



# OIL ANALYSIS REPORT

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



Area  
**Store 8 - Pikeville [ro#130365]**  
Machine Id  
**JOHN DEERE 650K 1T0650KKKHF316340**  
Component  
**Diesel Engine**  
Fluid  
**{not provided} (--- QTS)**

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

| Test           | UOM | Method      | Limit/Abn | Current            | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number  |     | Client Info |           | <b>LEC0028423</b>  | ---      | ---      |
| Sample Date    |     | Client Info |           | <b>26 Jul 2022</b> | ---      | ---      |
| Machine Age    | hrs | Client Info |           | <b>396</b>         | ---      | ---      |
| Oil Age        | hrs | Client Info |           | <b>396</b>         | ---      | ---      |
| Filter Age     | hrs | Client Info |           | <b>396</b>         | ---      | ---      |
| Oil Changed    |     | Client Info |           | <b>Not Chngd</b>   | ---      | ---      |
| Filter Changed |     | Client Info |           | <b>Not Chngd</b>   | ---      | ---      |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | ---      | ---      |

## WEAR

The copper level is abnormal. The iron level is abnormal. Elemental level of copper (Cu) probably due to leaching of copper from copper components (i.e. cooling core) by the oil additives.

|              |        |             |      |              |     |     |
|--------------|--------|-------------|------|--------------|-----|-----|
| Iron         | ppm    | ASTM D5185m | >51  | <b>▲ 112</b> | --- | --- |
| Chromium     | ppm    | ASTM D5185m | >11  | <b>2</b>     | --- | --- |
| Nickel       | ppm    | ASTM D5185m | >5   | <b>&lt;1</b> | --- | --- |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | --- | --- |
| Silver       | ppm    | ASTM D5185m |      | <b>0</b>     | --- | --- |
| Aluminum     | ppm    | ASTM D5185m | >31  | <b>12</b>    | --- | --- |
| Lead         | ppm    | ASTM D5185m | >26  | <b>6</b>     | --- | --- |
| Copper       | ppm    | ASTM D5185m | >26  | <b>▲ 170</b> | --- | --- |
| Tin          | ppm    | ASTM D5185m | >4   | <b>3</b>     | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | --- | --- |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | --- | --- |

## CONTAMINATION

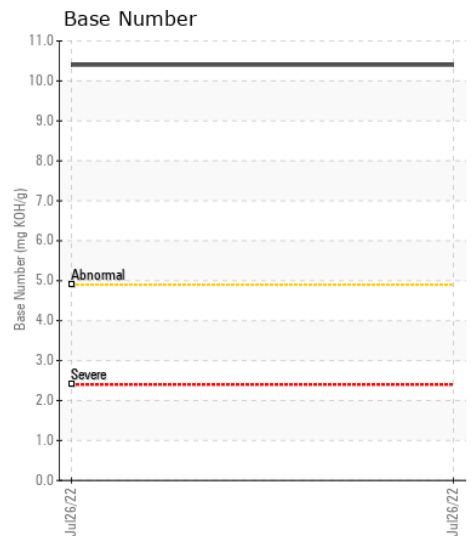
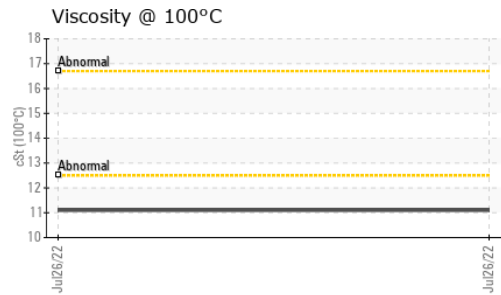
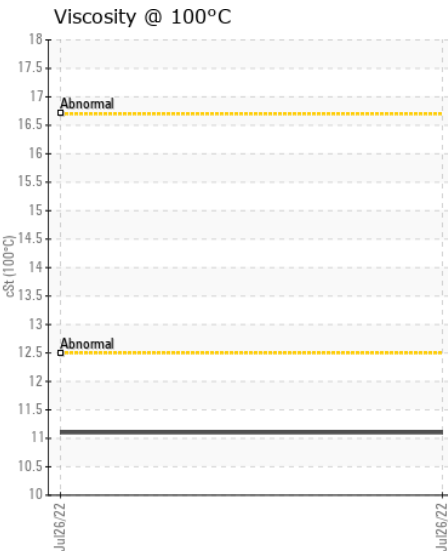
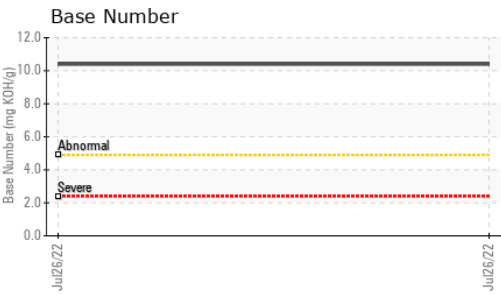
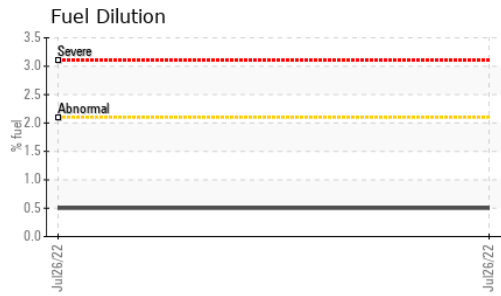
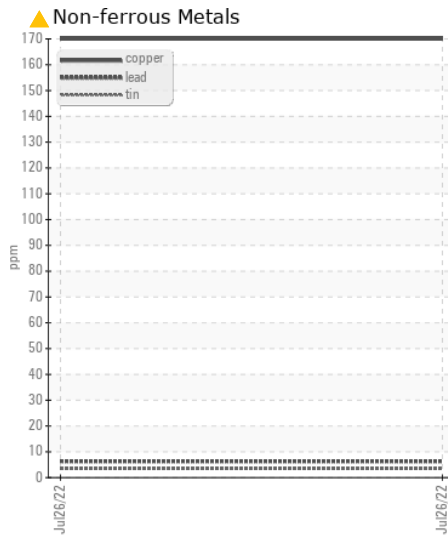
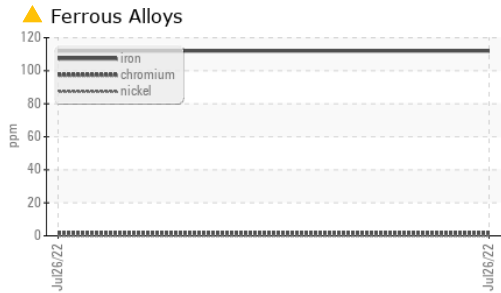
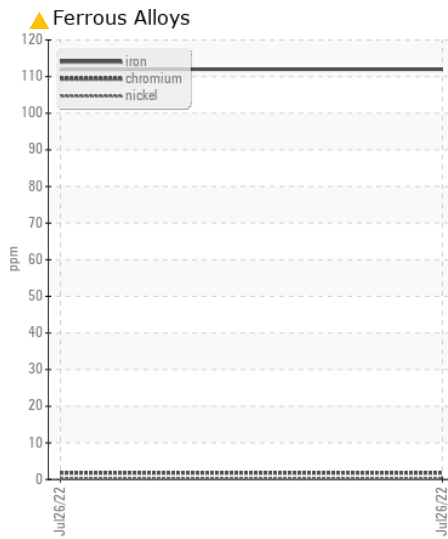
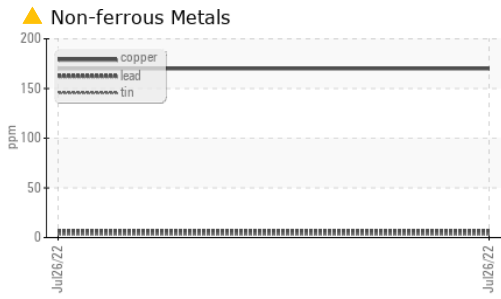
Fuel content negligible. There is no indication of any contamination in the oil.

