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|-----------------|-----------------|
| WEAR | ABNORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |



Machine Id
JOHN DEERE 310E 1DW310EXCMF712160
Component
Center Axle
Fluid
JOHN DEERE HY-GARD HYDRAULIC/RANSMISSION (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | JR0212564 | JR0191177 | JR0186090 |
| Sample Date | | Client Info | | 10 May 2024 | 13 Dec 2023 | 03 Oct 2023 |
| Machine Age | hrs | Client Info | | 2469 | 2017 | 1610 |
| Oil Age | hrs | Client Info | | 452 | 2017 | 1610 |
| Filter Age | hrs | Client Info | | 0 | 0 | 610 |
| Oil Changed | | Client Info | | Not Changed | Changed | Not Changed |
| Filter Changed | | Client Info | | Not Changed | Changed | Not Changed |
| Sample Status | | | | ABNORMAL | SEVERE | ABNORMAL |

WEAR

Bearing and/or bushing wear is indicated. All other component wear rates are normal.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|--------------|--------|-------------|-----------|--------------|----------|----------|
| PQ | | ASTM D8184 | | 114 | 268 | 206 |
| Iron | ppm | ASTM D5185m | >1501 | 271 | 438 | 323 |
| Chromium | ppm | ASTM D5185m | >11 | 2 | 3 | 2 |
| Nickel | ppm | ASTM D5185m | >10 | 8 | 7 | 6 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >21 | 3 | 3 | 3 |
| Lead | ppm | ASTM D5185m | >51 | 0 | 28 | 21 |
| Copper | ppm | ASTM D5185m | >101 | ▲ 273 | ▲ 584 | ▲ 484 |
| Tin | ppm | ASTM D5185m | >10 | ▲ 11 | ▲ 17 | ▲ 13 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | LIGHT | NONE |

