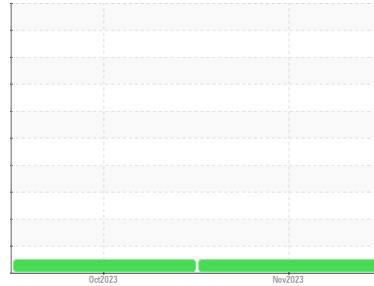




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**1204**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 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 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>WC0855838</b>   | WC0855902   | ---      |
| Sample Date        | Client Info |             |            | <b>06 Nov 2023</b> | 05 Oct 2023 | ---      |
| Machine Age        | mls         | Client Info |            | <b>0</b>           | 0           | ---      |
| Oil Age            | mls         | Client Info |            | <b>0</b>           | 0           | ---      |
| Oil Changed        | Client Info |             |            | <b>N/A</b>         | N/A         | ---      |
| Sample Status      |             |             |            | <b>NORMAL</b>      | NORMAL      | ---      |

| CONTAMINATION |           | method | limit/base | current        | history1 | history2 |
|---------------|-----------|--------|------------|----------------|----------|----------|
| Fuel          | WC Method | >5     |            | <b>&lt;1.0</b> | <1.0     | ---      |
| Water         | WC Method | >0.2   |            | <b>NEG</b>     | NEG      | ---      |
| Glycol        | WC Method |        |            | <b>NEG</b>     | NEG      | ---      |

| WEAR METALS |     | method      | limit/base | current      | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron        | ppm | ASTM D5185m | >100       | <b>11</b>    | 12       | ---      |
| Chromium    | ppm | ASTM D5185m | >20        | <b>&lt;1</b> | <1       | ---      |
| Nickel      | ppm | ASTM D5185m | >4         | <b>&lt;1</b> | 0        | ---      |
| Titanium    | ppm | ASTM D5185m |            | <b>0</b>     | 0        | ---      |
| Silver      | ppm | ASTM D5185m | >3         | <b>0</b>     | 0        | ---      |
| Aluminum    | ppm | ASTM D5185m | >20        | <b>1</b>     | 1        | ---      |
| Lead        | ppm | ASTM D5185m | >40        | <b>0</b>     | 0        | ---      |
| Copper      | ppm | ASTM D5185m | >330       | <b>&lt;1</b> | 2        | ---      |
| Tin         | ppm | ASTM D5185m | >15        | <b>&lt;1</b> | 0        | ---      |
| Vanadium    | ppm | ASTM D5185m |            | <b>0</b>     | 0        | ---      |
| Cadmium     | ppm | ASTM D5185m |            | <b>0</b>     | 0        | ---      |

| ADDITIVES  |     | method      | limit/base | current      | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron      | ppm | ASTM D5185m | 250        | <b>3</b>     | 0        | ---      |
| Barium     | ppm | ASTM D5185m | 10         | <b>0</b>     | 0        | ---      |
| Molybdenum | ppm | ASTM D5185m | 100        | <b>62</b>    | 63       | ---      |
| Manganese  | ppm | ASTM D5185m |            | <b>&lt;1</b> | <1       | ---      |
| Magnesium  | ppm | ASTM D5185m | 450        | <b>962</b>   | 1066     | ---      |
| Calcium    | ppm | ASTM D5185m | 3000       | <b>1154</b>  | 1160     | ---      |
| Phosphorus | ppm | ASTM D5185m | 1150       | <b>1076</b>  | 1133     | ---      |
| Zinc       | ppm | ASTM D5185m | 1350       | <b>1355</b>  | 1440     | ---      |
| Sulfur     | ppm | ASTM D5185m | 4250       | <b>2990</b>  | 3248     | ---      |

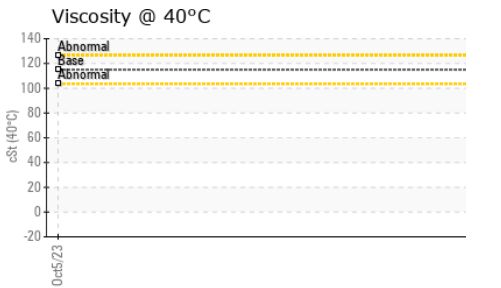
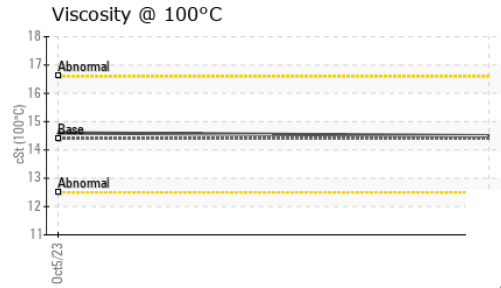
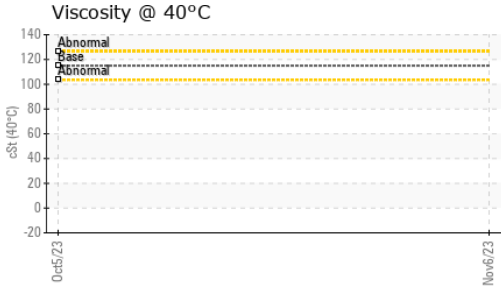
| CONTAMINANTS |     | method      | limit/base | current  | history1 | history2 |
|--------------|-----|-------------|------------|----------|----------|----------|
| Silicon      | ppm | ASTM D5185m | >25        | <b>8</b> | 6        | ---      |
| Sodium       | ppm | ASTM D5185m | >158       | <b>2</b> | 4        | ---      |
| Potassium    | ppm | ASTM D5185m | >20        | <b>4</b> | 2        | ---      |