|                  |          |             |       |              |     |     |
|------------------|----------|-------------|-------|--------------|-----|-----|
| Silicon          | ppm      | ASTM D5185m | >120  | <b>12</b>    | --- | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>4</b>     | --- | --- |
| Fuel             | %        | ASTM D3524  | >2.1  | <b>0.5</b>   | --- | --- |
| Water            |          | WC Method   | >0.21 | <b>NEG</b>   | --- | --- |
| Glycol           |          | WC Method   |       | <b>NEG</b>   | --- | --- |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.4</b>   | --- | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>11.3</b>  | --- | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>25.5</b>  | --- | --- |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>  | --- | --- |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>  | --- | --- |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>  | --- | --- |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b> | --- | --- |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b> | --- | --- |
| Emulsified Water | scalar   | *Visual     | >0.21 | <b>NEG</b>   | --- | --- |

## FLUID CONDITION

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

|                  |          |             |     |             |     |     |
|------------------|----------|-------------|-----|-------------|-----|-----|
| Sodium           | ppm      | ASTM D5185m | >31 | <b>8</b>    | --- | --- |
| Boron            | ppm      | ASTM D5185m |     | <b>240</b>  | --- | --- |
| Barium           | ppm      | ASTM D5185m |     | <b>3</b>    | --- | --- |
| Molybdenum       | ppm      | ASTM D5185m |     | <b>268</b>  | --- | --- |
| Manganese        | ppm      | ASTM D5185m |     | <b>6</b>    | --- | --- |
| Magnesium        | ppm      | ASTM D5185m |     | <b>857</b>  | --- | --- |
| Calcium          | ppm      | ASTM D5185m |     | <b>1465</b> | --- | --- |
| Phosphorus       | ppm      | ASTM D5185m |     | <b>896</b>  | --- | --- |
| Zinc             | ppm      | ASTM D5185m |     | <b>1129</b> | --- | --- |
| Sulfur           | ppm      | ASTM D5185m |     | <b>3046</b> | --- | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25 | <b>21.0</b> | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  |     | <b>10.4</b> | --- | --- |
| Visc @ 100°C     | cSt      | ASTM D445   |     | <b>11.1</b> | --- | --- |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0028423 **Received** : 12 Aug 2022  
**Lab Number** : 05616214 **Diagnosed** : 16 Aug 2022  
**Unique Number** : 10090708 **Diagnostician** : Don Baldrige  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

**KENTUCKY DIVISION OF FORESTRY**  
 255 RODBURN HOLLOW  
 MOREHEAD, KY  
 US 40351  
 Contact: FLOYD WILLIS

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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F: