



Machine Id  
**HITACHI 1FFDDP70LKF840546**  
 Component  
**Pump Drive**  
 Fluid  
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)**

### RECOMMENDATION

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>JR0199175</b>   | JR0153151   | JR0136847   |
| Sample Date    |     | Client Info |           | <b>04 Jan 2024</b> | 09 Jan 2023 | 22 Jul 2022 |
| Machine Age    | hrs | Client Info |           | <b>8005</b>        | 6349        | 5614        |
| Oil Age        | hrs | Client Info |           | <b>7270</b>        | 5614        | 620         |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Not Changd  | Changed     |
| Filter Changed |     | Client Info |           | <b>None</b>        | N/A         | None        |
| Sample Status  |     |             |           | <b>SEVERE</b>      | ABNORMAL    | ABNORMAL    |

### WEAR

Gear wear is indicated.

| PQ           | UOM    | Method      | Limit/Abn | Current      | History1 | History2 |
|--------------|--------|-------------|-----------|--------------|----------|----------|
| PQ           |        | ASTM D8184  |           | <b>284</b>   | 245      | 83       |
| Iron         | ppm    | ASTM D5185m | >500      | <b>▲ 682</b> | 357      | 483      |
| Chromium     | ppm    | ASTM D5185m | >15       | <b>10</b>    | 4        | 9        |
| Nickel       | ppm    | ASTM D5185m | >10       | <b>&lt;1</b> | 0        | <1       |
| Titanium     | ppm    | ASTM D5185m |           | <b>6</b>     | 2        | 6        |
| Silver       | ppm    | ASTM D5185m |           | <b>0</b>     | 0        | <1       |
| Aluminum     | ppm    | ASTM D5185m | >20       | <b>▲ 63</b>  | ▲ 16     | ▲ 40     |
| Lead         | ppm    | ASTM D5185m |           | <b>&lt;1</b> | 0        | <1       |
| Copper       | ppm    | ASTM D5185m | >35       | <b>2</b>     | <1       | <1       |
| Tin          | ppm    | ASTM D5185m | >4        | <b>0</b>     | 1        | <1       |
| Vanadium     | ppm    | ASTM D5185m |           | <b>&lt;1</b> | <1       | <1       |
| White Metal  | scalar | *Visual     | NONE      | <b>NONE</b>  | MODER    | LIGHT    |
| Yellow Metal | scalar | *Visual     | NONE      | <b>NONE</b>  | NONE     | NONE     |