| INFRA-RED |          | method      | limit/base | current     | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 | >3         | <b>0.5</b>  | 0.6      | ---      |
| Nitration | Abs/cm   | *ASTM D7624 | >20        | <b>10.0</b> | 9.4      | ---      |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30        | <b>21.3</b> | 20.8     | ---      |

| FLUID DEGRADATION |          | method      | limit/base | current     | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation         | Abs/.1mm | *ASTM D7414 | >25        | <b>19.3</b> | 18.3     | ---      |
| Base Number (BN)  | mg KOH/g | ASTM D2896  | 8.5        | <b>7.1</b>  | 7.5      | ---      |



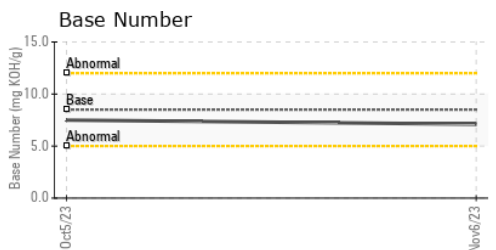
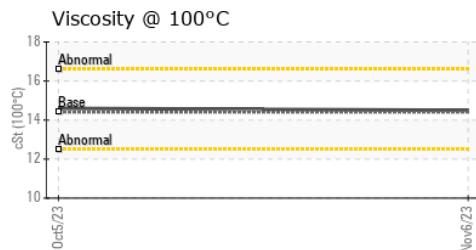
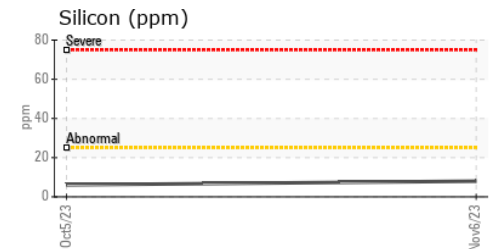
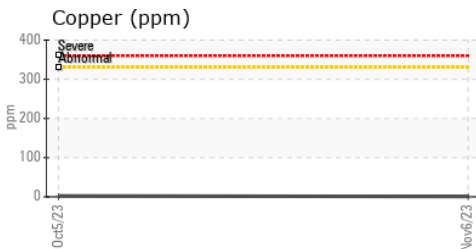
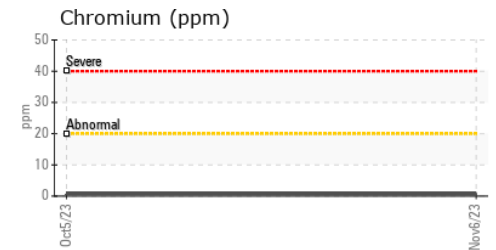
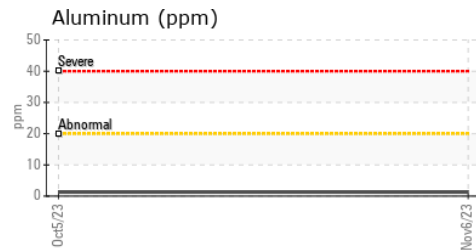
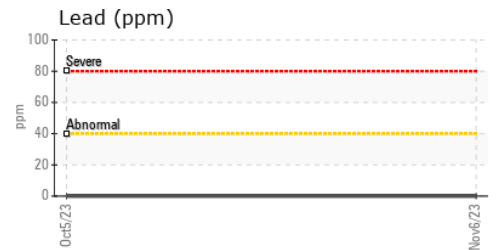
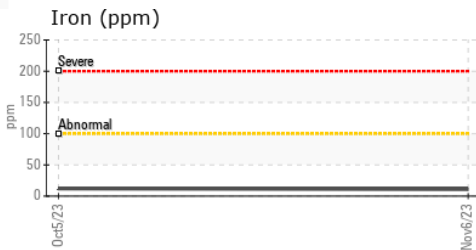
# OIL ANALYSIS REPORT



| 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>14.5</b> | 14.6     | --- |

### GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0855838 **Received** : 17 Nov 2023  
**Lab Number** : **06010644** **Diagnosed** : 21 Nov 2023  
**Unique Number** : 10749788 **Diagnostician** : Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: KV40, TBN )

**GO DURHAM - RAPT**  
 1903 FAYETTEVILLE ST  
 DURHAM, NC  
 US 27701  
 Contact: Robert Iosiniecki  
 Robert.iosiniecki@ratpdev.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)

T:  
F: