



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



Machine Id  
**JOHN DEERE 310E 1DW310EXCNF716248**  
Component  
**Rear Differential**  
Fluid  
**JOHN DEERE HY-GARD HYD/TRANS (39 QTS)**

### RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>JR0214393</b>   | JR0203324   | JR0182031   |
| Sample Date    |     | Client Info |           | <b>09 May 2024</b> | 30 Jan 2024 | 14 Aug 2023 |
| Machine Age    | hrs | Client Info |           | <b>1958</b>        | 1440        | 956         |
| Oil Age        | hrs | Client Info |           | <b>977</b>         | 943         | 0           |
| Filter Age     | hrs | Client Info |           | <b>977</b>         | 484         | 0           |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Not Changd  | Not Changd  |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Not Changd  | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

### WEAR

All component wear rates are normal.

|              |        |             |      |              |       |       |
|--------------|--------|-------------|------|--------------|-------|-------|
| PQ           |        | ASTM D8184  |      | <b>152</b>   | 164   | 102   |
| Iron         | ppm    | ASTM D5185m | >500 | <b>234</b>   | 227   | 128   |
| Chromium     | ppm    | ASTM D5185m | >10  | <b>2</b>     | 2     | 1     |
| Nickel       | ppm    | ASTM D5185m | >10  | <b>7</b>     | 6     | 3     |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1    | 0     |
| Silver       | ppm    | ASTM D5185m |      | <b>0</b>     | 0     | 0     |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>3</b>     | 2     | 1     |
| Lead         | ppm    | ASTM D5185m | >25  | <b>16</b>    | 13    | 9     |
| Copper       | ppm    | ASTM D5185m | >100 | <b>173</b>   | 137   | 81    |
| Tin          | ppm    | ASTM D5185m | >10  | <b>9</b>     | 7     | 4     |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0     | <1    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | MODER | HEAVY |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE  | NONE  |

### CONTAMINATION

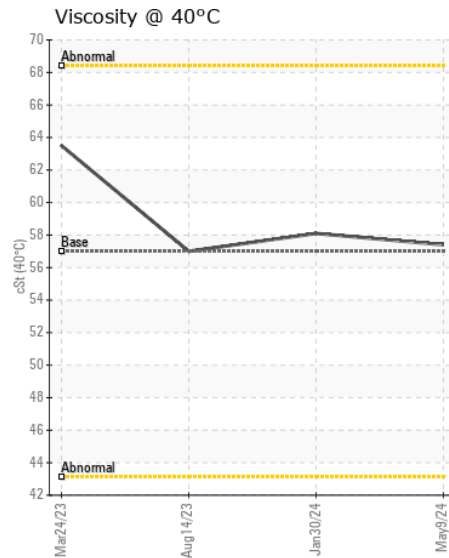
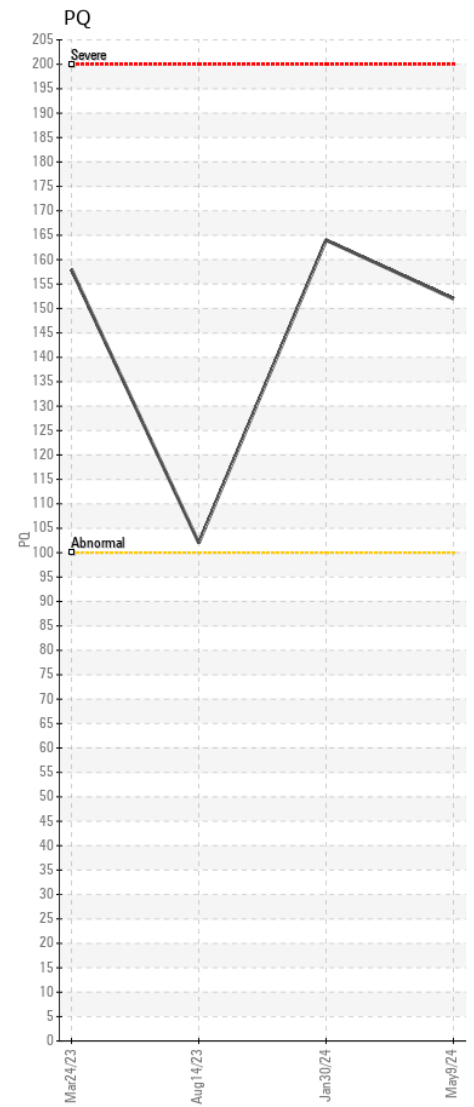
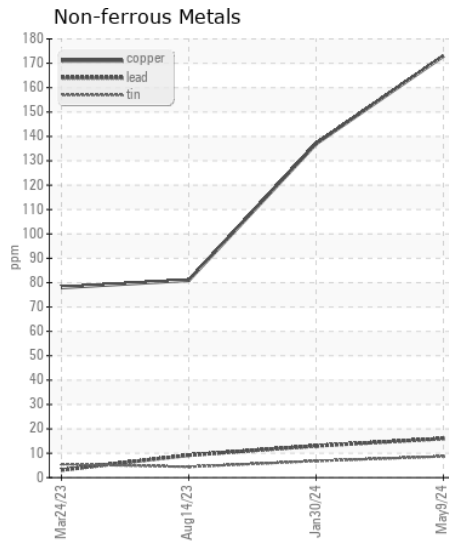
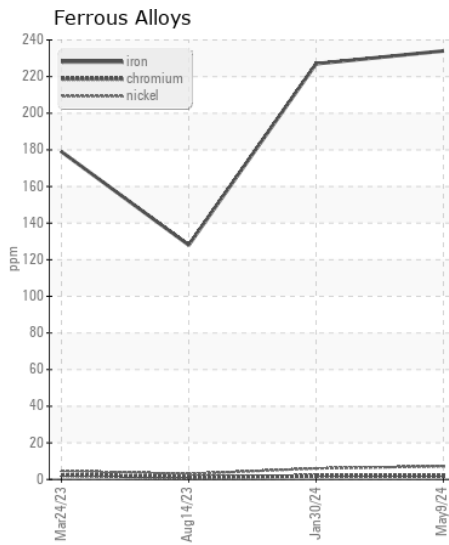
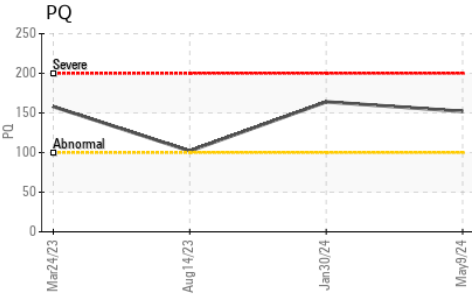
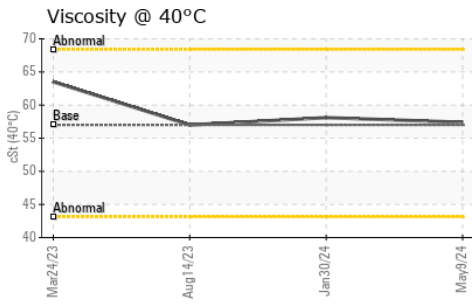
There is no indication of any contamination in the oil.

