

# OIL ANALYSIS REPORT

## Sample Rating Trend


**WEAR**


Machine Id

**JOHN DEERE 203**

Component

**Diesel Engine**

Fluid

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

### DIAGNOSIS

#### ▲ Recommendation

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

#### ▲ Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other metal levels are typical for a new component breaking in.

#### Contamination

Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

#### ● Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

### SAMPLE INFORMATION

|               | method      | limit/base  | current            | history1 | history2 |
|---------------|-------------|-------------|--------------------|----------|----------|
| Sample Number | Client Info |             | <b>JR0189713</b>   | ---      | ---      |
| Sample Date   | Client Info |             | <b>16 Apr 2024</b> | ---      | ---      |
| Machine Age   | hrs         | Client Info | <b>503</b>         | ---      | ---      |
| Oil Age       | hrs         | Client Info | <b>503</b>         | ---      | ---      |
| Oil Changed   | Client Info |             | <b>Changed</b>     | ---      | ---      |
| Sample Status |             |             | <b>ABNORMAL</b>    | ---      | ---      |

### CONTAMINATION

|        | method    | limit/base | current    | history1 | history2 |
|--------|-----------|------------|------------|----------|----------|
| Water  | WC Method | >0.21      | <b>NEG</b> | ---      | ---      |
| Glycol | WC Method |            | <b>NEG</b> | ---      | ---      |

### WEAR METALS

|          | method | limit/base  | current | history1     | history2 |
|----------|--------|-------------|---------|--------------|----------|
| Iron     | ppm    | ASTM D5185m | >51     | <b>52</b>    | ---      |
| Chromium | ppm    | ASTM D5185m | >11     | <b>&lt;1</b> | ---      |
| Nickel   | ppm    | ASTM D5185m | >5      | <b>9</b>     | ---      |
| Titanium | ppm    | ASTM D5185m |         | <b>0</b>     | ---      |
| Silver   | ppm    | ASTM D5185m | >3      | <b>0</b>     | ---      |
| Aluminum | ppm    | ASTM D5185m | >31     | <b>6</b>     | ---      |
| Lead     | ppm    | ASTM D5185m | >26     | <b>&lt;1</b> | ---      |
| Copper   | ppm    | ASTM D5185m | >26     | <b>▲ 386</b> | ---      |
| Tin      | ppm    | ASTM D5185m | >4      | <b>3</b>     | ---      |
| Vanadium | ppm    | ASTM D5185m |         | <b>0</b>     | ---      |
| Cadmium  | ppm    | ASTM D5185m |         | <b>0</b>     | ---      |

### ADDITIVES

|            | method | limit/base  | current | history1    | history2 |
|------------|--------|-------------|---------|-------------|----------|
| Boron      | ppm    | ASTM D5185m |         | <b>204</b>  | ---      |
| Barium     | ppm    | ASTM D5185m |         | <b>4</b>    | ---      |
| Molybdenum | ppm    | ASTM D5185m |         | <b>280</b>  | ---      |
| Manganese  | ppm    | ASTM D5185m |         | <b>3</b>    | ---      |
| Magnesium  | ppm    | ASTM D5185m |         | <b>876</b>  | ---      |
| Calcium    | ppm    | ASTM D5185m |         | <b>1552</b> | ---      |
| Phosphorus | ppm    | ASTM D5185m |         | <b>924</b>  | ---      |
| Zinc       | ppm    | ASTM D5185m |         | <b>1130</b> | ---      |
| Sulfur     | ppm    | ASTM D5185m |         | <b>3149</b> | ---      |

### CONTAMINANTS

|           | method | limit/base  | current | history1   | history2 |
|-----------|--------|-------------|---------|------------|----------|
| Silicon   | ppm    | ASTM D5185m | >22     | <b>10</b>  | ---      |
| Sodium    | ppm    | ASTM D5185m | >31     | <b>7</b>   | ---      |
| Potassium | ppm    | ASTM D5185m | >20     | <b>7</b>   | ---      |
| Fuel      | %      | ASTM D3524  | >2.1    | <b>0.0</b> | ---      |

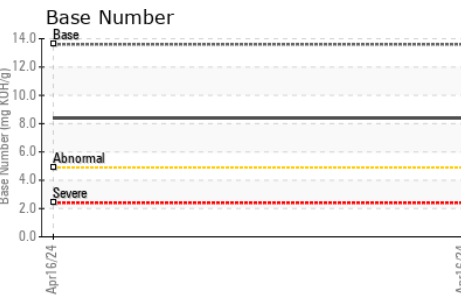
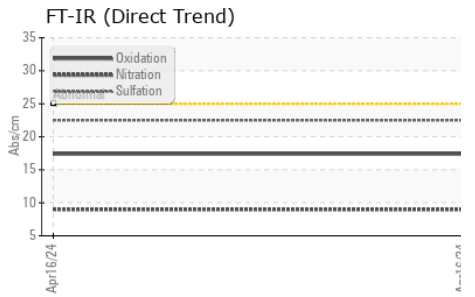
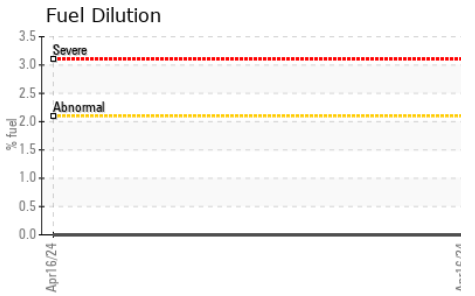
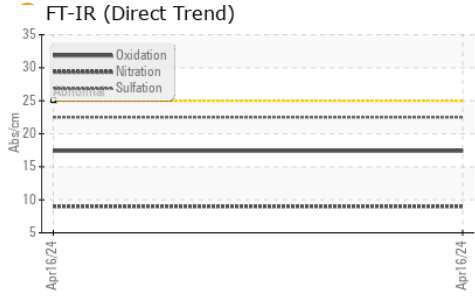
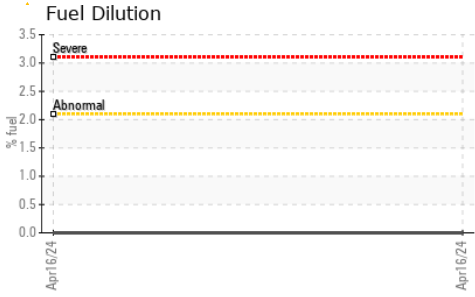
### INFRA-RED

