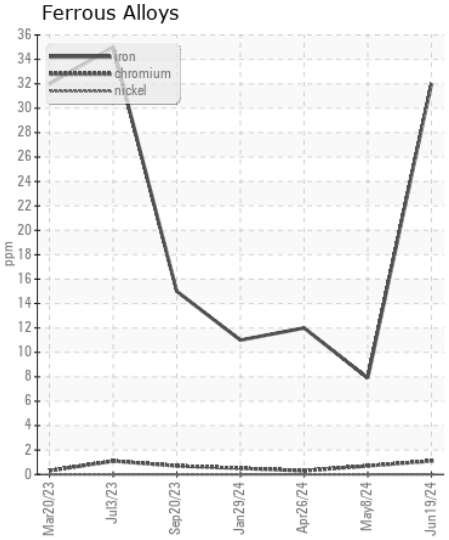

Base Number



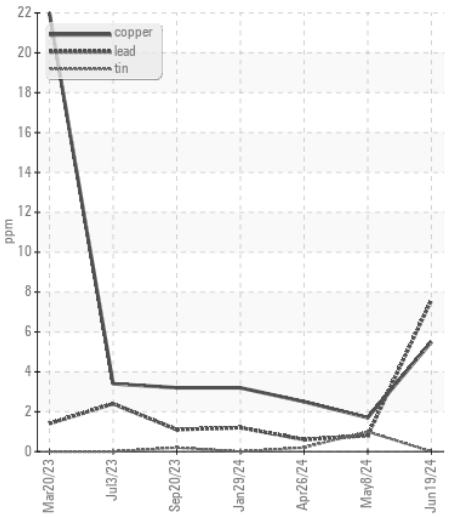

Viscosity @ 100°C



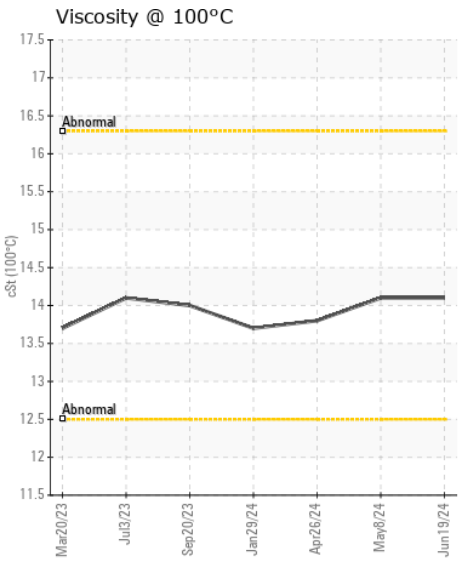

Ferrous Alloys



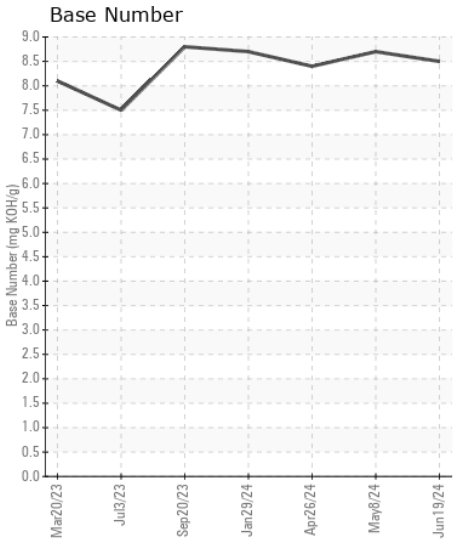

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0120462
**Lab Number** : 06223216
**Unique Number** : 11101413
**Test Package** : FLEET

**Received** : 28 Jun 2024
**Tested** : 28 Jun 2024
**Diagnosed** : 30 Jun 2024 - Don Baldridge

**GFL Environmental - 904B - Menomonie**
1706 MIDWAY RD
MENOMONIE, WI
US 54751
Contact: ANDY KANE

T: (715)202-3420
F:

*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)*