



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



Area  
**[ENERGY ERECTORS]**  
 Machine Id  
**JOHN DEERE 310SG T0310SG960771**  
 Component  
**Rear Differential**  
 Fluid  
**JOHN DEERE HY-GARD HYD/TRANS (--- QTS)**

### RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

| Test           | UOM | Method      | Limit/Abn | Current     | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number  |     | Client Info |           | JR0218325   | ---      | ---      |
| Sample Date    |     | Client Info |           | 16 Jun 2024 | ---      | ---      |
| Machine Age    | hrs | Client Info |           | 4594        | ---      | ---      |
| Oil Age        | hrs | Client Info |           | 0           | ---      | ---      |
| Filter Age     | hrs | Client Info |           | 0           | ---      | ---      |
| Oil Changed    |     | Client Info |           | Not Changd  | ---      | ---      |
| Filter Changed |     | Client Info |           | N/A         | ---      | ---      |
| Sample Status  |     |             |           | SEVERE      | ---      | ---      |

### WEAR

Gear wear is indicated. Bearing and/or bushing wear is indicated.

|              |        |             |      |        |     |     |
|--------------|--------|-------------|------|--------|-----|-----|
| PQ           |        | ASTM D8184  |      | 453    | --- | --- |
| Iron         | ppm    | ASTM D5185m | >500 | ▲ 2716 | --- | --- |
| Chromium     | ppm    | ASTM D5185m | >10  | ▲ 24   | --- | --- |
| Nickel       | ppm    | ASTM D5185m | >10  | ▲ 17   | --- | --- |
| Titanium     | ppm    | ASTM D5185m |      | <1     | --- | --- |
| Silver       | ppm    | ASTM D5185m |      | 0      | --- | --- |
| Aluminum     | ppm    | ASTM D5185m | >25  | ● 22   | --- | --- |
| Lead         | ppm    | ASTM D5185m | >25  | 6      | --- | --- |
| Copper       | ppm    | ASTM D5185m | >100 | ▲ 202  | --- | --- |
| Tin          | ppm    | ASTM D5185m | >10  | 6      | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | <1     | --- | --- |
| White Metal  | scalar | *Visual     | NONE | NONE   | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | NONE   | --- | --- |

### CONTAMINATION

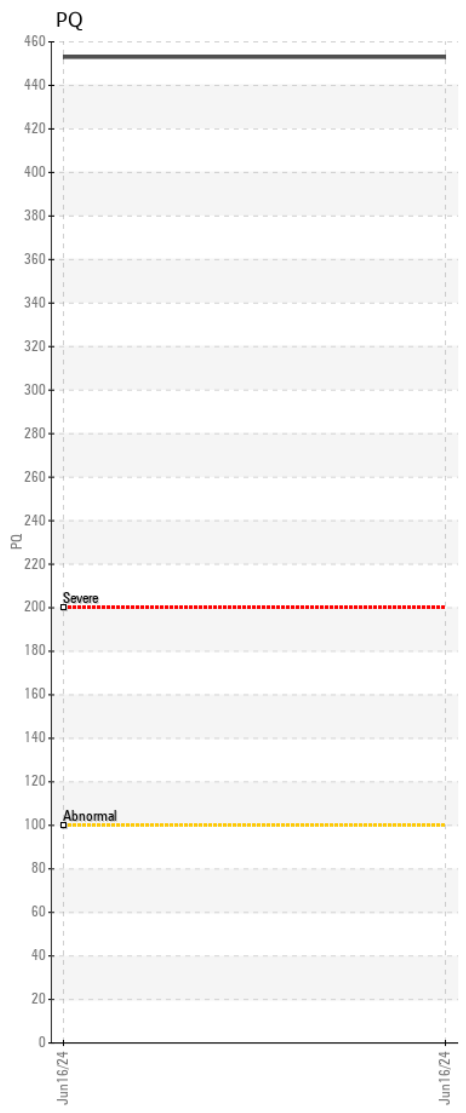
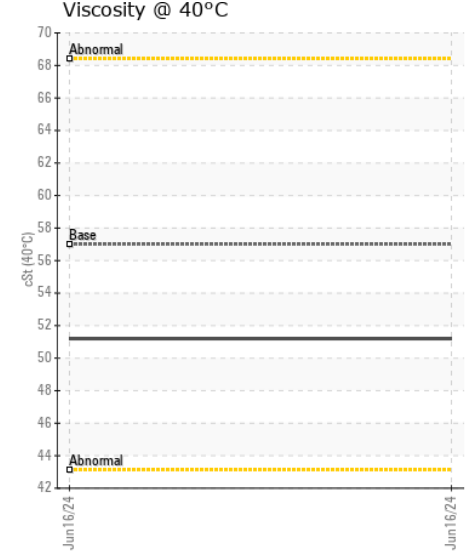
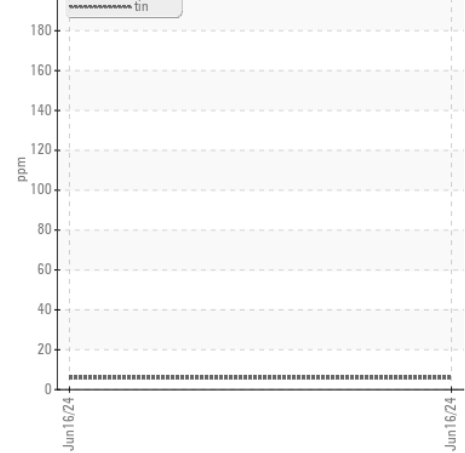
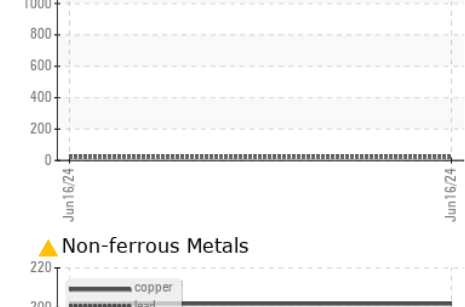
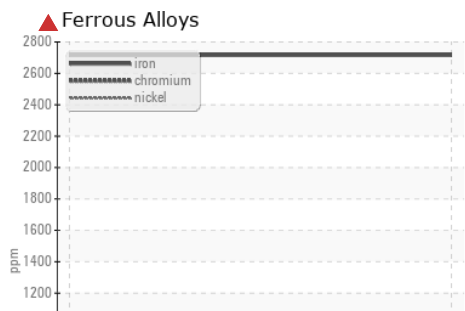
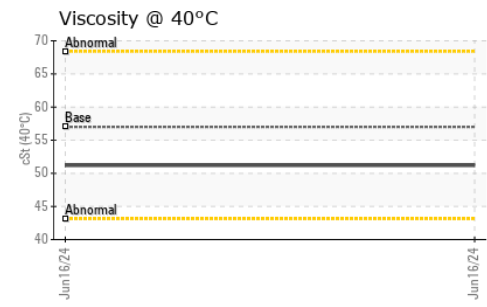
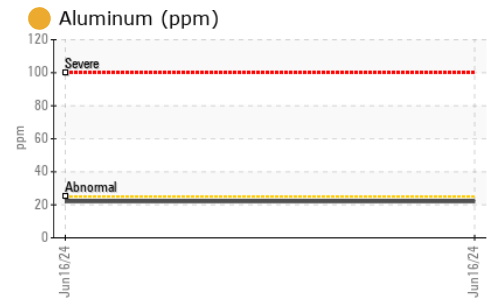
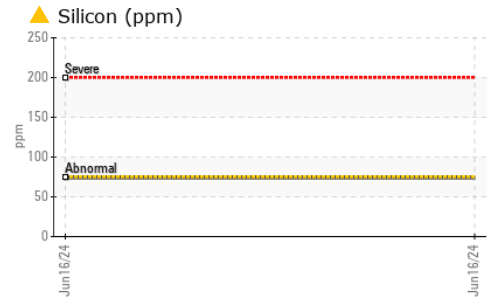
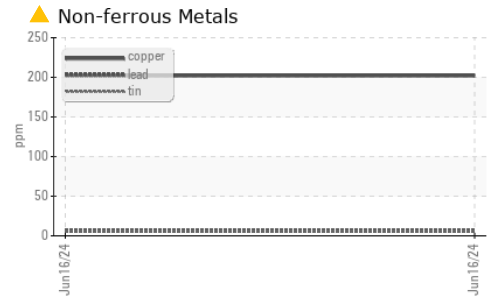
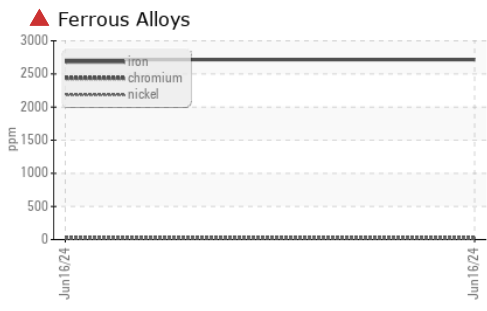
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

|                  |        |             |       |       |     |     |
|------------------|--------|-------------|-------|-------|-----|-----|
| Silicon          | ppm    | ASTM D5185m | >75   | ▲ 74  | --- | --- |
| Potassium        | ppm    | ASTM D5185m | >20   | 6     | --- | --- |
| Water            |        | WC Method   | >.2   | NEG   | --- | --- |
| 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     | >.2   | NEG   | --- | --- |

### FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

|             |     |             |      |      |     |     |
|-------------|-----|-------------|------|------|-----|-----|
| Sodium      | ppm | ASTM D5185m |      | 13   | --- | --- |
| Boron       | ppm | ASTM D5185m | 6    | 3    | --- | --- |
| Barium      | ppm | ASTM D5185m | 0    | 2    | --- | --- |
| Molybdenum  | ppm | ASTM D5185m | 0    | 2    | --- | --- |
| Manganese   | ppm | ASTM D5185m |      | 21   | --- | --- |
| Magnesium   | ppm | ASTM D5185m | 145  | 85   | --- | --- |
| Calcium     | ppm | ASTM D5185m | 3570 | 2771 | --- | --- |
| Phosphorus  | ppm | ASTM D5185m | 1290 | 896  | --- | --- |
| Zinc        | ppm | ASTM D5185m | 1640 | 1028 | --- | --- |
| Sulfur      | ppm | ASTM D5185m |      | 3540 | --- | --- |
| Visc @ 40°C | cSt | ASTM D445   | 57.0 | 51.2 | --- | --- |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0218325 **Received** : 14 Jun 2024  
**Lab Number** : 06210949 **Tested** : 18 Jun 2024  
**Unique Number** : 11083813 **Diagnosed** : 18 Jun 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: PQ )

**JRE - MANASSAS PARK**  
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 MANASSAS PARK, VA  
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Certificate L2367  
 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)