



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

Area  
**[W52052 HENDERSON]**

Machine Id  
**JOHN DEERE 331G 1T0331GMVLF371179**

Component  
**Diesel Engine**

Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>JR0211644</b>   | JR0147060   | JR0125403   |
| Sample Date    |     | Client Info |           | <b>28 May 2024</b> | 28 Feb 2023 | 23 Mar 2022 |
| Machine Age    | hrs | Client Info |           | <b>1431</b>        | 941         | 647         |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 0           | 647         |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 647         |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | ABNORMAL    |

### WEAR

All component wear rates are normal.

|              |        |             |      |              |      |       |
|--------------|--------|-------------|------|--------------|------|-------|
| Iron         | ppm    | ASTM D5185m | >51  | <b>47</b>    | 34   | 58    |
| Chromium     | ppm    | ASTM D5185m | >11  | <b>&lt;1</b> | <1   | 1     |
| Nickel       | ppm    | ASTM D5185m | >5   | <b>0</b>     | <1   | 0     |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | <1    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | <1   | <1    |
| Aluminum     | ppm    | ASTM D5185m | >31  | <b>8</b>     | 6    | 7     |
| Lead         | ppm    | ASTM D5185m | >26  | <b>0</b>     | <1   | <1    |
| Copper       | ppm    | ASTM D5185m | >26  | <b>21</b>    | 43   | ▲ 164 |
| Tin          | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | <1   | <1    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | <1    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE  |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE  |

