



# OIL ANALYSIS REPORT

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

Machine Id  
**KENWORTH 94**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>RW0005291</b>   | RW0005162   | RW0004726   |
| Sample Date    |     | Client Info |           | <b>11 May 2024</b> | 30 Mar 2024 | 29 Jan 2024 |
| Machine Age    | hrs | Client Info |           | <b>7644</b>        | 7367        | 7045        |
| Oil Age        | hrs | Client Info |           | <b>277</b>         | 322         | 208         |
| Filter Age     | hrs | Client Info |           | <b>277</b>         | 322         | 208         |
| 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>15</b>    | 23   | 8    |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>1</b>     | <1   | <1   |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | 0    | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>1</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>3</b>     | 4    | 2    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>1</b>     | <1   | <1   |
| Copper       | ppm    | ASTM D5185m | >330 | <b>1</b>     | <1   | 0    |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | 0    | 0    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

## CONTAMINATION

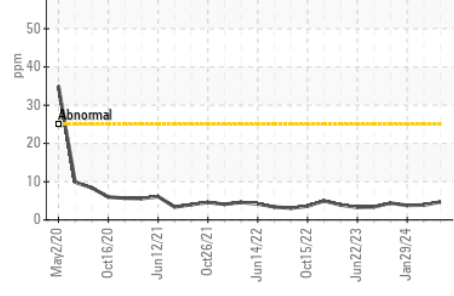
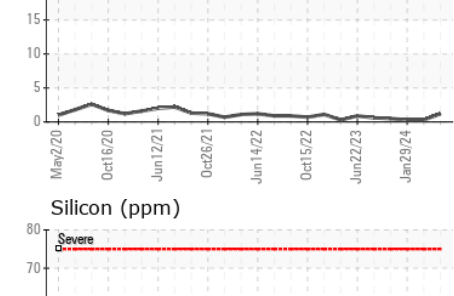
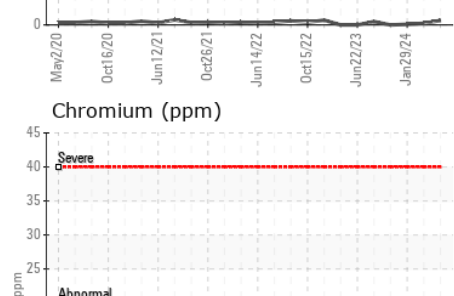
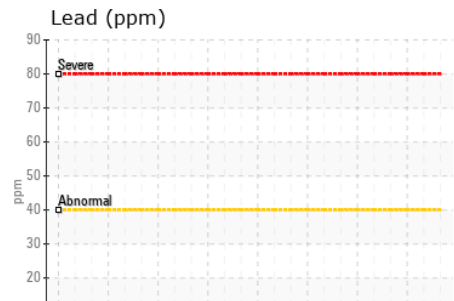
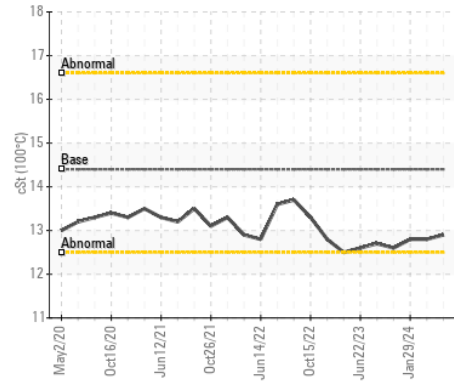
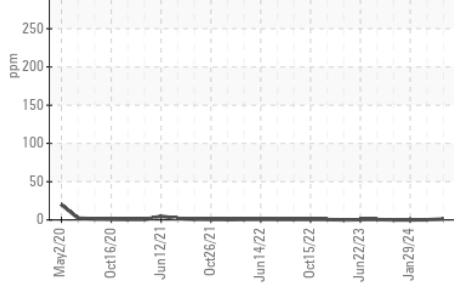
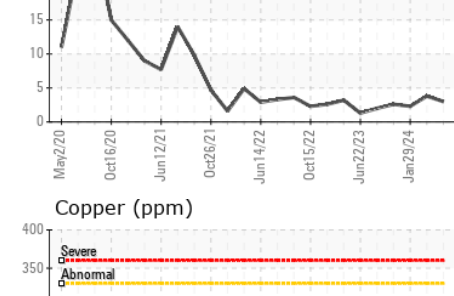
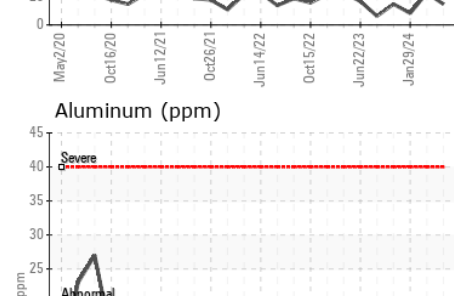
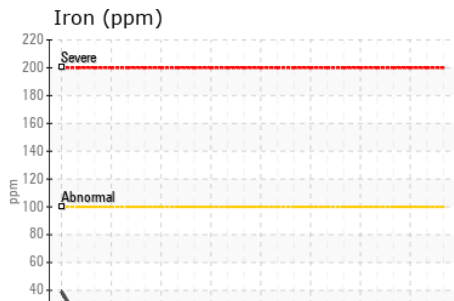
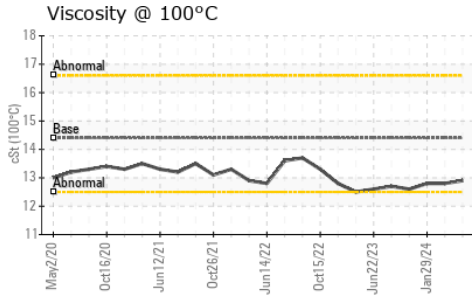
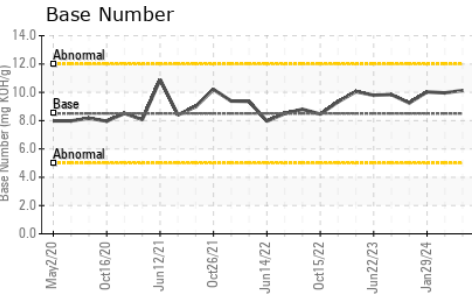
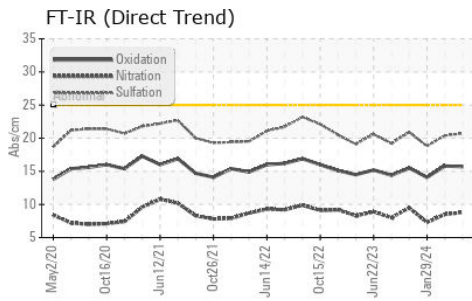
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>5</b>       | 4     | 4     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>3</b>       | 3     | 0     |
| 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>     | 0.6   | 0.4   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>8.8</b>     | 8.5   | 7.3   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>20.7</b>    | 20.4  | 18.8  |
| 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 | >158 | <b>2</b>     | <1   | 0     |
| Boron            | ppm      | ASTM D5185m | 250  | <b>8</b>     | 7    | <1    |
| Barium           | ppm      | ASTM D5185m | 10   | <b>&lt;1</b> | 0    | 0     |
| Molybdenum       | ppm      | ASTM D5185m | 100  | <b>57</b>    | 68   | 58    |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | <1   | <1    |
| Magnesium        | ppm      | ASTM D5185m | 450  | <b>828</b>   | 1142 | 908   |
| Calcium          | ppm      | ASTM D5185m | 3000 | <b>1100</b>  | 1377 | 1044  |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>935</b>   | 1270 | 962   |
| Zinc             | ppm      | ASTM D5185m | 1350 | <b>1135</b>  | 1563 | 1247  |
| Sulfur           | ppm      | ASTM D5185m | 4250 | <b>3092</b>  | 4666 | 3006  |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>15.7</b>  | 15.8 | 14.1  |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | <b>10.13</b> | 9.96 | 10.03 |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.4 | <b>12.9</b>  | 12.8 | 12.8  |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RW0005291  
**Lab Number** : 06193006  
**Unique Number** : 11049758  
**Test Package** : MOB 2  
**Received** : 28 May 2024  
**Tested** : 30 May 2024  
**Diagnosed** : 30 May 2024 - Wes Davis

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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)