### CONTAMINATION

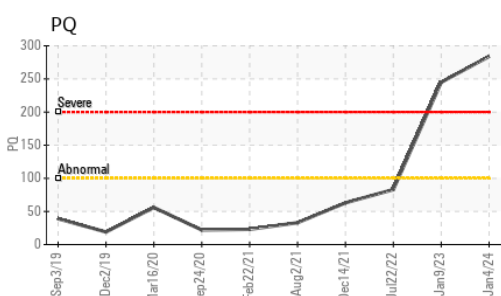
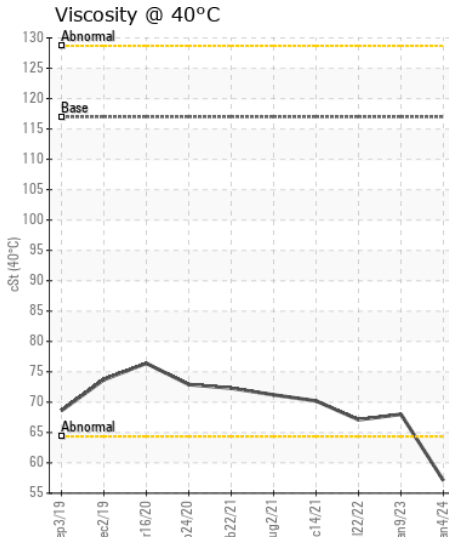
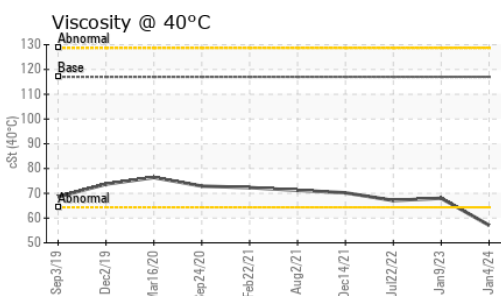
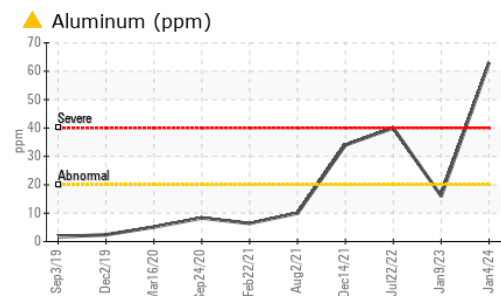
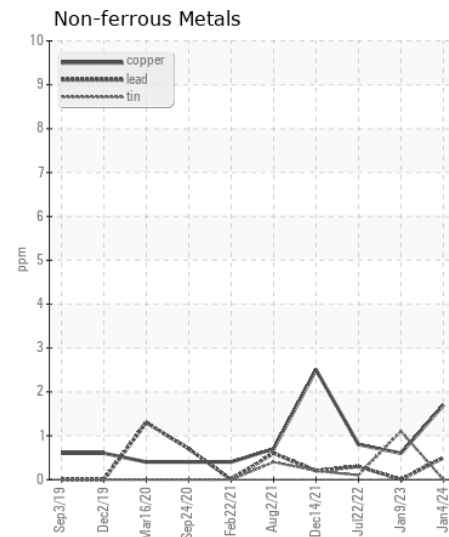
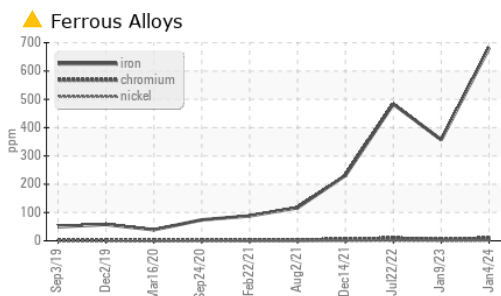
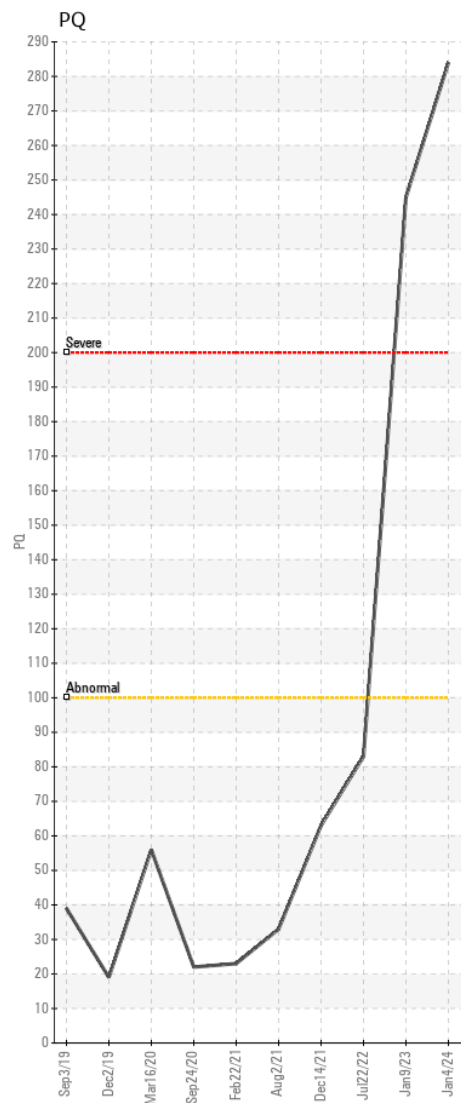
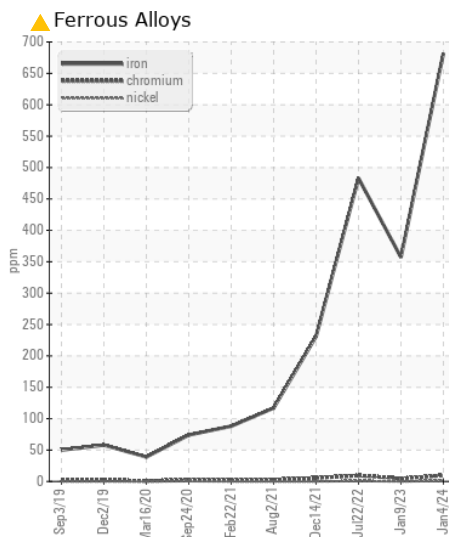
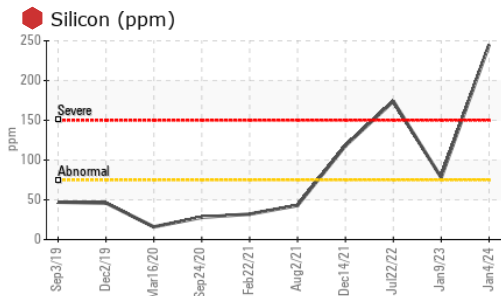
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

|                  |        |             |       |              |       |       |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm    | ASTM D5185m | >75   | <b>◆ 245</b> | ▲ 78  | ▲ 174 |
| Potassium        | ppm    | ASTM D5185m | >20   | <b>15</b>    | 3     | 8     |
| Water            |        | WC Method   | >0.2  | <b>NEG</b>   | NEG   | NEG   |
| Silt             | scalar | *Visual     | NONE  | <b>MODER</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 condition of the oil is acceptable for the time in service.

|             |     |             |     |             |      |      |
|-------------|-----|-------------|-----|-------------|------|------|
| Sodium      | ppm | ASTM D5185m |     | <b>6</b>    | 6    | 10   |
| Boron       | ppm | ASTM D5185m |     | <b>176</b>  | 259  | 327  |
| Barium      | ppm | ASTM D5185m |     | <b>8</b>    | <1   | 0    |
| Molybdenum  | ppm | ASTM D5185m |     | <b>152</b>  | 214  | 258  |
| Manganese   | ppm | ASTM D5185m |     | <b>9</b>    | 4    | 9    |
| Magnesium   | ppm | ASTM D5185m |     | <b>489</b>  | 669  | 831  |
| Calcium     | ppm | ASTM D5185m |     | <b>912</b>  | 1246 | 1579 |
| Phosphorus  | ppm | ASTM D5185m |     | <b>725</b>  | 829  | 981  |
| Zinc        | ppm | ASTM D5185m |     | <b>621</b>  | 848  | 1071 |
| Sulfur      | ppm | ASTM D5185m |     | <b>2432</b> | 3147 | 4174 |
| Visc @ 40°C | cSt | ASTM D445   | 117 | <b>57.1</b> | 68.0 | 67.1 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0199175 **Received** : 08 Jan 2024  
**Lab Number** : 06054278 **Diagnosed** : 09 Jan 2024  
**Unique Number** : 10820227 **Diagnostician** : Don Baldrige  
**Test Package** : CONST ( Additional Tests: PQ )

**JRE - MANASSAS PARK**  
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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)