



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



Machine Id  
**JOHN DEERE 644 P 1DW644PAVNLZ13993**  
Component  
**Diesel Engine**  
Fluid  
**MOBIL 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>JR0172464</b>   | JR0149337   | JR0148414   |
| Sample Date    |     | Client Info |           | <b>08 Apr 2024</b> | 26 Mar 2024 | 25 Oct 2022 |
| Machine Age    | hrs | Client Info |           | <b>2798</b>        | 7366        | 708         |
| Oil Age        | hrs | Client Info |           | <b>500</b>         | 500         | 0           |
| Filter Age     | hrs | Client Info |           | <b>500</b>         | 500         | 0           |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | N/A         |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | N/A         |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

### WEAR

All component wear rates are normal.

|              |        |             |      |             |      |      |
|--------------|--------|-------------|------|-------------|------|------|
| Iron         | ppm    | ASTM D5185m | >51  | <b>9</b>    | 11   | 7    |
| Chromium     | ppm    | ASTM D5185m | >11  | <b>0</b>    | <1   | 1    |
| Nickel       | ppm    | ASTM D5185m | >5   | <b>0</b>    | 0    | <1   |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>    | 0    | <1   |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>    | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >31  | <b>0</b>    | 1    | 0    |
| Lead         | ppm    | ASTM D5185m | >26  | <b>0</b>    | 0    | 0    |
| Copper       | ppm    | ASTM D5185m | >26  | <b>0</b>    | <1   | 51   |
| Tin          | ppm    | ASTM D5185m | >4   | <b>0</b>    | <1   | 0    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</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.

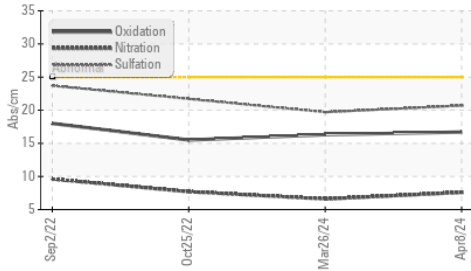
|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >22   | <b>4</b>       | 4     | 6     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>0</b>       | 0     | 0     |
| 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>0.5</b>     | 0.3   | 0.2   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>7.6</b>     | 6.6   | 7.7   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>20.7</b>    | 19.7  | 21.7  |
| 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

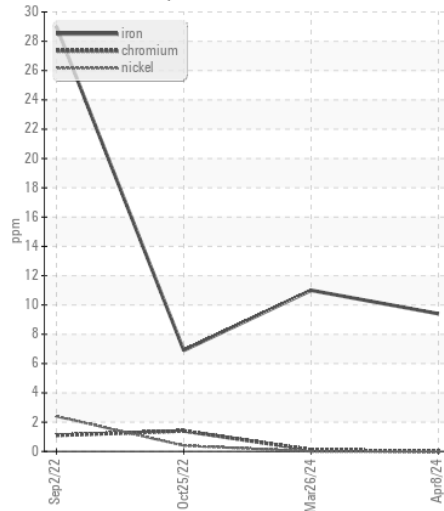
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |             |      |      |
|------------------|----------|-------------|------|-------------|------|------|
| Sodium           | ppm      | ASTM D5185m | >118 | <b>1</b>    | 1    | <1   |
| Boron            | ppm      | ASTM D5185m |      | <b>18</b>   | 17   | 243  |
| Barium           | ppm      | ASTM D5185m |      | <b>0</b>    | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m |      | <b>47</b>   | 50   | 215  |
| Manganese        | ppm      | ASTM D5185m |      | <b>0</b>    | <1   | 1    |
| Magnesium        | ppm      | ASTM D5185m |      | <b>745</b>  | 775  | 770  |
| Calcium          | ppm      | ASTM D5185m |      | <b>1355</b> | 1361 | 1465 |
| Phosphorus       | ppm      | ASTM D5185m |      | <b>1007</b> | 994  | 831  |
| Zinc             | ppm      | ASTM D5185m |      | <b>1160</b> | 1188 | 1078 |
| Sulfur           | ppm      | ASTM D5185m |      | <b>3447</b> | 3655 | 3329 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>16.7</b> | 16.3 | 15.5 |
| Base Number (BN) | mg KOH/g | ASTM D2896  |      | <b>9.4</b>  | 10.1 | 11.0 |
| Visc @ 100°C     | cSt      | ASTM D445   |      | <b>12.8</b> | 12.7 | 13.5 |

