



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

Machine Id
HITACHI 245LC HCMDFD60C00700672

Component
Diesel Engine

Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | JR0209189 | JR0163401 | JR0133961 |
| Sample Date | | Client Info | | 10 Apr 2024 | 21 Mar 2023 | 19 Aug 2022 |
| Machine Age | hrs | Client Info | | 1480 | 996 | 568 |
| Oil Age | hrs | Client Info | | 484 | 500 | 0 |
| Filter Age | hrs | Client Info | | 0 | 500 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | N/A |
| Filter Changed | | Client Info | | Changed | Changed | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 18 | 16 | 26 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 9 | 3 | 6 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 0 | 1 |
| Copper | ppm | ASTM D5185m | >330 | 3 | 2 | 12 |
| Tin | ppm | ASTM D5185m | >15 | 1 | <1 | 6 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

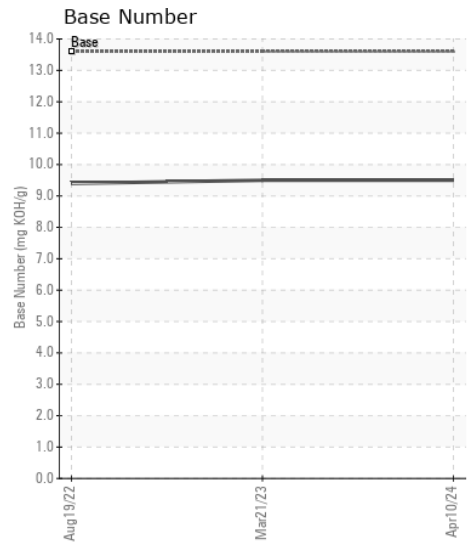
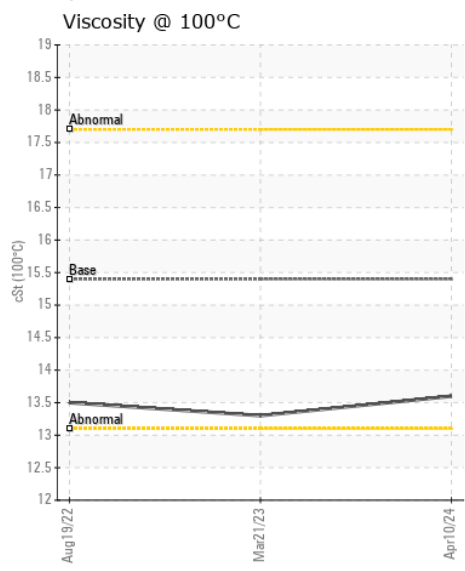
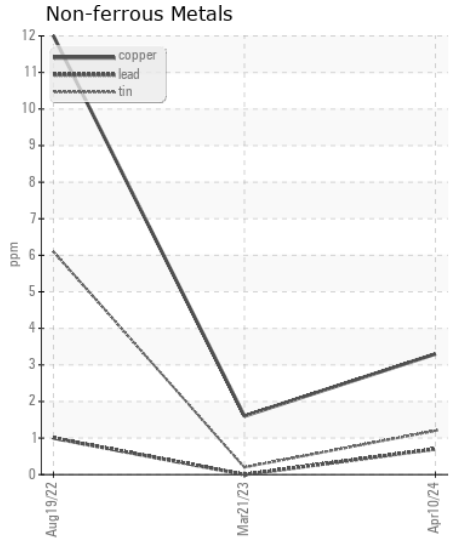
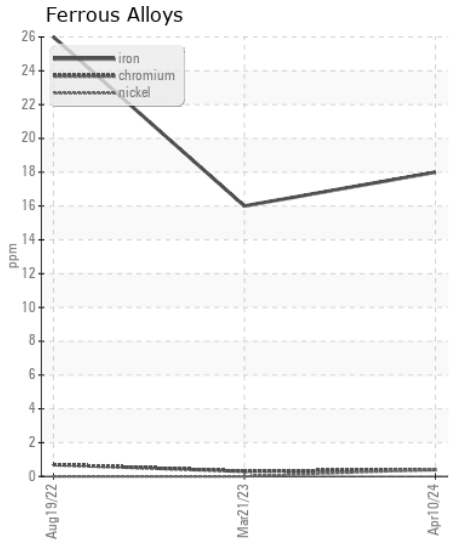
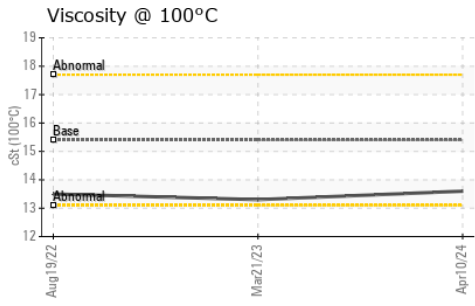
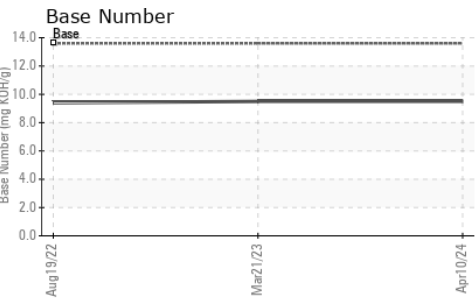
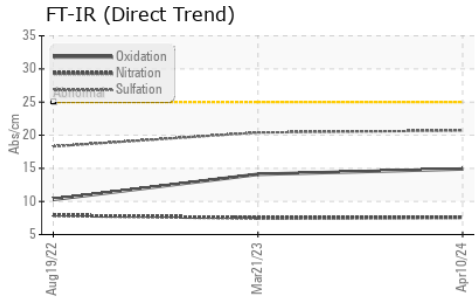
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 8 | 7 | 28 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | 8 | 5 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.2 | 0.2 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 7.6 | 7.5 | 7.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.7 | 20.4 | 18.3 |
| 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 | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 2 | 2 | <1 |
| Boron | ppm | ASTM D5185m | | 247 | 212 | 164 |
| Barium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 247 | 104 | 5 |
| Manganese | ppm | ASTM D5185m | | 1 | 1 | 4 |
| Magnesium | ppm | ASTM D5185m | | 836 | 461 | 27 |
| Calcium | ppm | ASTM D5185m | | 1498 | 1298 | 2210 |
| Phosphorus | ppm | ASTM D5185m | | 934 | 660 | 1011 |
| Zinc | ppm | ASTM D5185m | | 1085 | 825 | 1209 |
| Sulfur | ppm | ASTM D5185m | | 3518 | 2381 | 2868 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.9 | 14.1 | 10.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 13.6 | 9.5 | 9.5 | 9.4 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.6 | 13.3 | 13.5 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0209189 **Received** : 11 Apr 2024
Lab Number : 06145558 **Tested** : 12 Apr 2024
Unique Number : 10970366 **Diagnosed** : 14 Apr 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

JRE - GARNER
 4161 AUBURN CHURCH RD
 GARNER, NC
 US 27529
 Contact: RALEIGH SHOP
 sean.betts@jamesriverequipment.com; catherine.anastasio@wearcheck.com
 T: (919)614-2260
 F: (919)779-5432

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)