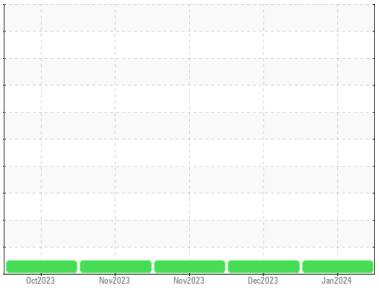
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
**834055**
Component
**Natural Gas Engine**
Fluid
**RDL-3647 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

**Wear**
Metal levels are typical for a new component breaking in.

**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 | | **GFL0108163** | GFL0102433 | GFL0102556 |
| Sample Date | | Client Info | | **15 Jan 2024** | 20 Dec 2023 | 29 Nov 2023 |
| Machine Age | hrs | Client Info | | **879** | 716 | 585 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Not Changd** | N/A | Not Changd |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

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

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **55** | 52 | 47 |
| Chromium | ppm | ASTM D5185m | >4 | **2** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | **2** | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >9 | **7** | 4 | 4 |
| Lead | ppm | ASTM D5185m | >30 | **2** | 2 | <1 |
| Copper | ppm | ASTM D5185m | >35 | **20** | 21 | 21 |
| Tin | ppm | ASTM D5185m | >4 | **3** | 2 | 1 |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **<1** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 50 | **27** | 4 | 6 |
| Barium | ppm | ASTM D5185m | 5 | **0** | 3 | 0 |
| Molybdenum | ppm | ASTM D5185m | 50 | **55** | 54 | 51 |
| Manganese | ppm | ASTM D5185m | 0 | **13** | 14 | 12 |
| Magnesium | ppm | ASTM D5185m | 560 | **796** | 873 | 740 |
| Calcium | ppm | ASTM D5185m | 1510 | **1257** | 1298 | 1127 |
| Phosphorus | ppm | ASTM D5185m | 780 | **765** | 735 | 632 |
| Zinc | ppm | ASTM D5185m | 870 | **973** | 965 | 869 |
| Sulfur | ppm | ASTM D5185m | 2040 | **2453** | 2360 | 2324 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >+100 | **31** | 32 | 32 |
| Sodium | ppm | ASTM D5185m | | **47** | 4 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | **5** | 1 | 4 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | | **0** | 0 | 0 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **12.8** | 12.8 | 12.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **24.4** | 24.4 | 23.1 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **22.6** | 23.2 | 21.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.2 | **4.2** | 3.3 | 3.5 |

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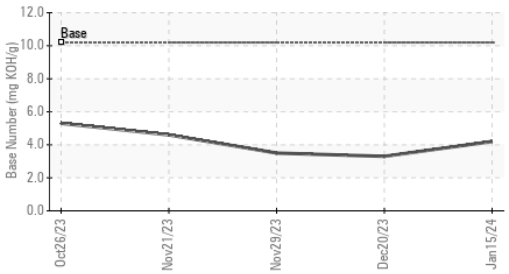
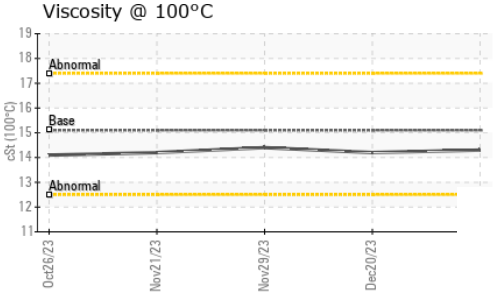
Base Number




Viscosity @ 100°C

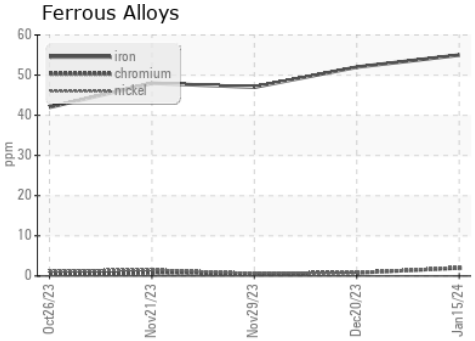



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

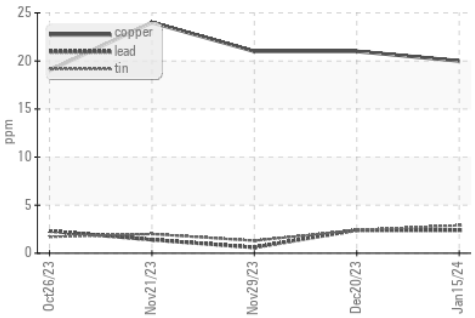
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.1 | **14.3** | 14.2 | 14.4 |

## GRAPHS

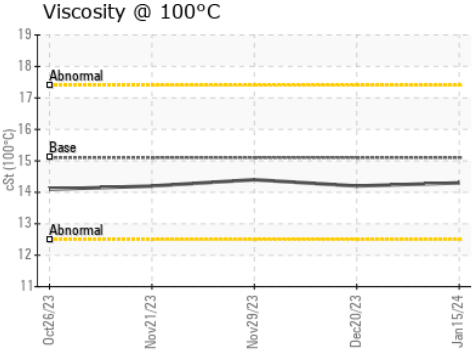
Ferrous Alloys



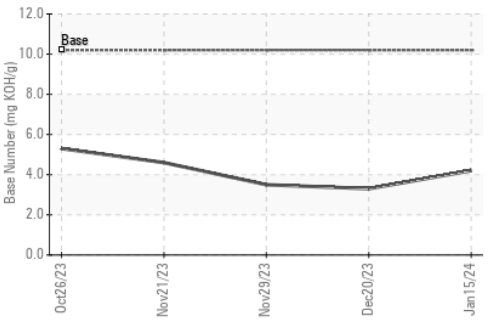

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : GFL0108163
**Lab Number** : 06070959
**Unique Number** : 10847636
**Test Package** : FLEET

**Recieved** : 25 Jan 2024
**Diagnosed** : 26 Jan 2024
**Diagnostician** : 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)*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