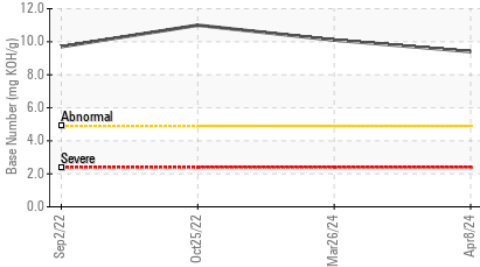
**FT-IR (Direct Trend)**



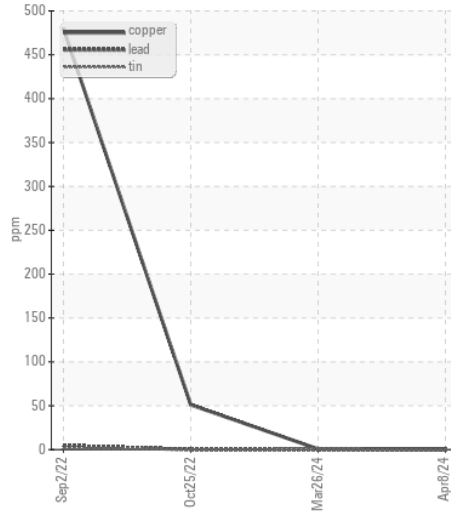
**Ferrous Alloys**



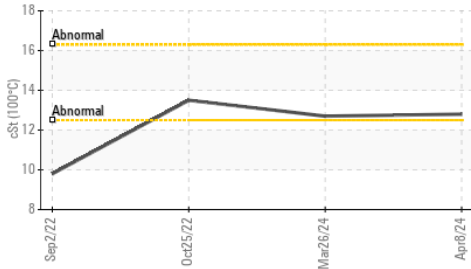
**Base Number**



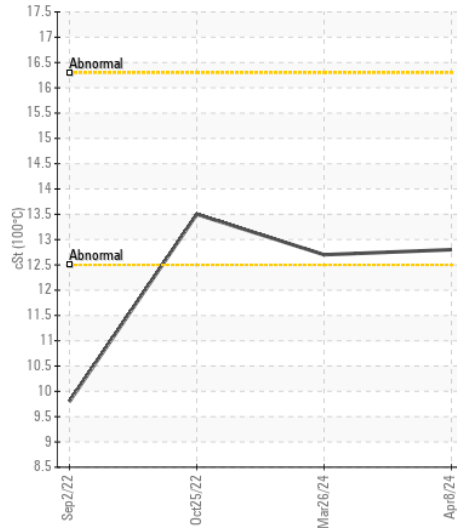
**Non-ferrous Metals**



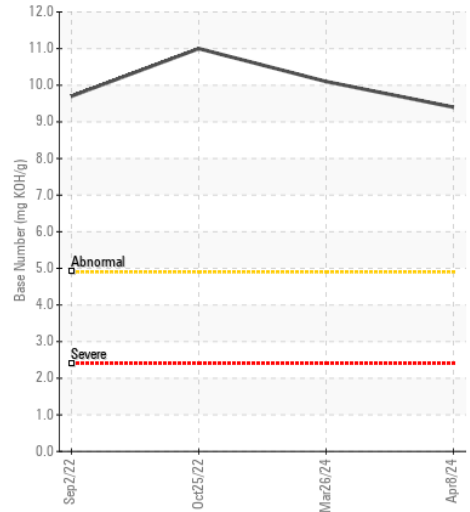
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0172464 **Received** : 15 Apr 2024  
**Lab Number** : 06148229 **Tested** : 15 Apr 2024  
**Unique Number** : 10978307 **Diagnosed** : 15 Apr 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**SCOTTS EARTH GROW**  
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 US 23890  
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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)