CONTAMINATION

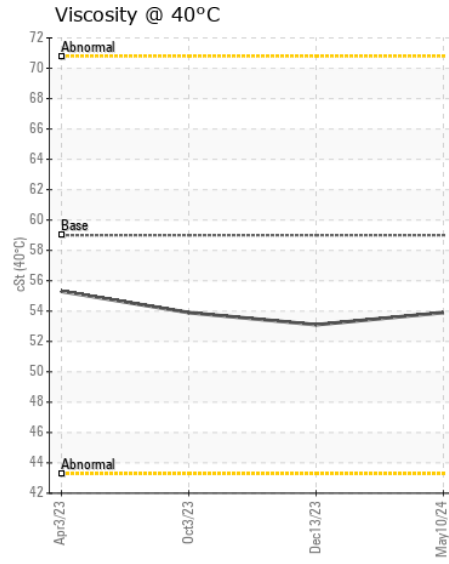
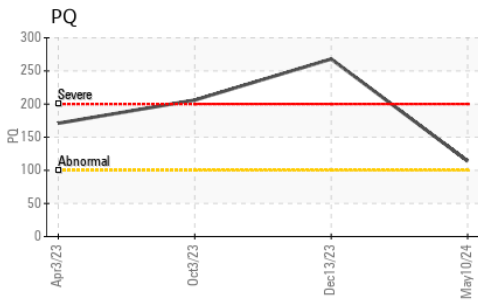
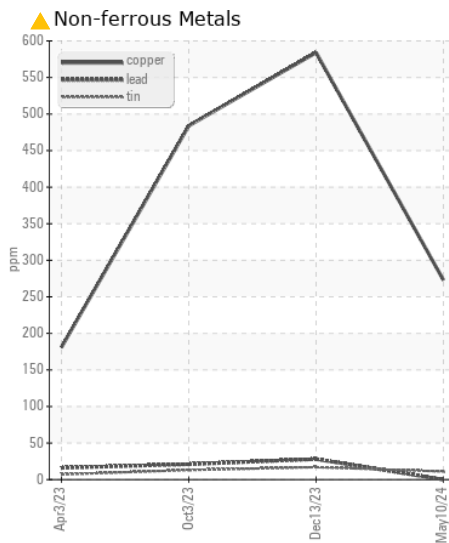
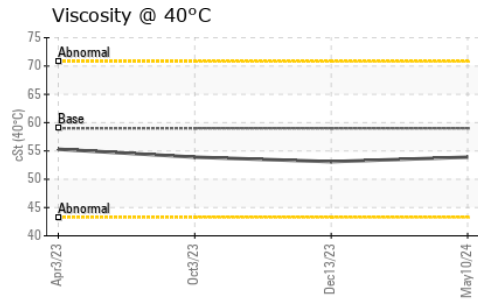
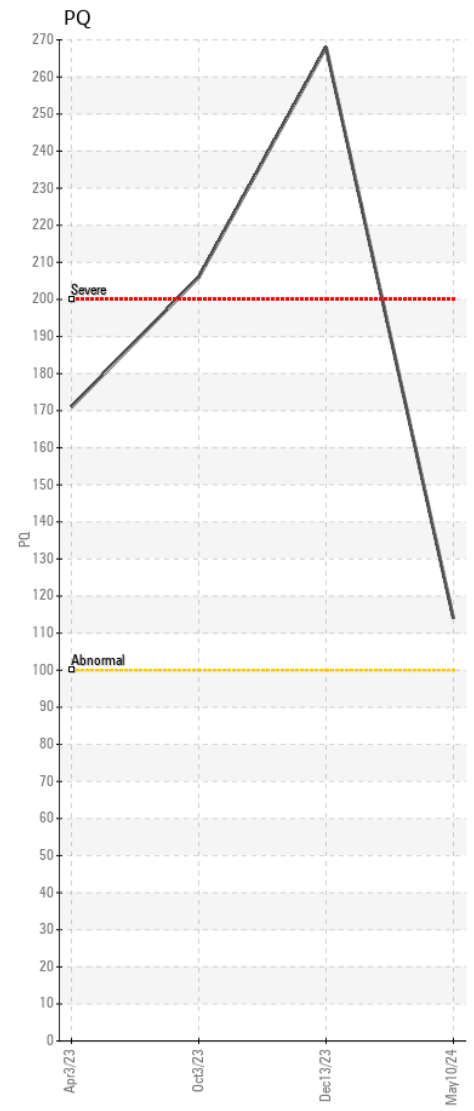
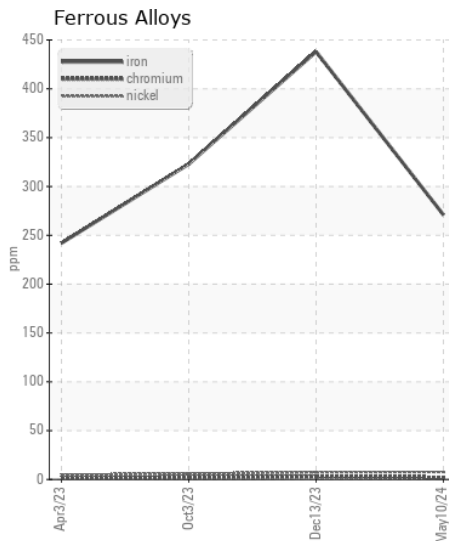
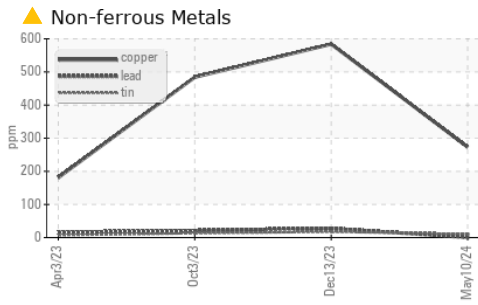
There is no indication of any contamination in the oil.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|------------------|--------|-------------|-----------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >31 | 14 | 19 | 16 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | <1 | 2 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Silt | scalar | *Visual | NONE | NONE | MODER | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG | NEG |

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|-------------|-----|-------------|-----------|-------------|----------|----------|
| Sodium | ppm | ASTM D5185m | >51 | 12 | 10 | 10 |
| Boron | ppm | ASTM D5185m | | 39 | 31 | 35 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | 25 | 28 | 27 |
| Magnesium | ppm | ASTM D5185m | | 73 | 61 | 74 |
| Calcium | ppm | ASTM D5185m | | 3484 | 3230 | 3201 |
| Phosphorus | ppm | ASTM D5185m | | 1082 | 975 | 1034 |
| Zinc | ppm | ASTM D5185m | | 1325 | 1162 | 1216 |
| Sulfur | ppm | ASTM D5185m | | 3912 | 3238 | 3158 |
| Visc @ 40°C | cSt | ASTM D445 | 59 | 53.9 | 53.1 | 53.9 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0212564 **Received** : 13 May 2024
Lab Number : 06177448 **Tested** : 14 May 2024
Unique Number : 11023501 **Diagnosed** : 15 May 2024 - Don Baldrige
Test Package : CONST (Additional Tests: PQ)

JRE - GARNER
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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)