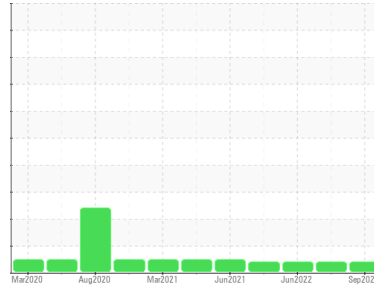




# PROBLEM SUMMARY

Sample Rating Trend



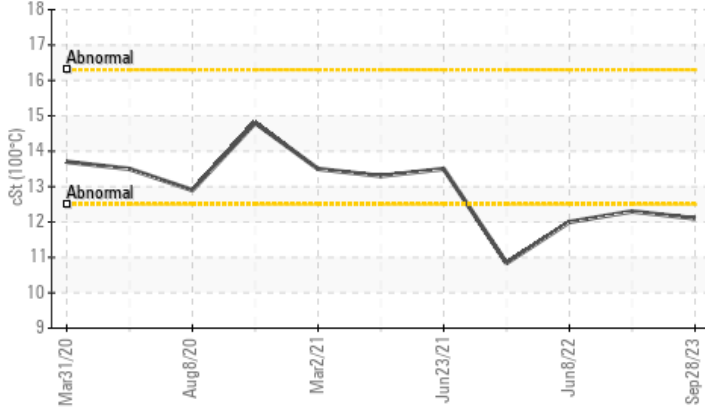
## VISCOSITY



Machine Id  
**929011-9054**  
 Component  
**Diesel Engine**  
 Fluid  
**PHILLIPS 66 15W40 (--- GAL)**

### COMPONENT CONDITION SUMMARY

▲ Viscosity @ 100°C



### RECOMMENDATION

Resample at the next service interval to monitor.

### PROBLEMATIC TEST RESULTS

| Sample Status |     |           | ATTENTION | ATTENTION | ATTENTION |
|---------------|-----|-----------|-----------|-----------|-----------|
| Visc @ 100°C  | cSt | ASTM D445 | ▲ 12.1    | ▲ 12.3    | ▲ 12.0    |

Customer Id: GFL663  
 Sample No.: GFL0079775  
 Lab Number: 05972659  
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

To change component or sample information:  
 Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

### 21 Sep 2022 Diag: Don Baldrige

#### VISCOSITY



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report



### 08 Jun 2022 Diag: Don Baldrige

#### VISCOSITY



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report



### 14 Apr 2022 Diag: Jonathan Hester

#### VISCOSITY



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

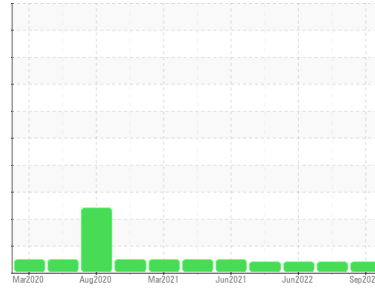
view report





# OIL ANALYSIS REPORT

Sample Rating Trend



## VISCOSITY



Machine Id  
**929011-9054**  
 Component  
**Diesel Engine**  
 Fluid  
**PHILLIPS 66 15W40 (--- GAL)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

### SAMPLE INFORMATION

| method        | limit/base  | current            | history1     | history2    |      |
|---------------|-------------|--------------------|--------------|-------------|------|
| Sample Number | Client Info | <b>GFL0079775</b>  | GFL0031020   | GFL0052835  |      |
| Sample Date   | Client Info | <b>28 Sep 2023</b> | 21 Sep 2022  | 08 Jun 2022 |      |
| Machine Age   | hrs         | Client Info        | <b>12733</b> | 10292       | 9506 |
| Oil Age       | hrs         | Client Info        | <b>622</b>   | 10292       | 9506 |
| Oil Changed   | Client Info | <b>Not Chngd</b>   | Changed      | Changed     |      |
| Sample Status |             | <b>ATTENTION</b>   | ATTENTION    | ATTENTION   |      |

