



|                 |               |
|-----------------|---------------|
| WEAR            | <b>NORMAL</b> |
| CONTAMINATION   | <b>NORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b> |



Area  
**(43480UA)**  
Machine Id  
**834028**  
Component  
**Natural Gas Engine**  
Fluid  
**{not provided} (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>GFL0111907</b>  | GFL0116571  | GFL0111815  |
| Sample Date    |     | Client Info |           | <b>03 May 2024</b> | 16 Apr 2024 | 21 Mar 2024 |
| Machine Age    | hrs | Client Info |           | <b>1149</b>        | 1012        | 841         |
| Oil Age        | hrs | Client Info |           | <b>978</b>         | 171         | 841         |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>Not Changd</b>  | Not Changd  | Changed     |
| Filter Changed |     | Client Info |           | <b>Not Changd</b>  | Not Changd  | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | ABNORMAL    | NORMAL      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >50  | <b>49</b>    | ▲ 54 | 43   |
| Chromium     | ppm    | ASTM D5185m | >4   | <b>1</b>     | 2    | <1   |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>2</b>     | 3    | <1   |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>&lt;1</b> | <1   | <1   |
| Aluminum     | ppm    | ASTM D5185m | >9   | <b>4</b>     | 4    | 3    |
| Lead         | ppm    | ASTM D5185m | >30  | <b>3</b>     | 4    | 1    |
| Copper       | ppm    | ASTM D5185m | >35  | <b>18</b>    | 20   | 15   |
| Tin          | ppm    | ASTM D5185m | >4   | <b>3</b>     | 3    | 2    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

**CONTAMINATION**

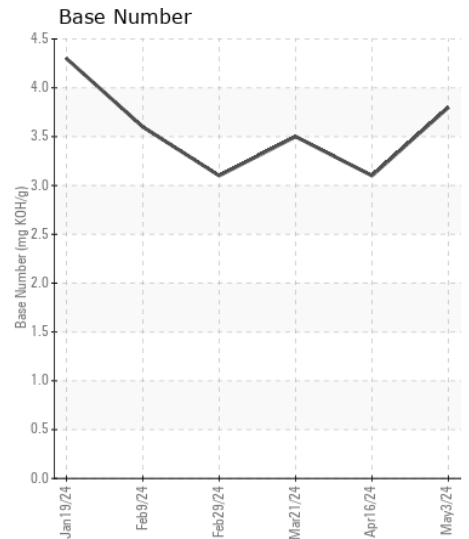
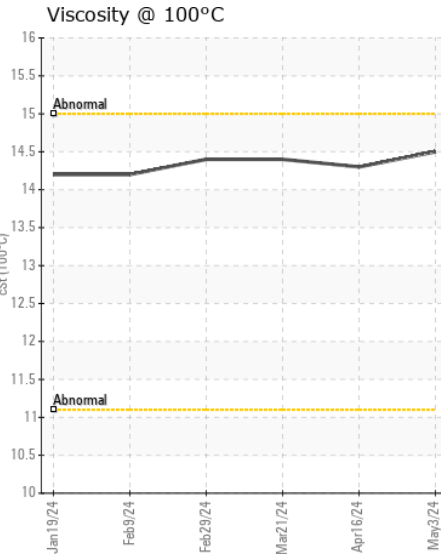
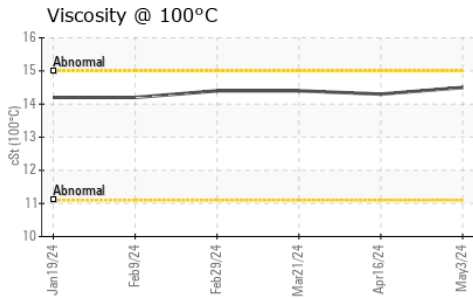
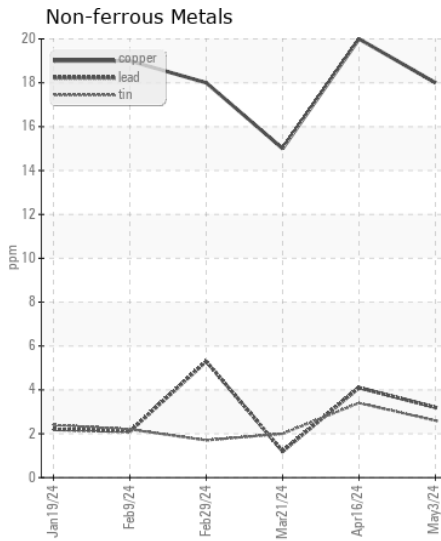
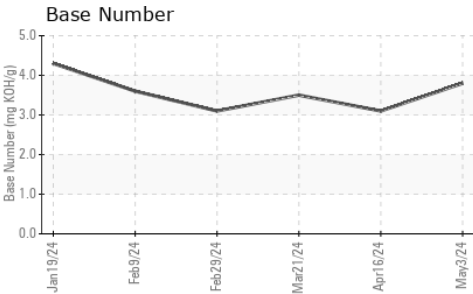
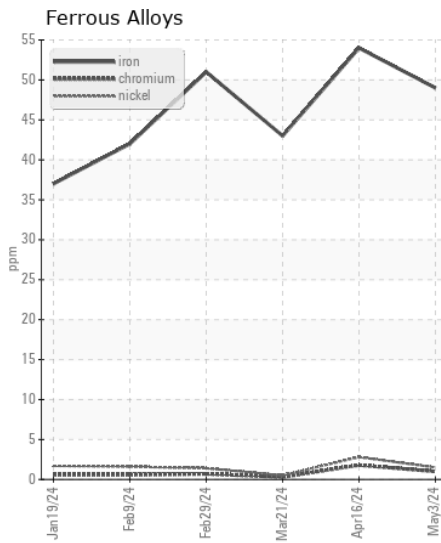
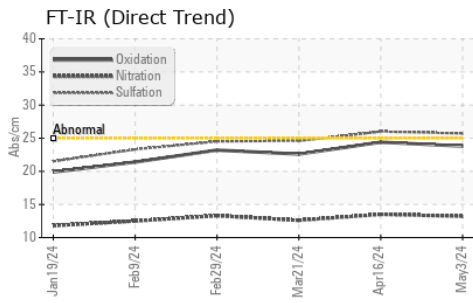
There is no indication of any contamination in the oil.

