



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

Machine Id
AUTOCAR 813022

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | GFL0109076 | GFL0109108 | GFL0086255 |
| Sample Date | | Client Info | | 08 Feb 2024 | 15 Jan 2024 | 27 Dec 2023 |
| Machine Age | hrs | Client Info | | 1326 | 1188 | 1064 |
| Oil Age | hrs | Client Info | | 1326 | 1188 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 6 | 25 | 35 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 5 | 12 | 16 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | <1 | 2 | 7 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

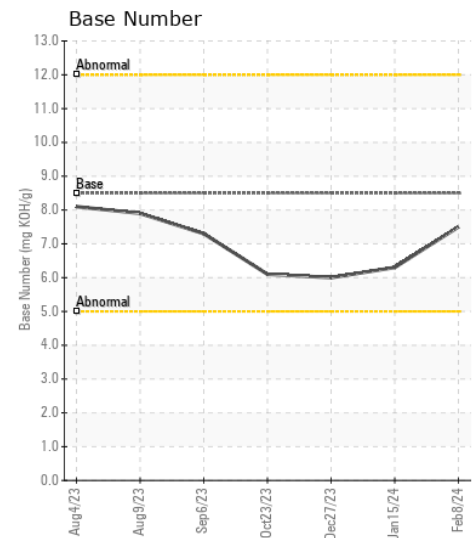
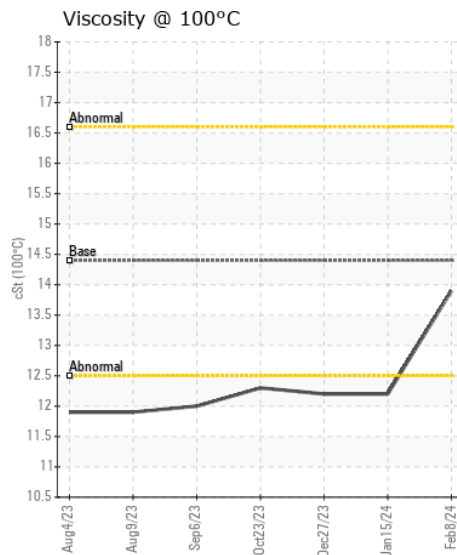
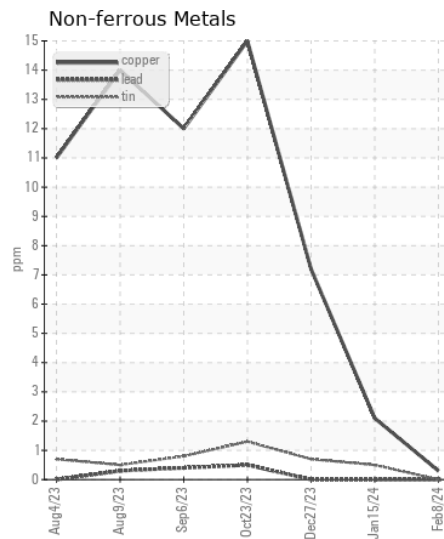
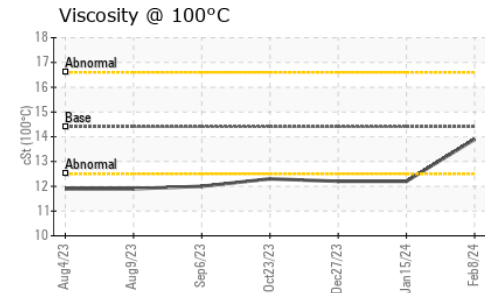
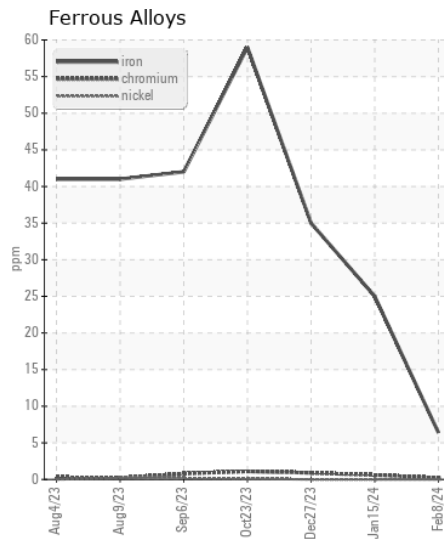
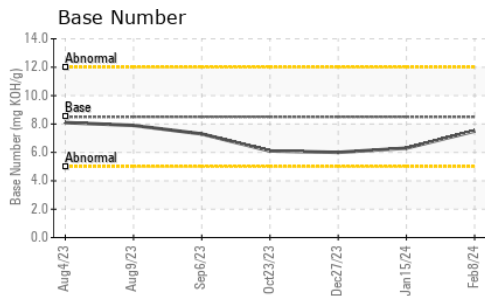
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 3 | 5 | 9 |
| Potassium | ppm | ASTM D5185m | >20 | 13 | 28 | 38 |
| 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 | 0.2 | 0.5 | 0.6 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.5 | 8.6 | 10.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 17.5 | 19.9 | 20.9 |
| 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 |

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.

| | | | | | | |
|------------------|----------|-------------|------|-------------|------|------|
| Sodium | ppm | ASTM D5185m | >216 | 0 | 1 | 3 |
| Boron | ppm | ASTM D5185m | 250 | 15 | 16 | 16 |
| Barium | ppm | ASTM D5185m | 10 | 8 | 0 | 2 |
| Molybdenum | ppm | ASTM D5185m | 100 | 59 | 66 | 56 |
| Manganese | ppm | ASTM D5185m | | 0 | 1 | 3 |
| Magnesium | ppm | ASTM D5185m | 450 | 706 | 825 | 760 |
| Calcium | ppm | ASTM D5185m | 3000 | 1052 | 1260 | 1233 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 835 | 1015 | 794 |
| Zinc | ppm | ASTM D5185m | 1350 | 1054 | 1252 | 1067 |
| Sulfur | ppm | ASTM D5185m | 4250 | 2764 | 3071 | 2516 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 12.9 | 15.2 | 18.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 7.5 | 6.3 | 6.0 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.9 | 12.2 | 12.2 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0109076
Lab Number : 06088472
Unique Number : 10875917
Test Package : FLEET

Received : 14 Feb 2024
Tested : 15 Feb 2024
Diagnosed : 15 Feb 2024 - Wes Davis

GFL Environmental - 009 - Fairburn
 6905 Roosevelt Hwy
 Fairburn, GA
 US 30213
 Contact: Eric Jones
 erjones@gflenv.com
 T: (678)630-9927
 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)