



# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id

**205**

Component

**Diesel Engine**

Fluid

**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

### 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.

## SAMPLE INFORMATION

| method        | limit/base      | current            | history1 | history2 |
|---------------|-----------------|--------------------|----------|----------|
| Sample Number | Client Info     | <b>GFL0030397</b>  | ---      | ---      |
| Sample Date   | Client Info     | <b>04 Aug 2023</b> | ---      | ---      |
| Machine Age   | hrs Client Info | <b>11118</b>       | ---      | ---      |
| Oil Age       | hrs Client Info | <b>318</b>         | ---      | ---      |
| Oil Changed   | Client Info     | <b>Changed</b>     | ---      | ---      |
| Sample Status |                 | <b>NORMAL</b>      | ---      | ---      |

## CONTAMINATION

| method | limit/base   | current        | history1 | history2 |
|--------|--------------|----------------|----------|----------|
| Fuel   | WC Method >5 | <b>&lt;1.0</b> | ---      | ---      |
| Glycol | WC Method    | <b>NEG</b>     | ---      | ---      |

## WEAR METALS

| method   | limit/base           | current      | history1 | history2 |
|----------|----------------------|--------------|----------|----------|
| Iron     | ppm ASTM D5185m >100 | <b>21</b>    | ---      | ---      |
| Chromium | ppm ASTM D5185m >20  | <b>&lt;1</b> | ---      | ---      |
| Nickel   | ppm ASTM D5185m >4   | <b>&lt;1</b> | ---      | ---      |
| Titanium | ppm ASTM D5185m      | <b>&lt;1</b> | ---      | ---      |
| Silver   | ppm ASTM D5185m >3   | <b>0</b>     | ---      | ---      |
| Aluminum | ppm ASTM D5185m >20  | <b>3</b>     | ---      | ---      |
| Lead     | ppm ASTM D5185m >40  | <b>2</b>     | ---      | ---      |
| Copper   | ppm ASTM D5185m >330 | <b>&lt;1</b> | ---      | ---      |
| Tin      | ppm ASTM D5185m >15  | <b>1</b>     | ---      | ---      |
| Vanadium | ppm ASTM D5185m      | <b>0</b>     | ---      | ---      |
| Cadmium  | ppm ASTM D5185m      | <b>0</b>     | ---      | ---      |

## ADDITIVES

| method     | limit/base           | current      | history1 | history2 |
|------------|----------------------|--------------|----------|----------|
| Boron      | ppm ASTM D5185m 250  | <b>37</b>    | ---      | ---      |
| Barium     | ppm ASTM D5185m 10   | <b>0</b>     | ---      | ---      |
| Molybdenum | ppm ASTM D5185m 100  | <b>54</b>    | ---      | ---      |
| Manganese  | ppm ASTM D5185m      | <b>&lt;1</b> | ---      | ---      |
| Magnesium  | ppm ASTM D5185m 450  | <b>706</b>   | ---      | ---      |
| Calcium    | ppm ASTM D5185m 3000 | <b>1628</b>  | ---      | ---      |
| Phosphorus | ppm ASTM D5185m 1150 | <b>924</b>   | ---      | ---      |
| Zinc       | ppm ASTM D5185m 1350 | <b>1136</b>  | ---      | ---      |
| Sulfur     | ppm ASTM D5185m 4250 | <b>3532</b>  | ---      | ---      |

## CONTAMINANTS

| method    | limit/base           | current   | history1 | history2 |
|-----------|----------------------|-----------|----------|----------|
| Silicon   | ppm ASTM D5185m >25  | <b>5</b>  | ---      | ---      |
| Sodium    | ppm ASTM D5185m >158 | <b>11</b> | ---      | ---      |
| Potassium | ppm ASTM D5185m >20  | <b>2</b>  | ---      | ---      |

## INFRA-RED

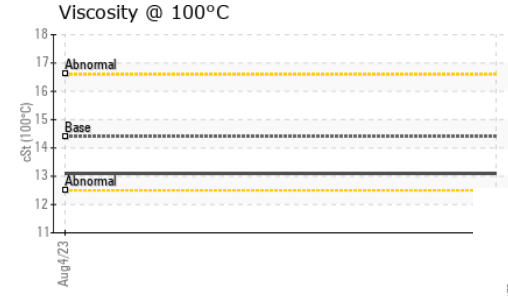
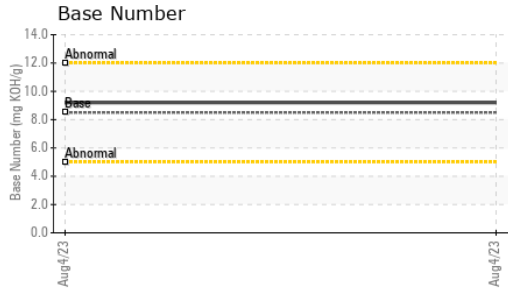
| method    | limit/base               | current     | history1 | history2 |
|-----------|--------------------------|-------------|----------|----------|
| Soot %    | % *ASTM D7844 >3         | <b>0.2</b>  | ---      | ---      |
| Nitration | Abs/cm *ASTM D7624 >20   | <b>8.2</b>  | ---      | ---      |
| Sulfation | Abs/.1mm *ASTM D7415 >30 | <b>20.3</b> | ---      | ---      |

## FLUID DEGRADATION

| method           | limit/base               | current     | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm *ASTM D7414 >25 | <b>19.1</b> | ---      | ---      |
| Base Number (BN) | mg KOH/g ASTM D2896 8.5  | <b>9.2</b>  | ---      | ---      |



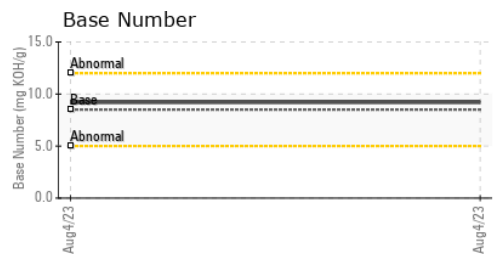
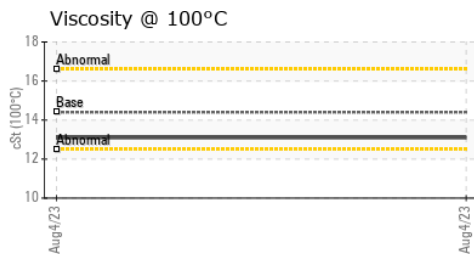
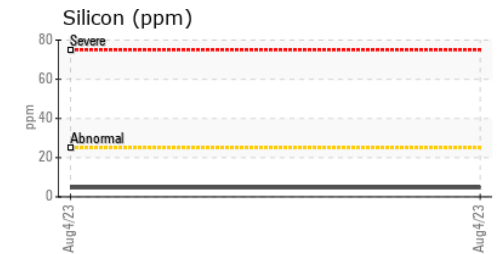
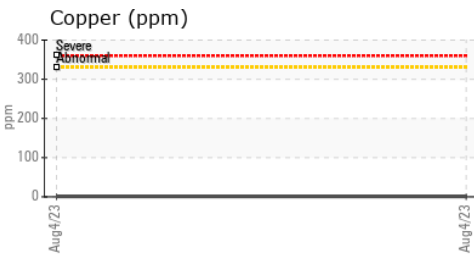
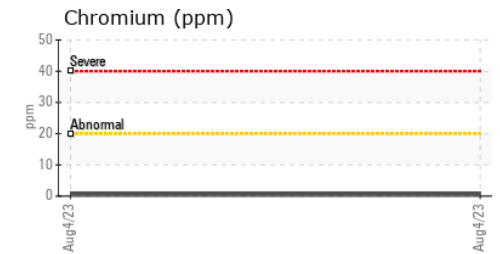
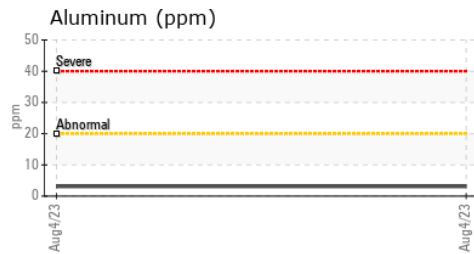
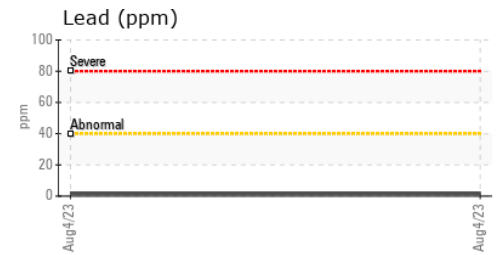
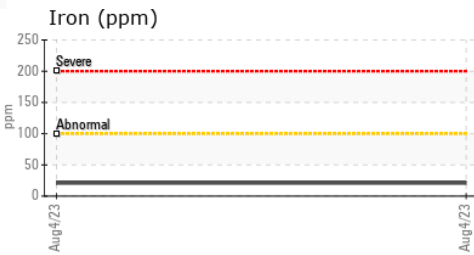
# OIL ANALYSIS REPORT



| 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    | >0.2    | NEG      | ---      |
| Free Water       | scalar | *Visual    |         | NEG      | ---      |

| FLUID PROPERTIES | method | limit/base | current | history1    | history2 |
|------------------|--------|------------|---------|-------------|----------|
| Visc @ 100°C     | cSt    | ASTM D445  | 14.4    | <b>13.1</b> | ---      |

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0030397 **Received** : 11 Aug 2023  
**Lab Number** : 05921953 **Diagnosed** : 11 Aug 2023  
**Unique Number** : 10601900 **Diagnostician** : Wes Davis  
**Test Package** : MOB1+

**GFL Environmental - 633 - Grand Haven**  
 1680 Peach St  
 Whitehall, MI  
 US 49461  
 Contact: MITCH HERSHBERGER

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)