|           | method   | limit/base  | current | history1    | history2 |
|-----------|----------|-------------|---------|-------------|----------|
| Soot %    | %        | *ASTM D7844 | >3      | <b>0.3</b>  | ---      |
| Nitration | Abs/cm   | *ASTM D7624 | >20     | <b>9.0</b>  | ---      |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30     | <b>22.5</b> | ---      |

### FLUID DEGRADATION

|                  | method   | limit/base  | current | history1    | history2 |
|------------------|----------|-------------|---------|-------------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25     | <b>17.4</b> | ---      |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 13.6    | <b>8.4</b>  | ---      |

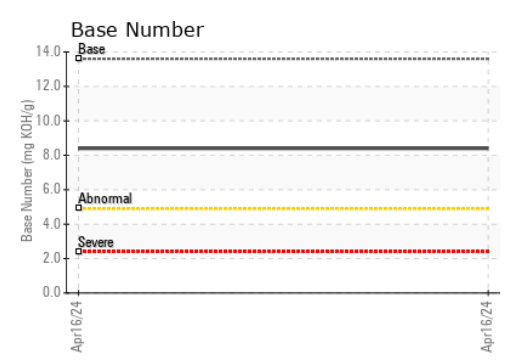
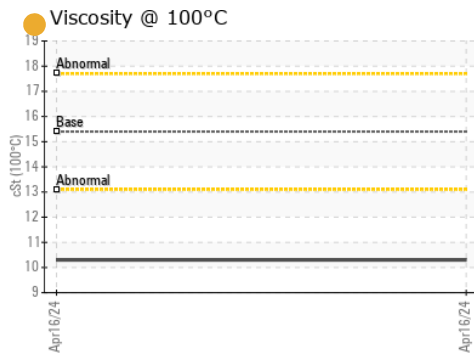
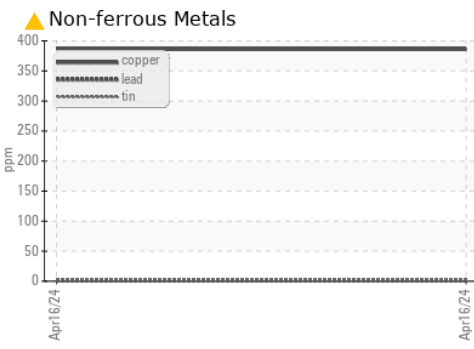
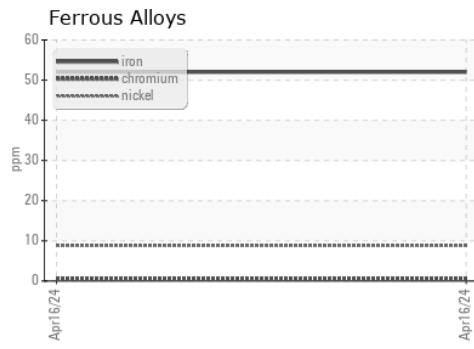
# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history1 | history2 |     |
|------------------|--------|------------|---------|----------|----------|-----|
| White Metal      | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Yellow Metal     | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Precipitate      | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Silt             | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Debris           | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Sand/Dirt        | scalar | *Visual    | NONE    | NONE     | ---      | --- |
| Appearance       | scalar | *Visual    | NORML   | NORML    | ---      | --- |
| Odor             | scalar | *Visual    | NORML   | NORML    | ---      | --- |
| Emulsified Water | scalar | *Visual    | >0.21   | NEG      | ---      | --- |
| Free Water       | scalar | *Visual    |         | NEG      | ---      | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |     |
|------------------|--------|------------|---------|----------|----------|-----|
| Visc @ 100°C     | cSt    | ASTM D445  | 15.4    | ● 10.3   | ---      | --- |

### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0189713      **Received** : 24 Apr 2024  
**Lab Number** : 06158856      **Tested** : 26 Apr 2024  
**Unique Number** : 10994279      **Diagnosed** : 26 Apr 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

**THE SCOTTS COMPANY**  
 3175 BRIGHT LEAF RD  
 LAWRENCEVILLE, VA  
 US 23868  
 Contact: REX WATSON

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)

T: (434)848-2727  
 F: (434)848-2250