### CONTAMINATION

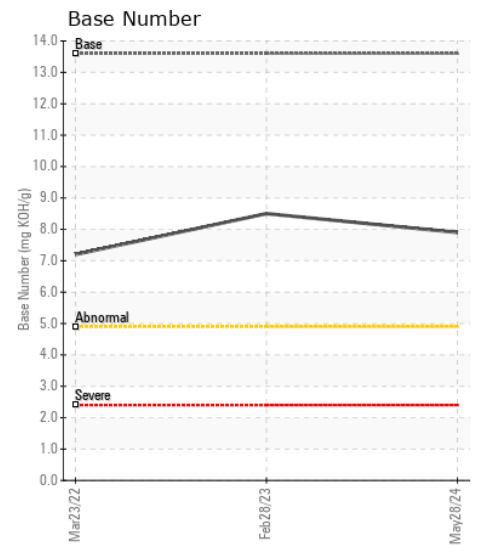
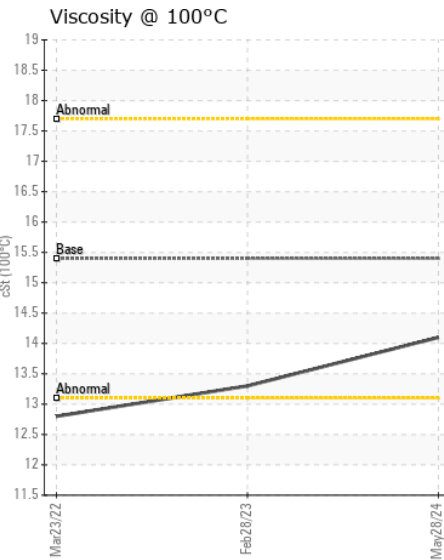
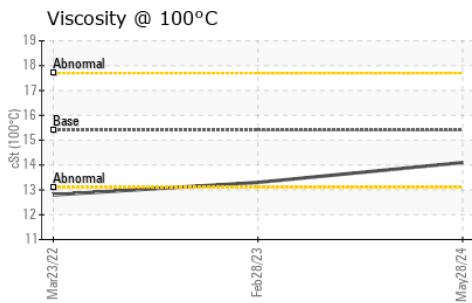
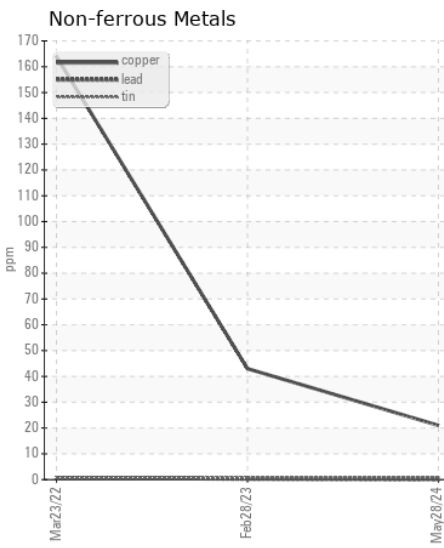
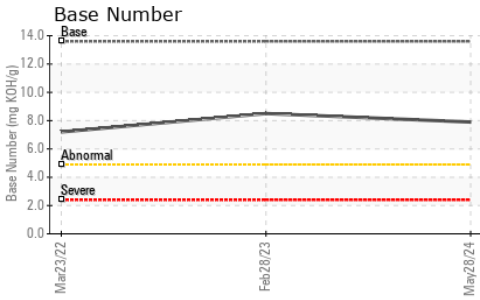
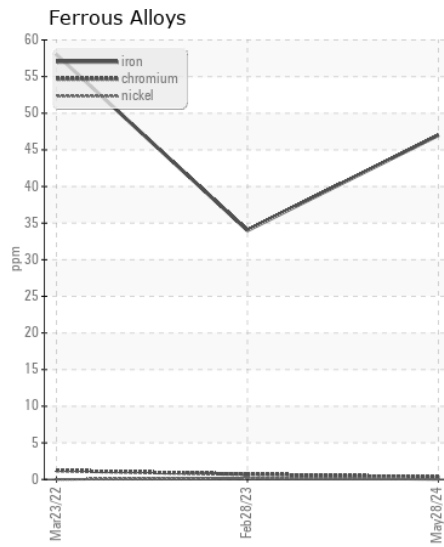
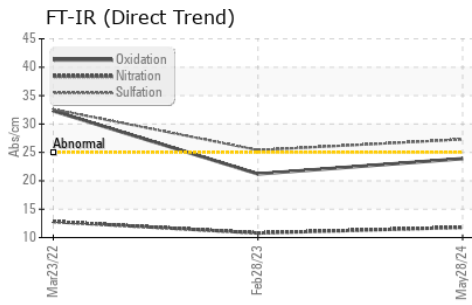
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >22   | <b>17</b>      | 17    | ▲ 38  |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>&lt;1</b>   | 3     | 3     |
| Fuel             |          | WC Method   | >2.1  | <b>&lt;1.0</b> | <1.0  | <1.0  |
| Water            |          | WC Method   | >0.21 | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.7</b>     | 0.4   | 0.4   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>11.8</b>    | 10.8  | 12.8  |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>27.3</b>    | 25.4  | 32.6  |
| 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     | >0.21 | <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 | >31  | <b>2</b>     | 1    | 8    |
| Boron            | ppm      | ASTM D5185m |      | <b>114</b>   | 163  | 108  |
| Barium           | ppm      | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m |      | <b>264</b>   | 268  | 242  |
| Manganese        | ppm      | ASTM D5185m |      | <b>1</b>     | 1    | 2    |
| Magnesium        | ppm      | ASTM D5185m |      | <b>878</b>   | 816  | 805  |
| Calcium          | ppm      | ASTM D5185m |      | <b>1570</b>  | 1605 | 1879 |
| Phosphorus       | ppm      | ASTM D5185m |      | <b>969</b>   | 913  | 901  |
| Zinc             | ppm      | ASTM D5185m |      | <b>1185</b>  | 1129 | 1189 |
| Sulfur           | ppm      | ASTM D5185m |      | <b>3198</b>  | 3015 | 2341 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>23.9</b>  | 21.2 | 32.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 13.6 | <b>7.9</b>   | 8.5  | 7.2  |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.4 | <b>14.1</b>  | 13.3 | 12.8 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : JR0211644

**Lab Number** : 06196391

**Unique Number** : 11058514

**Test Package** : CONST ( Additional Tests: TBN )

**Received** : 31 May 2024

**Tested** : 03 Jun 2024

**Diagnosed** : 03 Jun 2024 - Wes Davis

**JRE - ASHLAND**

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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)