



# OIL ANALYSIS REPORT

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

Machine Id  
**FREIGHTLINER 255481**

Component  
**Diesel Engine**

Fluid  
**DIESEL ENGINE OIL SAE 10W30 (--- QTS)**

## 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>WC0874087</b>   | WC0826590   | WC0797960   |
| Sample Date    |     | Client Info |           | <b>08 Dec 2023</b> | 23 Jun 2023 | 18 Apr 2023 |
| Machine Age    | mls | Client Info |           | <b>0</b>           | 288844      | 0           |
| Oil Age        | mls | Client Info |           | <b>0</b>           | 0           | 0           |
| Filter Age     | mls | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | N/A         |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | N/A         |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | MARGINAL    |

## WEAR

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >80  | <b>5</b>     | 8    | 11   |
| Chromium     | ppm    | ASTM D5185m | >5   | <b>&lt;1</b> | <1   | <1   |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>0</b>     | <1   | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >30  | <b>2</b>     | 3    | <1   |
| Lead         | ppm    | ASTM D5185m | >30  | <b>0</b>     | 0    | 0    |
| Copper       | ppm    | ASTM D5185m | >150 | <b>&lt;1</b> | 1    | <1   |
| Tin          | ppm    | ASTM D5185m | >5   | <b>0</b>     | 0    | 0    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

## CONTAMINATION

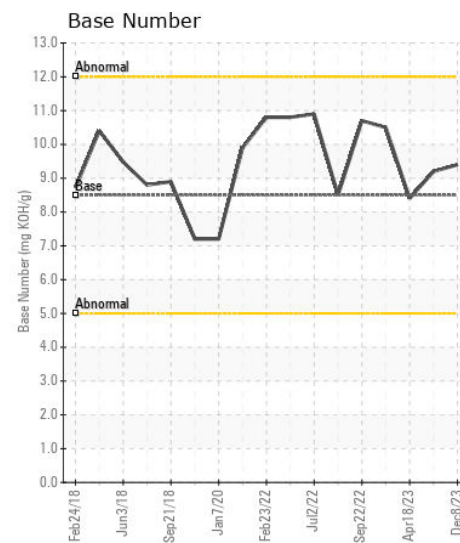
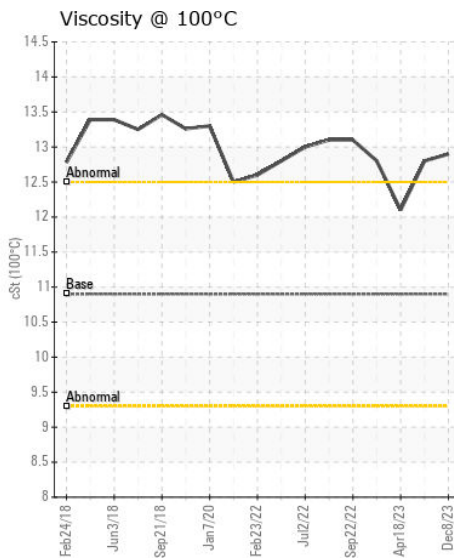
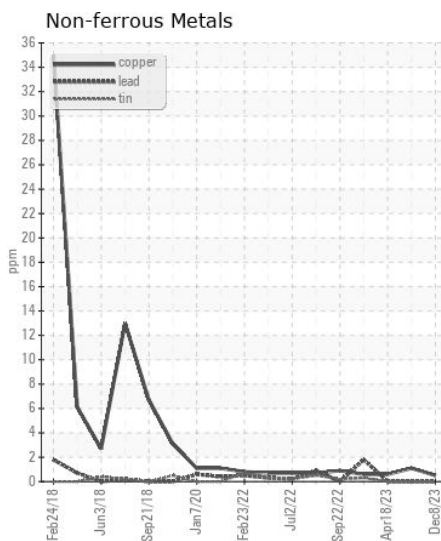
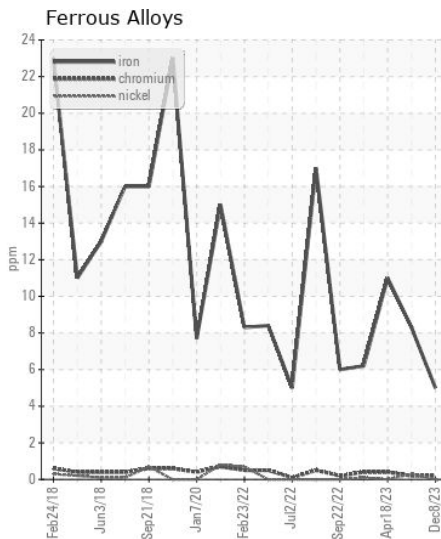
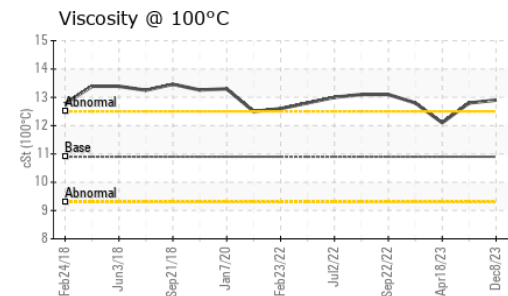
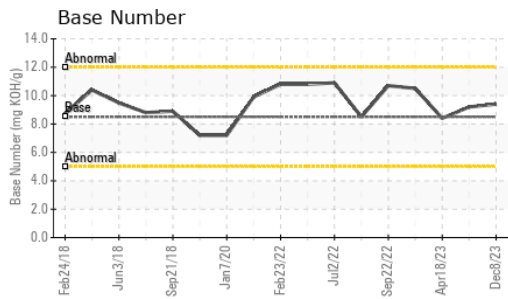
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >20   | <b>4</b>       | 5     | 6     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>3</b>       | 6     | 7     |
| Fuel             |          | WC Method   | >5    | <b>&lt;1.0</b> | <1.0  | ▲ 4.4 |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.1</b>     | 0.3   | 0.4   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>6.7</b>     | 8.4   | 9.5   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>18.7</b>    | 18.8  | 19.6  |
| 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     | >0.2  | <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>0</b>     | 0    | 1    |
| Boron            | ppm      | ASTM D5185m | 250  | <b>&lt;1</b> | 0    | 0    |
| Barium           | ppm      | ASTM D5185m | 10   | <b>0</b>     | 1    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 100  | <b>64</b>    | 61   | 59   |
| Manganese        | ppm      | ASTM D5185m |      | <b>0</b>     | 0    | <1   |
| Magnesium        | ppm      | ASTM D5185m | 450  | <b>1041</b>  | 924  | 928  |
| Calcium          | ppm      | ASTM D5185m | 3000 | <b>1137</b>  | 1020 | 997  |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>1086</b>  | 988  | 966  |
| Zinc             | ppm      | ASTM D5185m | 1350 | <b>1262</b>  | 1174 | 1187 |
| Sulfur           | ppm      | ASTM D5185m | 4250 | <b>3615</b>  | 3177 | 2881 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>14.7</b>  | 15.1 | 16.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | <b>9.4</b>   | 9.2  | 8.4  |
| Visc @ 100°C     | cSt      | ASTM D445   | 10.9 | <b>12.9</b>  | 12.8 | 12.1 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0874087 **Received** : 12 Jan 2024  
**Lab Number** : 06059944 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831326 **Diagnostician** : Wes Davis  
**Test Package** : FLEET

**SALEM NATIONALEASE CORPORATION**  
 198 PARK PLAZA DRIVE  
 WINSTON SALEM, NC  
 US 27105  
 Contact: Audrey Hopkins  
 Audrey.Hopkins@salemcorp.com  
 T: (336)767-9642  
 F: x:

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)