|                  |        |             |       |              |       |       |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm    | ASTM D5185m | >75   | <b>11</b>    | 12    | 10    |
| Potassium        | ppm    | ASTM D5185m | >20   | <b>2</b>     | 2     | <1    |
| Water            |        | WC Method   | >.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     | >.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>10</b>   | 7    | 9    |
| Boron       | ppm | ASTM D5185m | 6    | <b>62</b>   | 45   | 38   |
| Barium      | ppm | ASTM D5185m | 0    | <b>1</b>    | 2    | 0    |
| Molybdenum  | ppm | ASTM D5185m | 0    | <b>14</b>   | 5    | 6    |
| Manganese   | ppm | ASTM D5185m |      | <b>29</b>   | 32   | 19   |
| Magnesium   | ppm | ASTM D5185m | 145  | <b>109</b>  | 85   | 99   |
| Calcium     | ppm | ASTM D5185m | 3570 | <b>3464</b> | 3333 | 3434 |
| Phosphorus  | ppm | ASTM D5185m | 1290 | <b>1212</b> | 1073 | 1033 |
| Zinc        | ppm | ASTM D5185m | 1640 | <b>1324</b> | 1307 | 1305 |
| Sulfur      | ppm | ASTM D5185m |      | <b>3761</b> | 3998 | 3982 |
| Visc @ 40°C | cSt | ASTM D445   | 57.0 | <b>57.4</b> | 58.1 | 57.0 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0214393 **Received** : 10 May 2024  
**Lab Number** : 06175817 **Tested** : 13 May 2024  
**Unique Number** : 11021870 **Diagnosed** : 14 May 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: PQ )

**B & S SITE DEVELOPMENT**  
 7800 PINEY BRANCH LANE  
 BRISTOW, VA  
 US 20136  
 Contact: DANNY HUFF  
 dhuff@bandssite.com  
 T: (540)270-3203  
 F: (703)753-0605

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)