



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



Machine Id
JOHN DEERE 310E 1DW310EXTKF697898
Component
Hydraulic System
Fluid
JOHN DEERE HYDRAU (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | JR0211657 | JR0135956 | JR0110280 |
| Sample Date | | Client Info | | 28 May 2024 | 01 Sep 2022 | 04 Mar 2022 |
| Machine Age | hrs | Client Info | | 4359 | 3515 | 2957 |
| Oil Age | hrs | Client Info | | 4359 | 3515 | 2957 |
| Filter Age | hrs | Client Info | | 4359 | 3515 | 2957 |
| Oil Changed | | Client Info | | Changed | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Changed | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| PQ | | ASTM D8184 | >50 | 14 | 7 | 19 |
| Iron | ppm | ASTM D5185m | >71 | 8 | 4 | 4 |
| Chromium | ppm | ASTM D5185m | >11 | 2 | 1 | 1 |
| Nickel | ppm | ASTM D5185m | >6 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 1 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >11 | 1 | <1 | 1 |
| Lead | ppm | ASTM D5185m | >13 | <1 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >21 | 3 | 1 | <1 |
| Tin | ppm | ASTM D5185m | >5 | <1 | 1 | 1 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

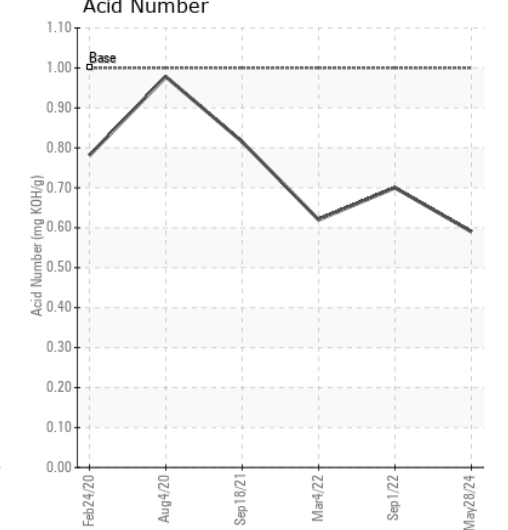
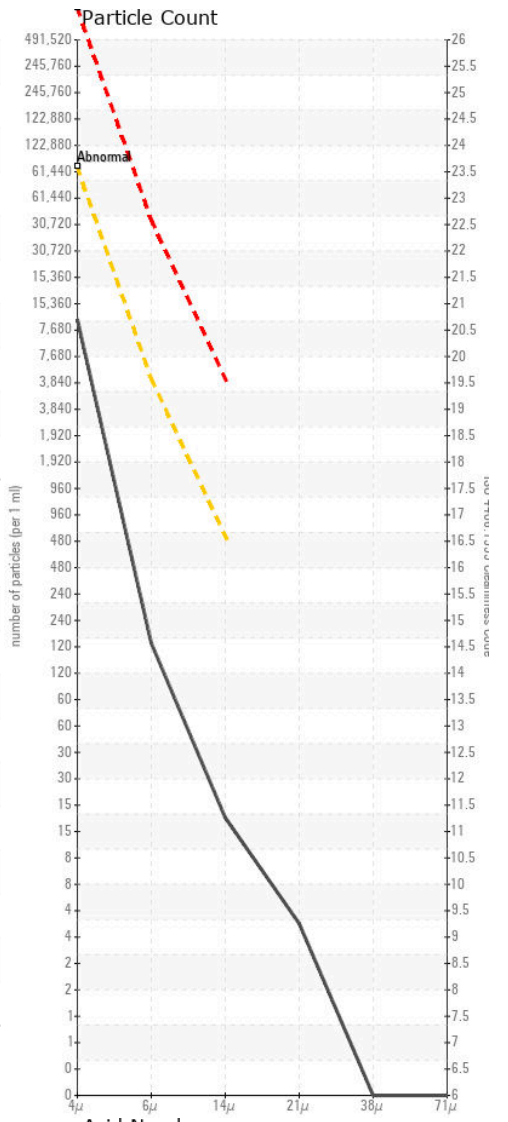
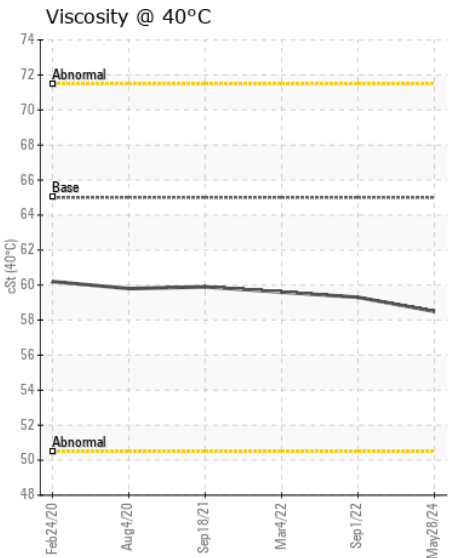
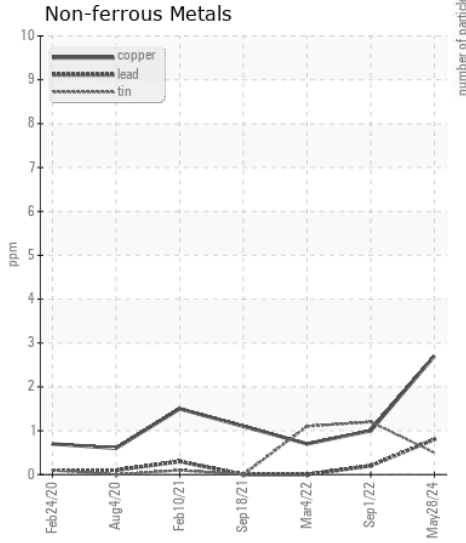
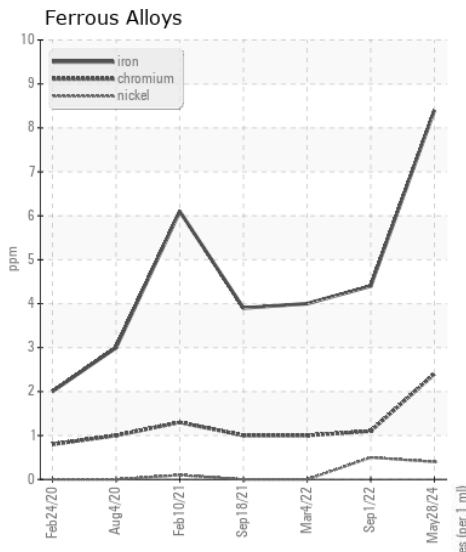
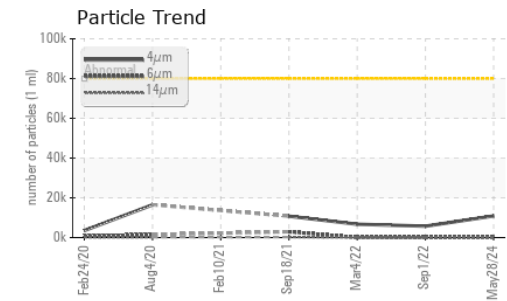
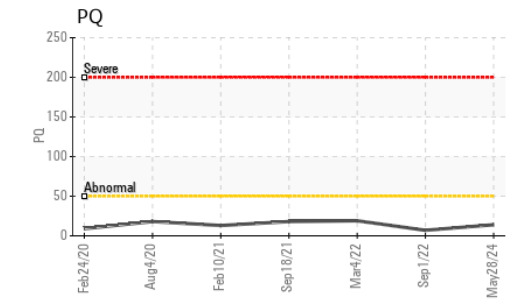
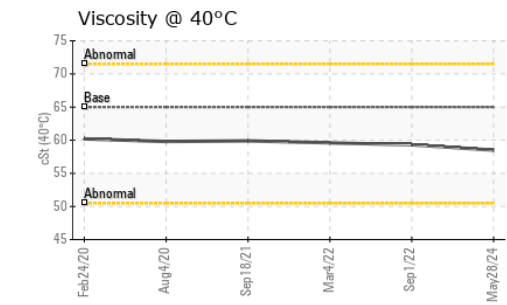
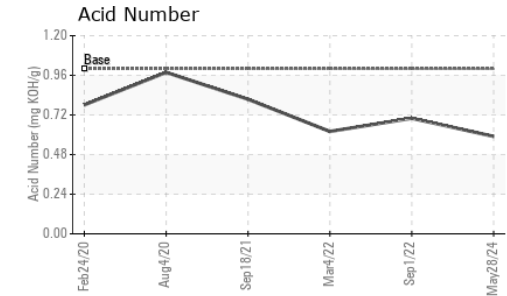
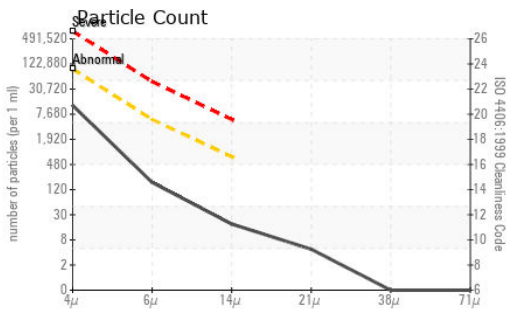
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

