FLEET LUBE 360™ OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

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

Machine Id
## MACK 421059-SW4105
Component
## Diesel Engine
Fluid
## MOBIL DELVAC ELITE 15W40 (--- GAL)

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

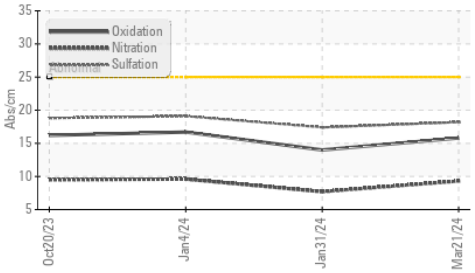
There is no indication of any contamination in the oil.

## FLUID CONDITION

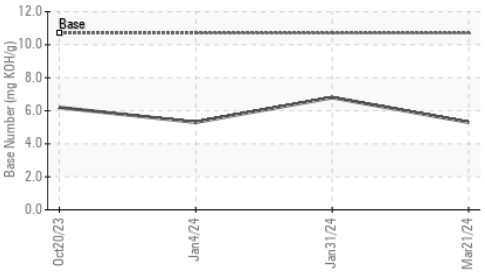
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | GFL0111279 | GFL0111355 | GFL0095483 |
| Sample Date | | Client Info | | 21 Mar 2024 | 31 Jan 2024 | 04 Jan 2024 |
| Machine Age | hrs | Client Info | | 5710 | 5753 | 3103 |
| Oil Age | hrs | Client Info | | 0 | 500 | 500 |
| Filter Age | hrs | Client Info | | 0 | 500 | 500 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >120 | 2 | <1 | 4 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >5 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 5 | 3 | 4 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 1 | <1 | 1 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 6 | 3 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | 9 | 2 | 3 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >4 | 0.1 | 0.1 | 0.2 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.3 | 7.7 | 9.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 18.2 | 17.4 | 19.1 |
| 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 | | 2 | 3 | 3 |
| Boron | ppm | ASTM D5185m | | 95 | 121 | 77 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 134 | 118 | 110 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | | 695 | 616 | 629 |
| Calcium | ppm | ASTM D5185m | | 1297 | 1129 | 1131 |
| Phosphorus | ppm | ASTM D5185m | | 762 | 674 | 677 |
| Zinc | ppm | ASTM D5185m | | 879 | 756 | 744 |
| Sulfur | ppm | ASTM D5185m | | 3428 | 2892 | 2902 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.8 | 14.0 | 16.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.7 | 5.3 | 6.8 | 5.3 |
| Visc @ 100°C | cSt | ASTM D445 | 15.2 | 12.9 | 13.1 | 13.2 |

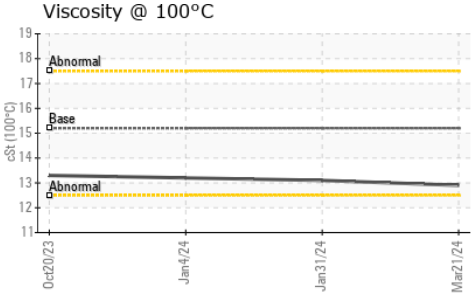
FT-IR (Direct Trend)



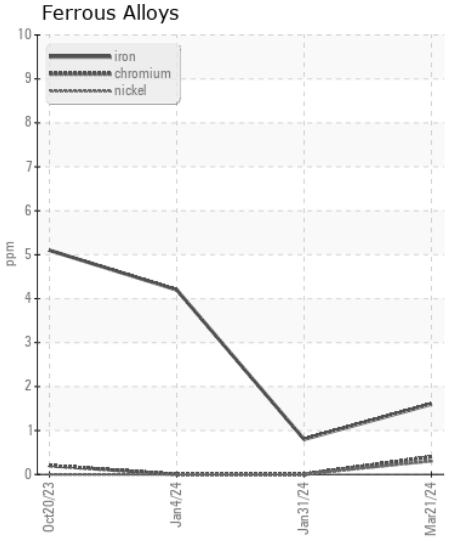

Base Number



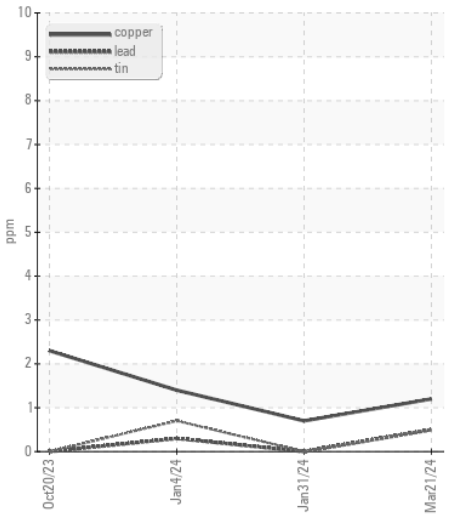

Viscosity @ 100°C



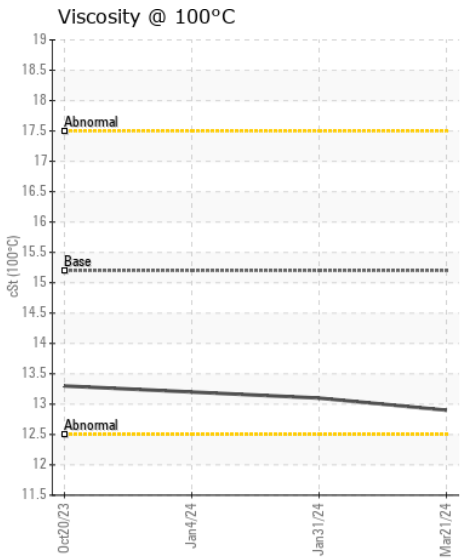

Ferrous Alloys



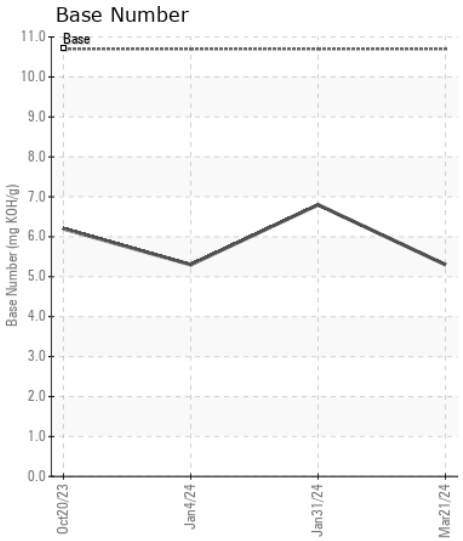

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0111279
**Lab Number** : 06148329
**Unique Number** : 10978407
**Test Package** : FLEET

**Received** : 15 Apr 2024
**Tested** : 15 Apr 2024
**Diagnosed** : 15 Apr 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)*

**GFL Environmental - 981 - Port Arthur Hauling**
1000 S Business Park Dr
Port Arthur, TX
US 77640
Contact: MICHAEL KAY
mkay@gflenv.com
T: (336)660-9331
F: