



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

Machine Id  
**HITACHI 300LC-6N 1FFDDP70AFF840051**

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>JR0199121</b>   | JR0154319   | JR0116701   |
| Sample Date    |     | Client Info |           | <b>10 Jan 2024</b> | 07 Dec 2022 | 11 Feb 2022 |
| Machine Age    | hrs | Client Info |           | <b>8555</b>        | 7478        | 6693        |
| Oil Age        | hrs | Client Info |           | <b>1077</b>        | 785         | 0           |
| Filter Age     | hrs | Client Info |           | <b>1077</b>        | 785         | 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      | NORMAL      |

### WEAR

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>13</b>    | 5    | 10   |
| 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>     | 0    | <1   |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>10</b>    | 8    | 7    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>8</b>     | 2    | 2    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>2</b>     | 1    | 2    |
| Tin          | ppm    | ASTM D5185m | >15  | <b>&lt;1</b> | 0    | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0    | <1   |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

### CONTAMINATION

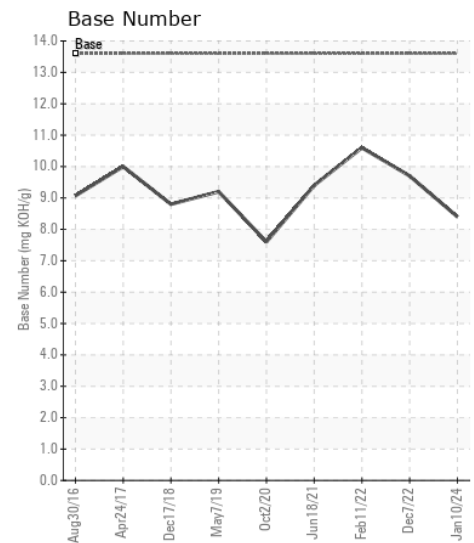
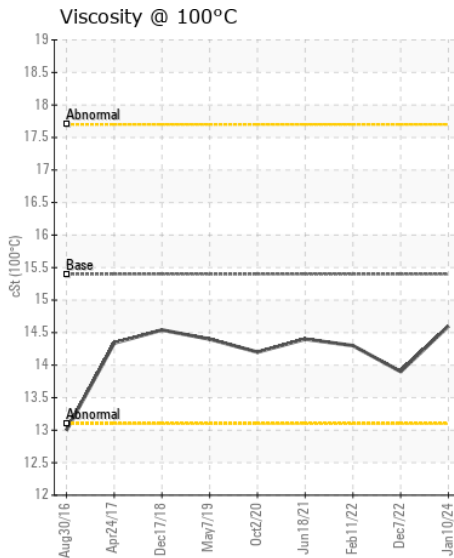
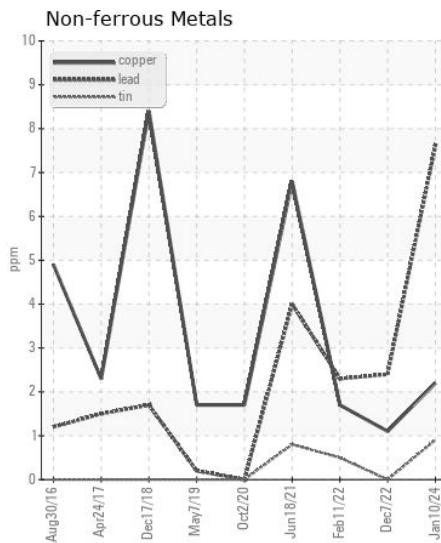
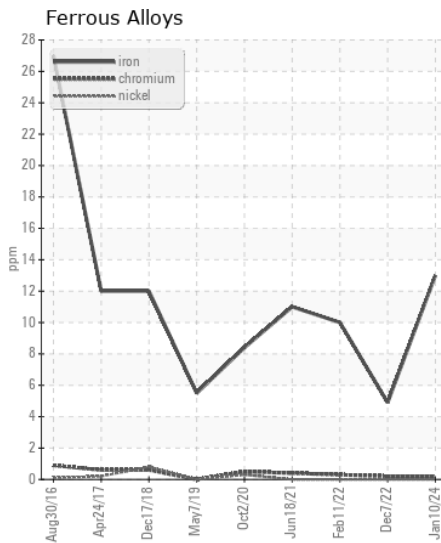
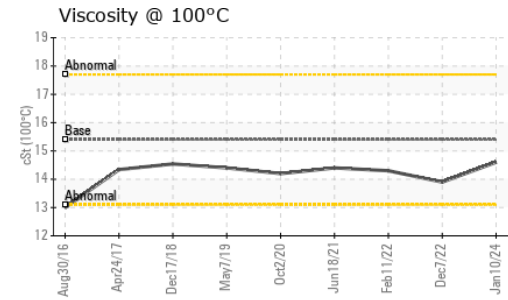
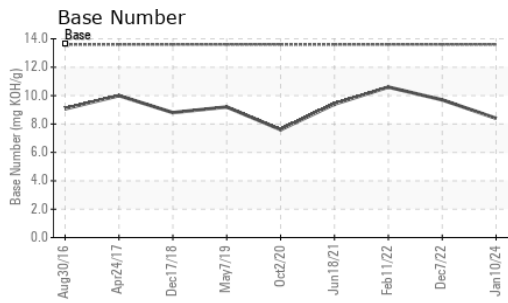
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>7</b>       | 6     | 6     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>3</b>       | 0     | 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>0.9</b>     | 0.7   | 0.5   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>9.6</b>     | 10.0  | 9.2   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>24.5</b>    | 24.5  | 23.4  |
| 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>2</b>     | 0    | 3    |
| Boron            | ppm      | ASTM D5185m |      | <b>144</b>   | 220  | 230  |
| Barium           | ppm      | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m |      | <b>252</b>   | 248  | 227  |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | <1   | <1   |
| Magnesium        | ppm      | ASTM D5185m |      | <b>832</b>   | 826  | 816  |
| Calcium          | ppm      | ASTM D5185m |      | <b>1385</b>  | 1511 | 1545 |
| Phosphorus       | ppm      | ASTM D5185m |      | <b>941</b>   | 869  | 1004 |
| Zinc             | ppm      | ASTM D5185m |      | <b>1152</b>  | 1079 | 1036 |
| Sulfur           | ppm      | ASTM D5185m |      | <b>2916</b>  | 3584 | 2498 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>18.4</b>  | 18.3 | 17.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 13.6 | <b>8.4</b>   | 9.7  | 10.6 |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.4 | <b>14.6</b>  | 13.9 | 14.3 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0199121 **Received** : 18 Jan 2024  
**Lab Number** : 06064973 **Diagnosed** : 19 Jan 2024  
**Unique Number** : 10836355 **Diagnostician** : Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

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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