



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

Area

[W64472]

Machine Id

HAMM HTC15 WGHOH950EHAA00454

Component

Rear Diesel Engine

Fluid

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (2 GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: W64472)

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number | | Client Info | | JR0203899 | --- | --- |
| Sample Date | | Client Info | | 22 Feb 2024 | --- | --- |
| Machine Age | hrs | Client Info | | 0 | --- | --- |
| Oil Age | hrs | Client Info | | 0 | --- | --- |
| Filter Age | hrs | Client Info | | 0 | --- | --- |
| Oil Changed | | Client Info | | Changed | --- | --- |
| Filter Changed | | Client Info | | Changed | --- | --- |
| Sample Status | | | | ABNORMAL | --- | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|------|-----|-----|
| Iron | ppm | ASTM D5185m | >100 | 29 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | 2 | --- | --- |
| Nickel | ppm | ASTM D5185m | >4 | 1 | --- | --- |
| Titanium | ppm | ASTM D5185m | | <1 | --- | --- |
| Silver | ppm | ASTM D5185m | >3 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 5 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | 3 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 8 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | --- | --- |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |

CONTAMINATION

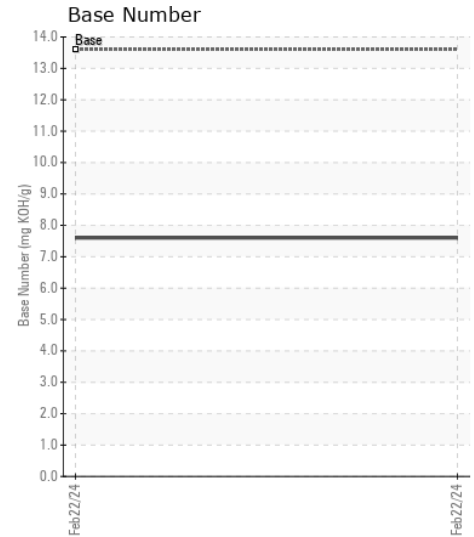
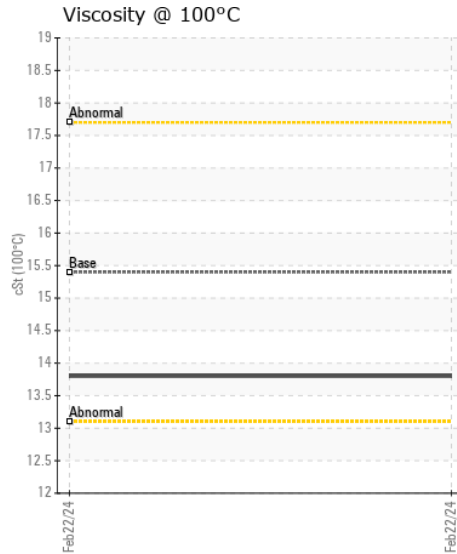
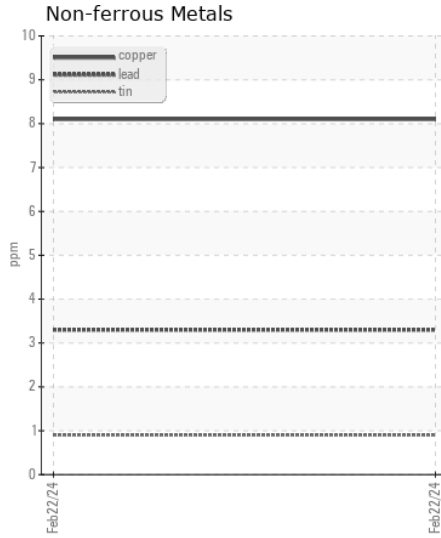
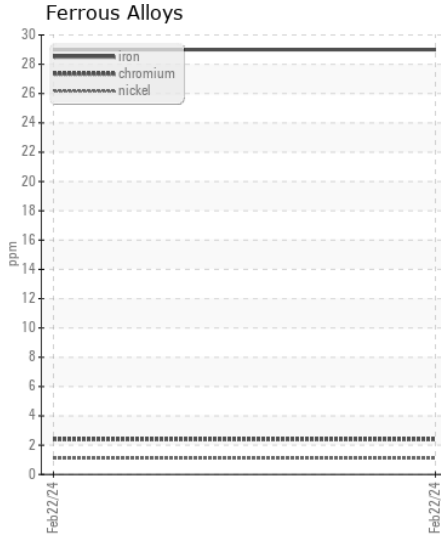
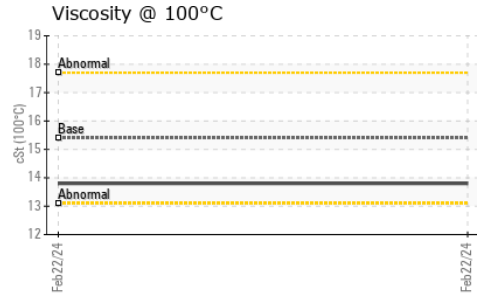
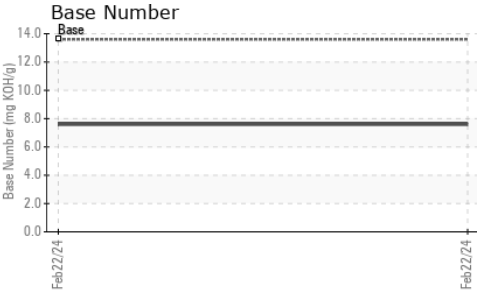
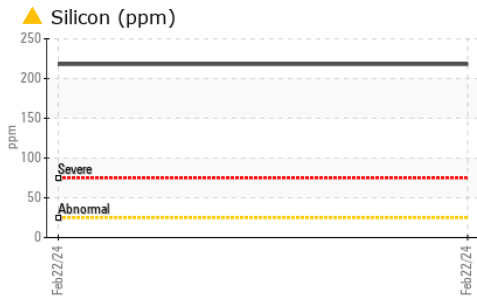
Elemental level of silicon (Si) above normal indicating ingress of seal material.

| | | | | | | |
|------------------|----------|-------------|-------|-------|-----|-----|
| Silicon | ppm | ASTM D5185m | >25 | ▲ 218 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 4 | --- | --- |
| Fuel | | WC Method | >5 | <1.0 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | *ASTM D7844 | >3 | 0.1 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 5.9 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 15.3 | --- | --- |
| 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 | >0.2 | NEG | --- | --- |

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil.

| | | | | | | |
|------------------|----------|-------------|------|------|-----|-----|
| Sodium | ppm | ASTM D5185m | | 5 | --- | --- |
| Boron | ppm | ASTM D5185m | | 15 | --- | --- |
| Barium | ppm | ASTM D5185m | | 3 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | 10 | --- | --- |
| Manganese | ppm | ASTM D5185m | | 3 | --- | --- |
| Magnesium | ppm | ASTM D5185m | | 26 | --- | --- |
| Calcium | ppm | ASTM D5185m | | 2168 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | 738 | --- | --- |
| Zinc | ppm | ASTM D5185m | | 922 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 3424 | --- | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 9.6 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 13.6 | 7.6 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.8 | --- | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : JR0203899

Lab Number : 06101412

Unique Number : 10899642

Test Package : CONST (Additional Tests: TBN)

Received : 27 Feb 2024

Tested : 28 Feb 2024

Diagnosed : 28 Feb 2024 - Sean Felton

JRE - CHARLOTTE

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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)