



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



Machine Id
JOHN DEERE 644K 1DW644KZCFF666910

Component
Hydraulic System

Fluid
JOHN DEERE HYDRAU (150 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | JR0195919 | JR0183889 | JR0166372 |
| Sample Date | | Client Info | | 12 Jan 2024 | 06 Sep 2023 | 30 Mar 2023 |
| Machine Age | hrs | Client Info | | 10437 | 10096 | 9779 |
| Oil Age | hrs | Client Info | | 9181 | 0 | 9348 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|-------------|------|------|
| PQ | | ASTM D8184 | >50 | 14 | 15 | 7 |
| Iron | ppm | ASTM D5185m | >71 | 11 | 2 | 9 |
| Chromium | ppm | ASTM D5185m | >11 | 3 | 2 | 2 |
| Nickel | ppm | ASTM D5185m | >6 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >11 | 3 | 0 | 3 |
| Lead | ppm | ASTM D5185m | >13 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >21 | 1 | <1 | 1 |
| Tin | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

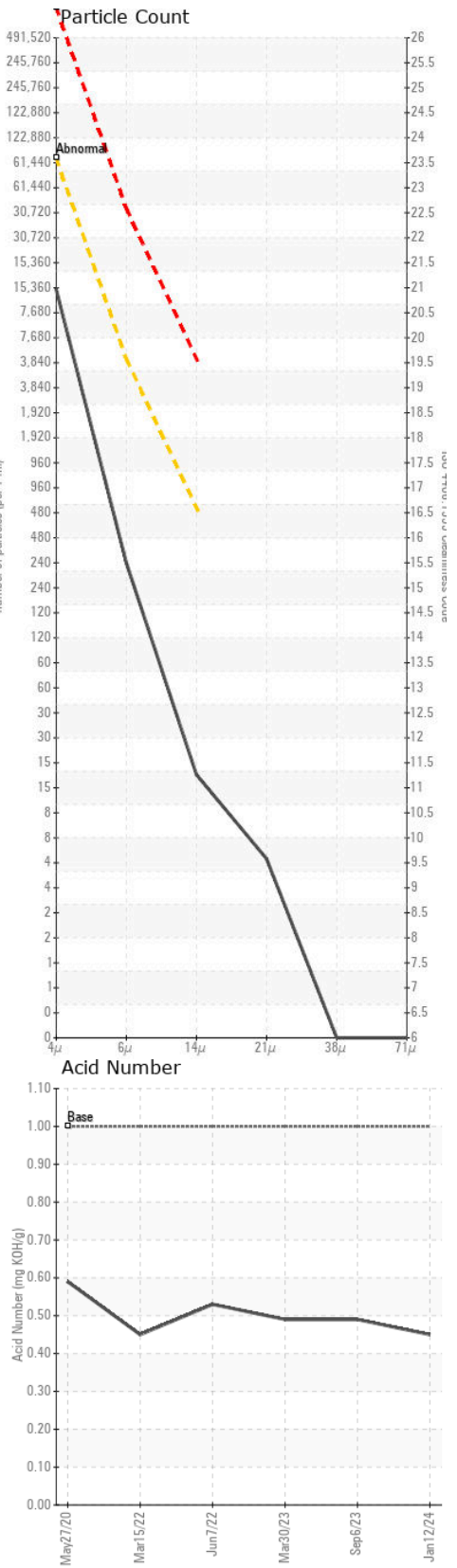
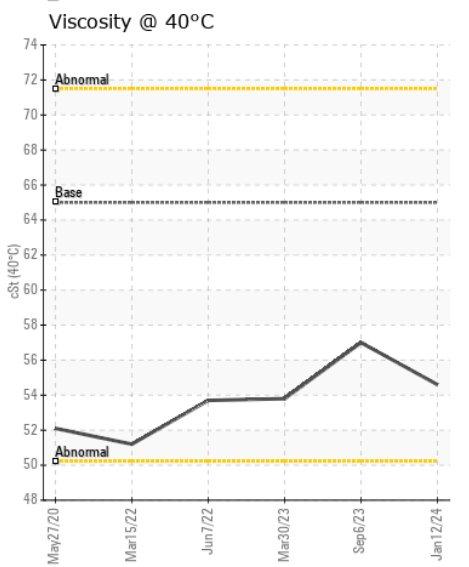
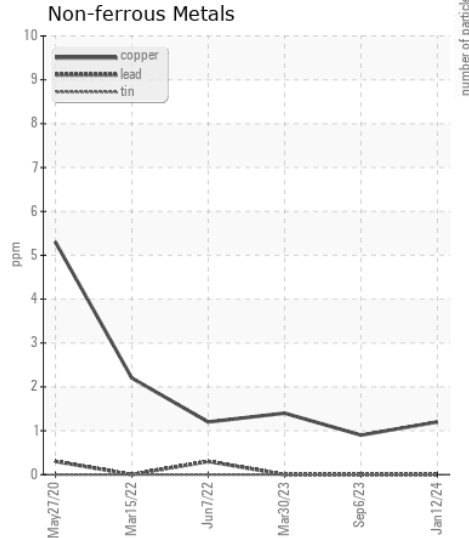
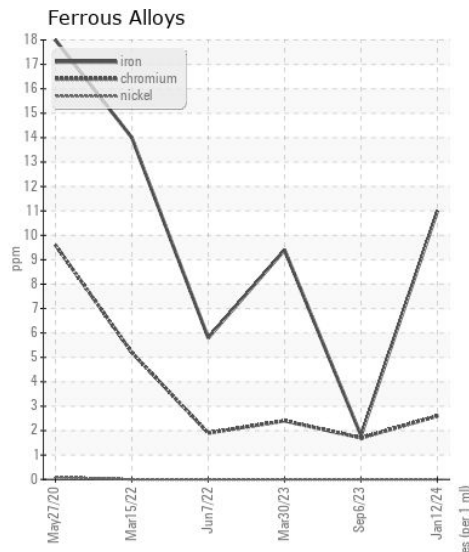
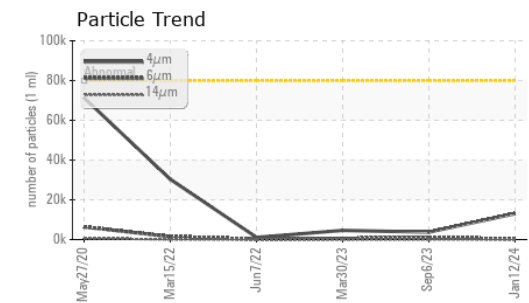
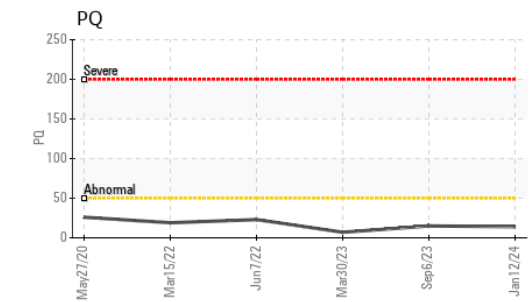
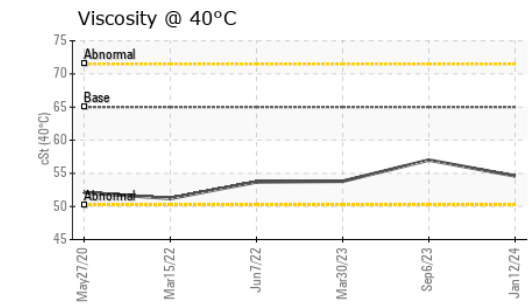
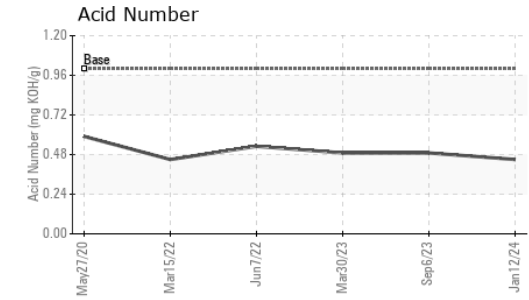
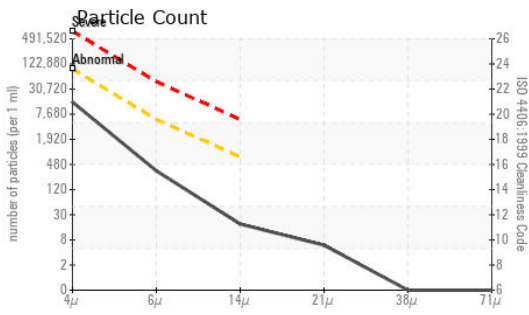
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|--------------|-----------|-----------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >24 | 6 | 1 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |
| Water | | WC Method | >0.075 | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >80000 | 13031 | 3740 | 4611 |
| Particles >6µm | | ASTM D7647 | >5000 | 298 | 1042 | 493 |
| Particles >14µm | | ASTM D7647 | >640 | 16 | 40 | 27 |
| Particles >21µm | | ASTM D7647 | >160 | 5 | 10 | 9 |
| Particles >38µm | | ASTM D7647 | >40 | 0 | 1 | 0 |
| Particles >71µm | | ASTM D7647 | >10 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >23/19/16 | 21/15/11 | 19/17/12 | 19/16/12 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | LIGHT | 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 | 3 | 2 | 3 |
| Boron | ppm | ASTM D5185m | | 2 | 0 | 3 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 1 | <1 | 2 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 0 | 4 | 17 |
| Calcium | ppm | ASTM D5185m | 87 | 120 | 108 | 143 |
| Phosphorus | ppm | ASTM D5185m | 727 | 564 | 558 | 586 |
| Zinc | ppm | ASTM D5185m | 900 | 696 | 698 | 734 |
| Sulfur | ppm | ASTM D5185m | 1500 | 1352 | 1950 | 1719 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.0 | 0.45 | 0.49 | 0.49 |
| Visc @ 40°C | cSt | ASTM D445 | 65 | 54.6 | 57.0 | 53.8 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0195919 **Received** : 16 Jan 2024
Lab Number : 06060947 **Diagnosed** : 17 Jan 2024
Unique Number : 10832329 **Diagnostician** : Jonathan Hester
Test Package : CONST (Additional Tests: PQ)

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 ROANOKE, TX
 US 76262
 Contact: TROY COREY
 tcorey@oscarrenda.com
 T: (817)491-2703
 F:

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)