



# OIL ANALYSIS REPORT

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

Area  
**Store 9 - Marietta**

Machine Id  
**1074**

Component  
**Diesel Engine**

Fluid  
**SHELL ROTELLA T 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>LEC0045879</b>  | LEC0045140  | LEC0044047  |
| Sample Date    |     | Client Info |           | <b>09 Jan 2024</b> | 21 Nov 2023 | 15 Oct 2023 |
| Machine Age    | hrs | Client Info |           | <b>38983</b>       | 38326       | 37813       |
| Oil Age        | hrs | Client Info |           | <b>400</b>         | 400         | 400         |
| Filter Age     | hrs | Client Info |           | <b>400</b>         | 400         | 400         |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## WEAR

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>12</b>    | 7    | 7    |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | <1   | <1   |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>0</b>     | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>     | <1   | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>4</b>     | 2    | 3    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>22</b>    | 6    | 3    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>&lt;1</b> | <1   | <1   |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | <1   | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

## CONTAMINATION

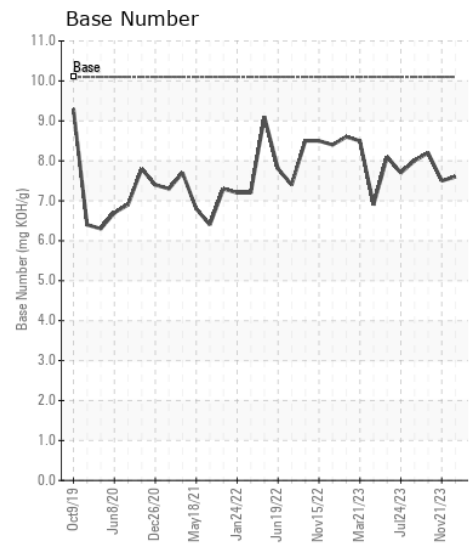
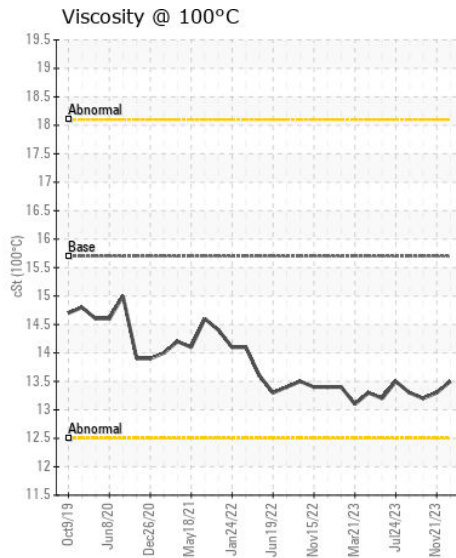
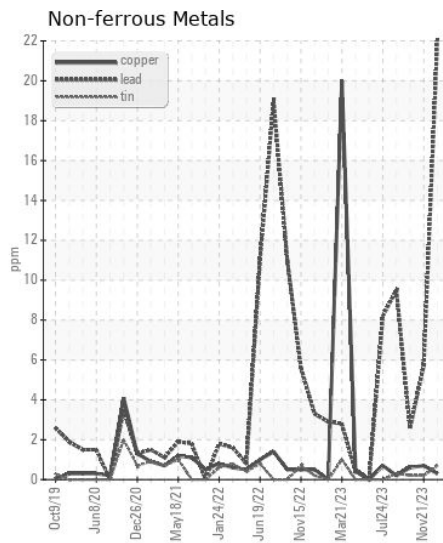
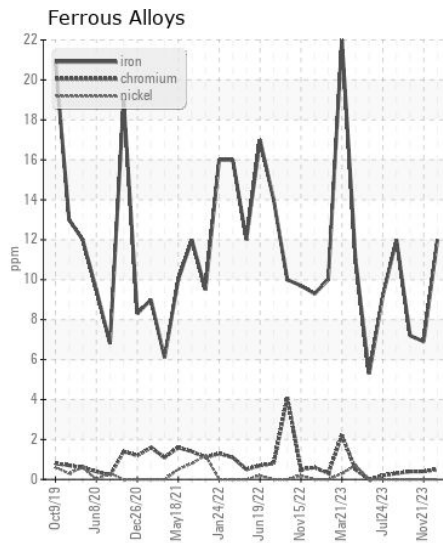
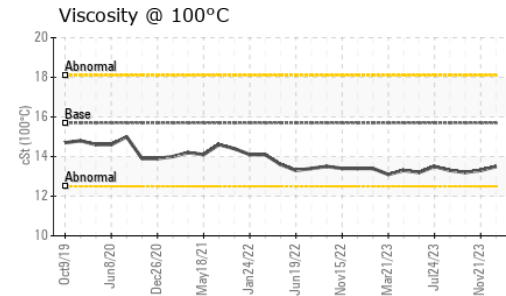
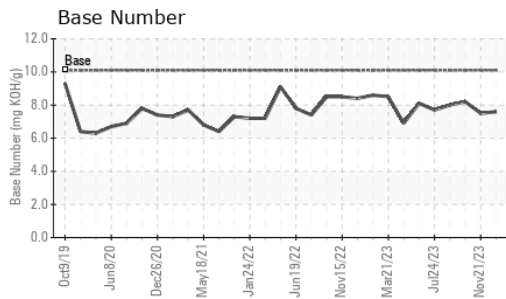
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >120  | <b>7</b>       | 6     | 7     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>1</b>       | 20    | 1     |
| Fuel             |          | WC Method   | >5    | <b>&lt;1.0</b> | <1.0  | <1.0  |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.6</b>     | 0.4   | 0.3   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>10.1</b>    | 8.7   | 8.3   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>25.3</b>    | 24.0  | 23.7  |
| 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     | >0.2  | <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>&lt;1</b> | 9    | <1   |
| Boron            | ppm      | ASTM D5185m | 316  | <b>217</b>   | 252  | 277  |
| Barium           | ppm      | ASTM D5185m | 0.0  | <b>0</b>     | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 1.2  | <b>133</b>   | 126  | 123  |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | <1   | <1   |
| Magnesium        | ppm      | ASTM D5185m | 24   | <b>705</b>   | 674  | 679  |
| Calcium          | ppm      | ASTM D5185m | 2292 | <b>1578</b>  | 1619 | 1590 |
| Phosphorus       | ppm      | ASTM D5185m | 1064 | <b>786</b>   | 707  | 731  |
| Zinc             | ppm      | ASTM D5185m | 1160 | <b>915</b>   | 900  | 923  |
| Sulfur           | ppm      | ASTM D5185m | 4996 | <b>2516</b>  | 2393 | 2603 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>20.2</b>  | 18.3 | 17.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 10.1 | <b>7.6</b>   | 7.5  | 8.2  |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.7 | <b>13.5</b>  | 13.3 | 13.2 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0045879 **Received** : 16 Jan 2024  
**Lab Number** : 06060803 **Diagnosed** : 17 Jan 2024  
**Unique Number** : 10832185 **Diagnostician** : Jonathan Hester  
**Test Package** : CONST ( Additional Tests: TBN )

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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)