### CONTAMINATION

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

### WEAR METALS

| method   | limit/base | current          | history1     | history2 |    |
|----------|------------|------------------|--------------|----------|----|
| Iron     | ppm        | ASTM D5185m >110 | <b>21</b>    | 10       | 13 |
| Chromium | ppm        | ASTM D5185m >4   | <b>1</b>     | <1       | 1  |
| Nickel   | ppm        | ASTM D5185m >2   | <b>&lt;1</b> | 0        | 0  |
| Titanium | ppm        | ASTM D5185m      | <b>4</b>     | 29       | 6  |
| Silver   | ppm        | ASTM D5185m >2   | <b>0</b>     | 0        | <1 |
| Aluminum | ppm        | ASTM D5185m >25  | <b>0</b>     | 3        | 2  |
| Lead     | ppm        | ASTM D5185m >45  | <b>5</b>     | 2        | 3  |
| Copper   | ppm        | ASTM D5185m >85  | <b>2</b>     | 1        | 2  |
| Tin      | ppm        | ASTM D5185m >4   | <b>&lt;1</b> | <1       | <1 |
| Vanadium | ppm        | ASTM D5185m      | <b>0</b>     | 0        | 0  |
| Cadmium  | ppm        | ASTM D5185m      | <b>0</b>     | 0        | 0  |

### ADDITIVES

| method     | limit/base | current     | history1     | history2 |      |
|------------|------------|-------------|--------------|----------|------|
| Boron      | ppm        | ASTM D5185m | <b>17</b>    | 25       | 30   |
| Barium     | ppm        | ASTM D5185m | <b>0</b>     | 1        | 0    |
| Molybdenum | ppm        | ASTM D5185m | <b>61</b>    | 44       | 59   |
| Manganese  | ppm        | ASTM D5185m | <b>&lt;1</b> | <1       | <1   |
| Magnesium  | ppm        | ASTM D5185m | <b>945</b>   | 669      | 804  |
| Calcium    | ppm        | ASTM D5185m | <b>1097</b>  | 1419     | 1305 |
| Phosphorus | ppm        | ASTM D5185m | <b>1032</b>  | 1013     | 1006 |
| Zinc       | ppm        | ASTM D5185m | <b>1254</b>  | 1188     | 1195 |
| Sulfur     | ppm        | ASTM D5185m | <b>2926</b>  | 3952     | 3131 |

### CONTAMINANTS

| method    | limit/base | current         | history1  | history2 |   |
|-----------|------------|-----------------|-----------|----------|---|
| Silicon   | ppm        | ASTM D5185m >30 | <b>12</b> | 6        | 5 |
| Sodium    | ppm        | ASTM D5185m     | <b>13</b> | 3        | 5 |
| Potassium | ppm        | ASTM D5185m >20 | <b>18</b> | 5        | 3 |

### INFRA-RED

| method    | limit/base | current         | history1    | history2 |      |
|-----------|------------|-----------------|-------------|----------|------|
| Soot %    | %          | *ASTM D7844 >3  | <b>0.4</b>  | 0.3      | 0.3  |
| Nitration | Abs/cm     | *ASTM D7624 >20 | <b>10.3</b> | 10.2     | 9.6  |
| Sulfation | Abs/.1mm   | *ASTM D7415 >30 | <b>22.4</b> | 23.1     | 21.0 |

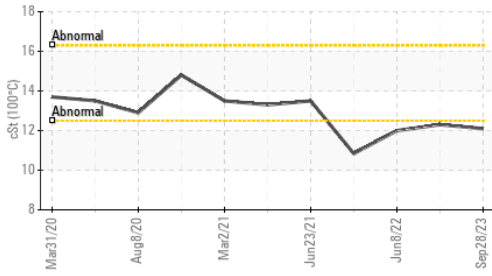
### FLUID DEGRADATION

| method           | limit/base | current         | history1    | history2 |      |
|------------------|------------|-----------------|-------------|----------|------|
| Oxidation        | Abs/.1mm   | *ASTM D7414 >25 | <b>19.4</b> | 19.6     | 17.0 |
| Base Number (BN) | mg KOH/g   | ASTM D2896      | <b>5.7</b>  | 7.1      | 7.1  |

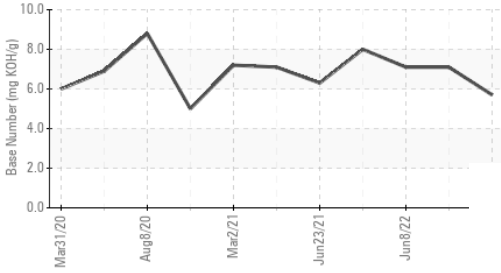


# OIL ANALYSIS REPORT

▲ Viscosity @ 100°C



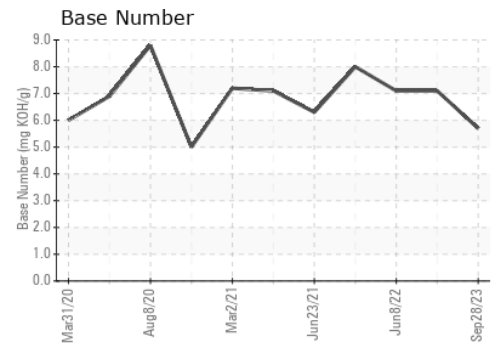
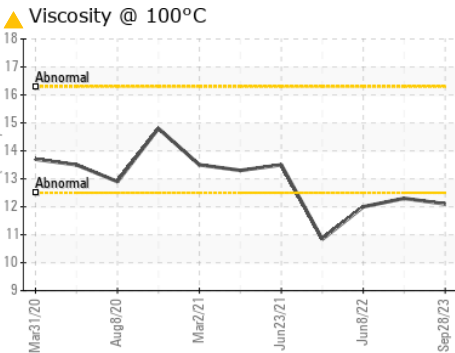
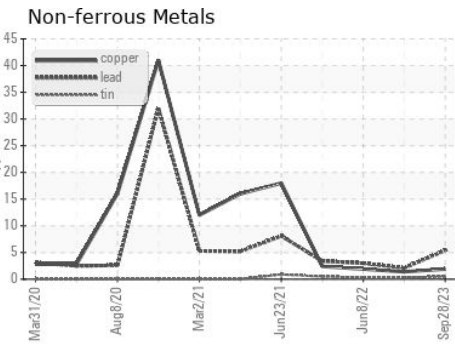
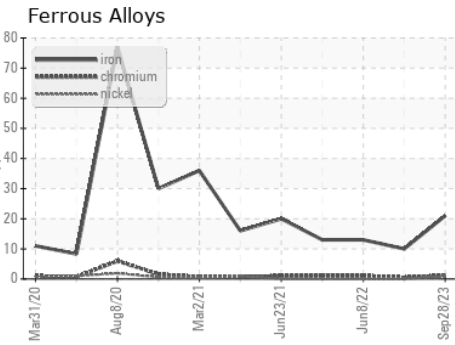
Base Number



| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | NONE     |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | NONE     |
| Silt             | scalar | *Visual    | NONE    | NONE     | NONE     |
| Debris           | scalar | *Visual    | NONE    | NONE     | NONE     |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | NONE     |
| Appearance       | scalar | *Visual    | NORML   | NORML    | NORML    |
| Odor             | scalar | *Visual    | NORML   | NORML    | NORML    |
| Emulsified Water | scalar | *Visual    | >0.2    | NEG      | NEG      |
| Free Water       | scalar | *Visual    |         | NEG      | NEG      |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C     | cSt    | ASTM D445  | ▲ 12.1  | ▲ 12.3   | ▲ 12.0   |

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0079775 **Received** : 09 Oct 2023  
**Lab Number** : 05972659 **Diagnosed** : 11 Oct 2023  
**Unique Number** : 10684609 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET

GFL Environmental - 663 - Lake Ariel (Scranton Hauling)  
 17 Industrial Park Rd  
 Lake Ariel, PA  
 US 18436  
 Contact: Eric Merone  
 emerone@countyclecycling.net

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)

T:  
F: