



# OIL ANALYSIS REPORT

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

Machine Id  
**FSP144370**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>WC0891665</b>   | WC0826628   | WC0778797   |
| Sample Date    |     | Client Info |           | <b>30 Jan 2024</b> | 19 Jul 2023 | 17 Jan 2023 |
| Machine Age    | mls | Client Info |           | <b>0</b>           | 12293       | 10411       |
| 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     | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | ATTENTION   |

## WEAR

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>32</b>    | 56   | 67   |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>1</b>     | 1    | 2    |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | <1   | <1   |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>     | <1   | <1   |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>22</b>    | 12   | 17   |
| Lead         | ppm    | ASTM D5185m | >40  | <b>&lt;1</b> | 0    | 0    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>2</b>     | 5    | 26   |
| 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

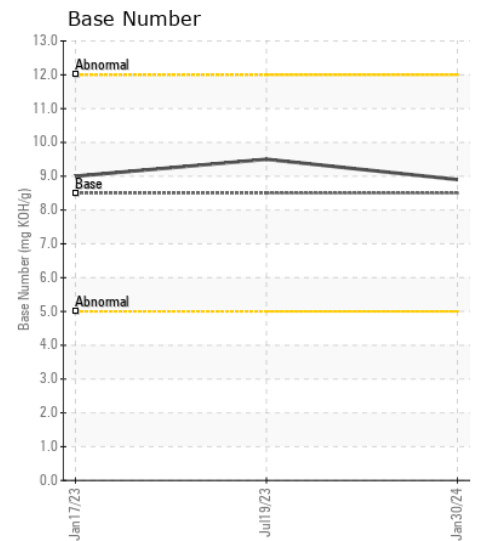
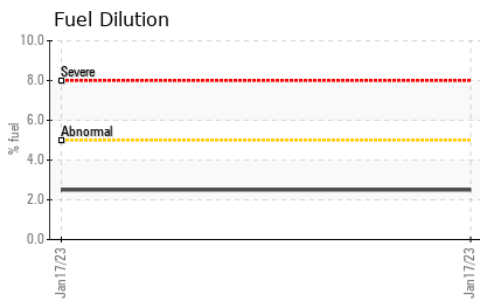
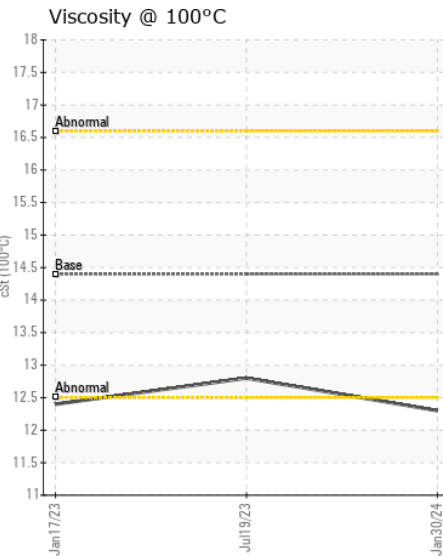
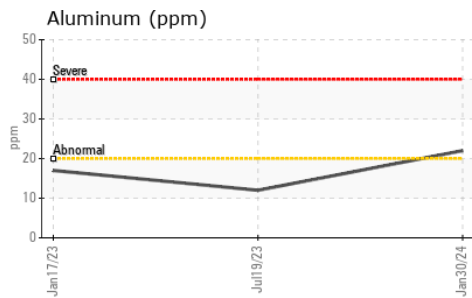
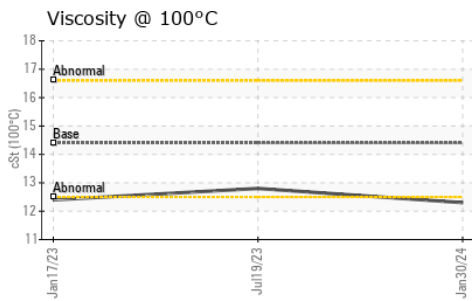
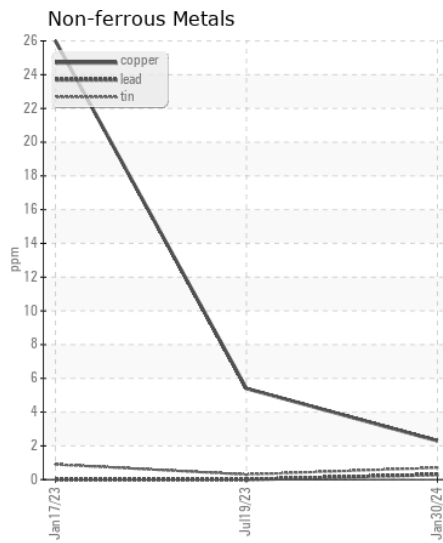
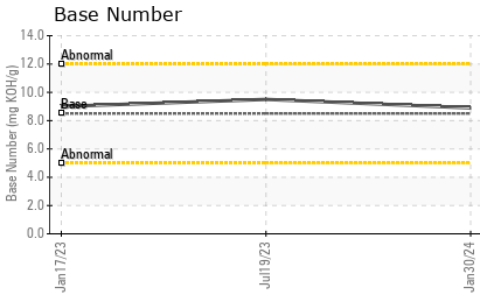
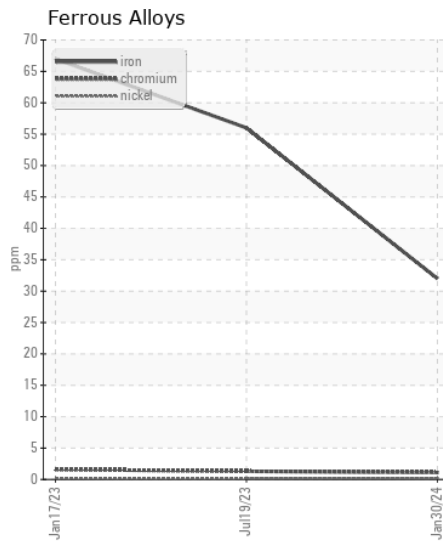
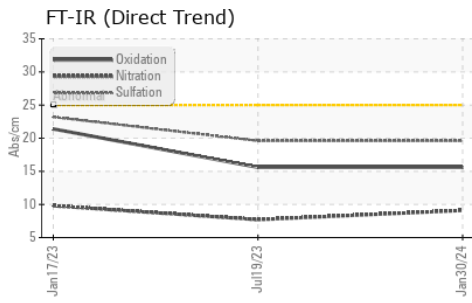
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>7</b>       | 11    | 26    |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>45</b>      | 37    | 59    |
| Fuel             | %        | ASTM D3524  | >5    | <b>&lt;1.0</b> | <1.0  | ▲ 2.5 |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.5</b>     | 0.4   | 0.5   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>9.1</b>     | 7.7   | 9.8   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>19.6</b>    | 19.6  | 23.2  |
| 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>3</b>    | 2    | 5      |
| Boron            | ppm      | ASTM D5185m | 250  | <b>1</b>    | 3    | 39     |
| Barium           | ppm      | ASTM D5185m | 10   | <b>0</b>    | 0    | 2      |
| Molybdenum       | ppm      | ASTM D5185m | 100  | <b>56</b>   | 62   | 38     |
| Manganese        | ppm      | ASTM D5185m |      | <b>1</b>    | 1    | 6      |
| Magnesium        | ppm      | ASTM D5185m | 450  | <b>905</b>  | 986  | 508    |
| Calcium          | ppm      | ASTM D5185m | 3000 | <b>1009</b> | 1148 | 1534   |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>1018</b> | 1019 | 672    |
| Zinc             | ppm      | ASTM D5185m | 1350 | <b>1188</b> | 1205 | 838    |
| Sulfur           | ppm      | ASTM D5185m | 4250 | <b>3493</b> | 3539 | 2643   |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>15.6</b> | 15.6 | 21.4   |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | <b>8.9</b>  | 9.5  | 9.0    |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.4 | <b>12.3</b> | 12.8 | ● 12.4 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0891665 **Received** : 18 Apr 2024  
**Lab Number** : 06153684 **Tested** : 23 Apr 2024  
**Unique Number** : 10983762 **Diagnosed** : 23 Apr 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

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)

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