| | | | | | | |
|------------------|--------|--------------|-----------|-----------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >24 | 3 | 1 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 2 | 0 |
| Water | | WC Method | >0.075 | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >80000 | 10882 | 5729 | 6714 |
| Particles >6µm | | ASTM D7647 | >5000 | 157 | 24 | 46 |
| Particles >14µm | | ASTM D7647 | >640 | 16 | 5 | 7 |
| Particles >21µm | | ASTM D7647 | >160 | 4 | 1 | 2 |
| Particles >38µm | | ASTM D7647 | >40 | 0 | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >10 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >23/19/16 | 21/14/11 | 20/12/10 | 20/13/10 |
| Silt | scalar | *Visual | NONE | NONE | NONE | 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 | >0.075 | NEG | NEG | NEG |

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | >21 | 0 | 0 | 0 |
| Boron | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | 1 | 0 | 0 |
| Calcium | ppm | ASTM D5185m | 87 | 73 | 68 | 83 |
| Phosphorus | ppm | ASTM D5185m | 727 | 586 | 507 | 628 |
| Zinc | ppm | ASTM D5185m | 900 | 745 | 688 | 742 |
| Sulfur | ppm | ASTM D5185m | 1500 | 1660 | 1317 | 1304 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | 0.59 | 0.70 | 0.62 |
| Visc @ 40°C | cSt | ASTM D445 | 65 | 58.5 | 59.3 | 59.6 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : JR0211657 Received : 29 May 2024
 Lab Number : 06194600 Tested : 30 May 2024
 Unique Number : 11056723 Diagnosed : 30 May 2024 - Wes Davis
 Test Package : CONST (Additional Tests: PQ)

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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