|                  |          |             |       |              |       |       |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >+100 | <b>26</b>    | 31    | 27    |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>4</b>     | 4     | 22    |
| Water            |          | WC Method   | >0.1  | <b>NEG</b>   | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 |       | <b>0</b>     | 0     | 0     |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>13.2</b>  | 13.5  | 12.6  |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>25.7</b>  | 26.0  | 24.6  |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Emulsified Water | scalar   | *Visual     | >0.1  | <b>NEG</b>   | 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 |     | <b>5</b>    | 5    | 6    |
| Boron            | ppm      | ASTM D5185m |     | <b>6</b>    | 3    | 7    |
| Barium           | ppm      | ASTM D5185m |     | <b>3</b>    | 4    | 2    |
| Molybdenum       | ppm      | ASTM D5185m |     | <b>60</b>   | 58   | 53   |
| Manganese        | ppm      | ASTM D5185m |     | <b>13</b>   | 15   | 12   |
| Magnesium        | ppm      | ASTM D5185m |     | <b>789</b>  | 789  | 786  |
| Calcium          | ppm      | ASTM D5185m |     | <b>1410</b> | 1334 | 1259 |
| Phosphorus       | ppm      | ASTM D5185m |     | <b>807</b>  | 802  | 667  |
| Zinc             | ppm      | ASTM D5185m |     | <b>998</b>  | 957  | 907  |
| Sulfur           | ppm      | ASTM D5185m |     | <b>2526</b> | 2650 | 2492 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25 | <b>23.8</b> | 24.4 | 22.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896  |     | <b>3.8</b>  | 3.1  | 3.5  |
| Visc @ 100°C     | cSt      | ASTM D445   |     | <b>14.5</b> | 14.3 | 14.4 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0111907  
**Lab Number** : 06174937  
**Unique Number** : 11020990  
**Test Package** : FLEET  
**Received** : 09 May 2024  
**Tested** : 10 May 2024  
**Diagnosed** : 10 May 2024 - Wes Davis

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

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)