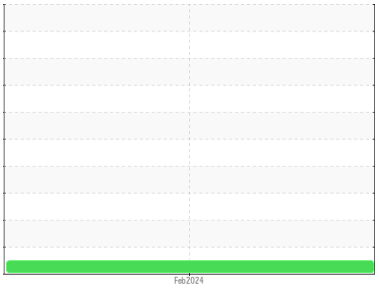
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**834032**
Component
**Natural Gas Engine**
Fluid
**{not provided} (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

**Wear**
Metal levels are typical for a components first oil change.

**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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **GFL0111835** | --- | --- |
| Sample Date | | Client Info | | **29 Feb 2024** | --- | --- |
| Machine Age | hrs | Client Info | | **672** | --- | --- |
| Oil Age | hrs | Client Info | | **672** | --- | --- |
| Oil Changed | | Client Info | | **Not Changd** | --- | --- |
| Sample Status | | | | **NORMAL** | --- | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.1 | **NEG** | --- | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **33** | --- | --- |
| Chromium | ppm | ASTM D5185m | >4 | **0** | --- | --- |
| Nickel | ppm | ASTM D5185m | >2 | **0** | --- | --- |
| Titanium | ppm | ASTM D5185m | | **0** | --- | --- |
| Silver | ppm | ASTM D5185m | >3 | **0** | --- | --- |
| Aluminum | ppm | ASTM D5185m | >9 | **2** | --- | --- |
| Lead | ppm | ASTM D5185m | >30 | **0** | --- | --- |
| Copper | ppm | ASTM D5185m | >35 | **11** | --- | --- |
| Tin | ppm | ASTM D5185m | >4 | **<1** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | --- | --- |
| Cadmium | ppm | ASTM D5185m | | **0** | --- | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **16** | --- | --- |
| Barium | ppm | ASTM D5185m | | **1** | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | **49** | --- | --- |
| Manganese | ppm | ASTM D5185m | | **8** | --- | --- |
| Magnesium | ppm | ASTM D5185m | | **739** | --- | --- |
| Calcium | ppm | ASTM D5185m | | **1207** | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | **696** | --- | --- |
| Zinc | ppm | ASTM D5185m | | **841** | --- | --- |
| Sulfur | ppm | ASTM D5185m | | **2077** | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >+100 | **25** | --- | --- |
| Sodium | ppm | ASTM D5185m | | **4** | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | **1** | --- | --- |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | | **0** | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **11.2** | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **22.9** | --- | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **20.1** | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **5.0** | --- | --- |

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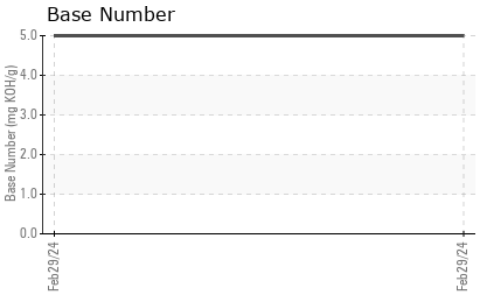
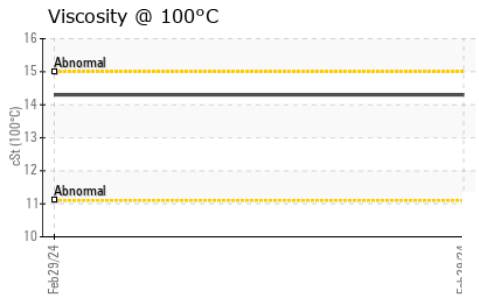
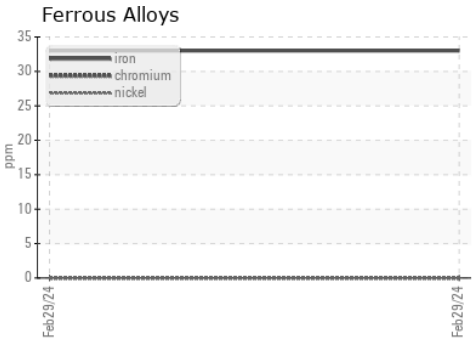


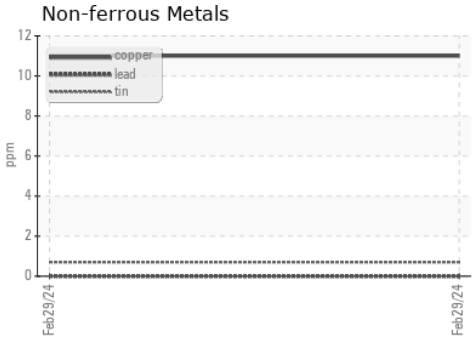



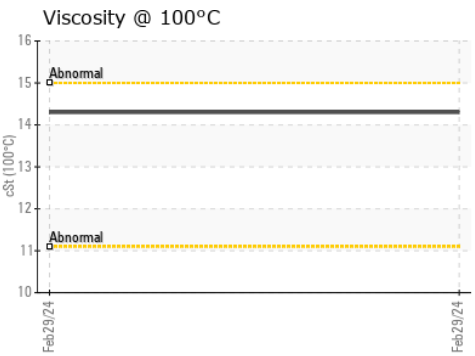

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | --- | --- |
| Silt | 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 | >0.1 | **NEG** | --- | --- |
| Free Water | scalar | *Visual | | **NEG** | --- | --- |

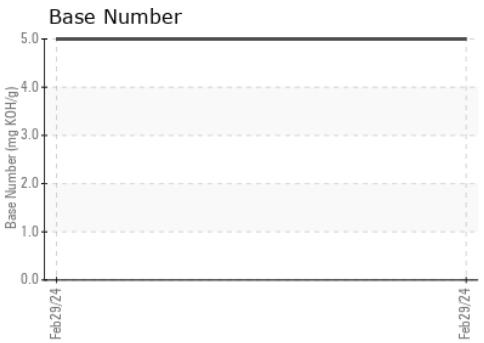
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | | **14.3** | --- | --- |

## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0111835
**Lab Number** : 06109256
**Unique Number** : 10912753
**Test Package** : FLEET

**Received** : 05 Mar 2024
**Tested** : 06 Mar 2024
**Diagnosed** : 06 Mar 2024 - Wes Davis

**GFL Environmental - 652 - Fredericksburg Hauling**
10954 Houser Drive
Fredericksburg, VA
US 22408
Contact: WILLIAM MILO
wmilo@gflenv.com
T:
F:

*To discuss this sample report, contact Customer Service at 1-800-237-1369.*
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*Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)*