



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

Area

[W00830]

Machine Id

JOHN DEERE 310SL 1T0310SLHKF363441

Component

Diesel Engine

Fluid

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

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number | | Client Info | | JR0112670 | --- | --- |
| Sample Date | | Client Info | | 21 Dec 2021 | --- | --- |
| Machine Age | hrs | Client Info | | 513 | --- | --- |
| Oil Age | hrs | Client Info | | 513 | --- | --- |
| Filter Age | hrs | Client Info | | 513 | --- | --- |
| Oil Changed | | Client Info | | Changed | --- | --- |
| Filter Changed | | Client Info | | Changed | --- | --- |
| Sample Status | | | | ATTENTION | --- | --- |

WEAR

Metal levels are typical for a new component breaking in.

| | | | | | | |
|--------------|--------|-------------|------|------|-----|-----|
| Iron | ppm | ASTM D5185m | >51 | 81 | --- | --- |
| Chromium | ppm | ASTM D5185m | >11 | 3 | --- | --- |
| Nickel | ppm | ASTM D5185m | >5 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185m | | <1 | --- | --- |
| Silver | ppm | ASTM D5185m | | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >31 | 9 | --- | --- |
| Lead | ppm | ASTM D5185m | >26 | 10 | --- | --- |
| Copper | ppm | ASTM D5185m | >26 | 47 | --- | --- |
| Tin | ppm | ASTM D5185m | >4 | 4 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | --- | --- |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |

CONTAMINATION

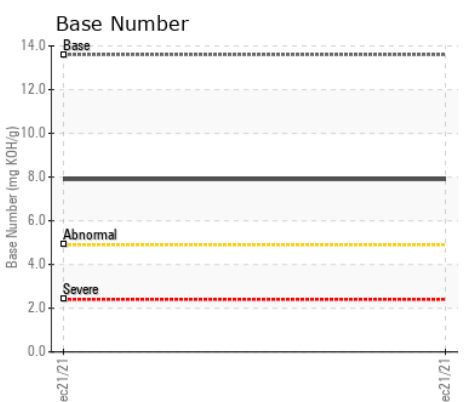
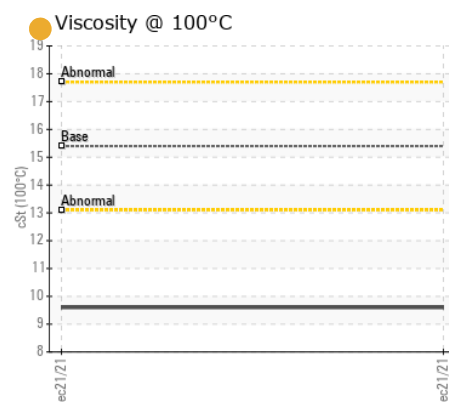
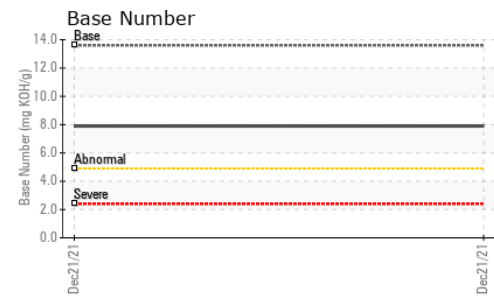
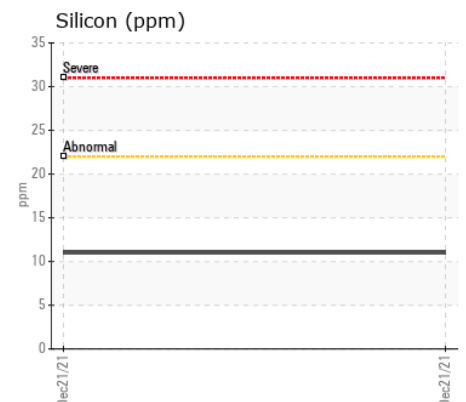
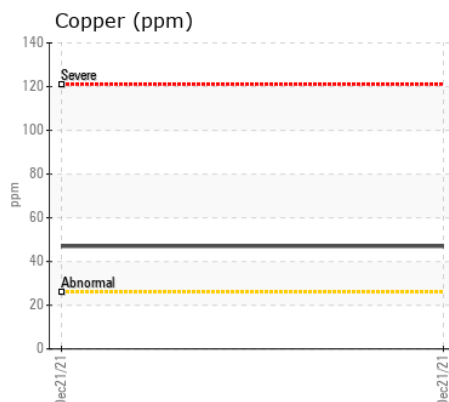
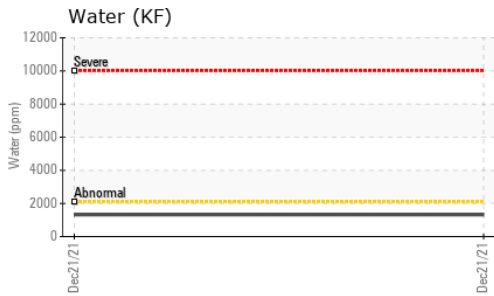
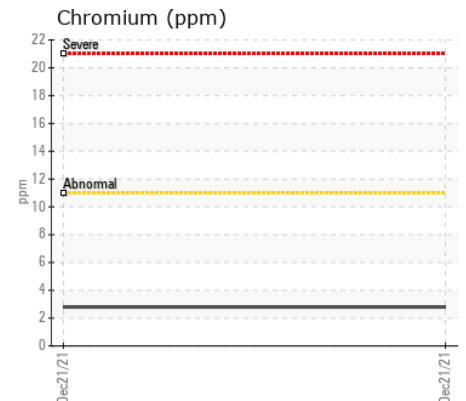
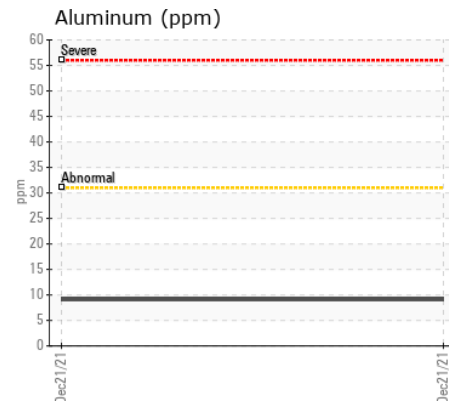
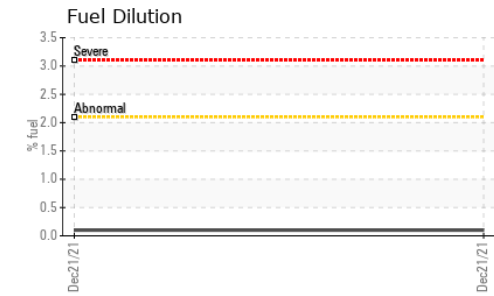
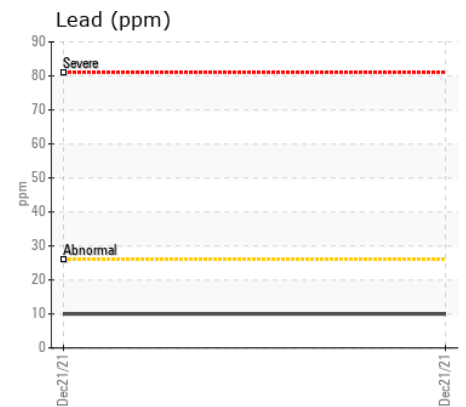
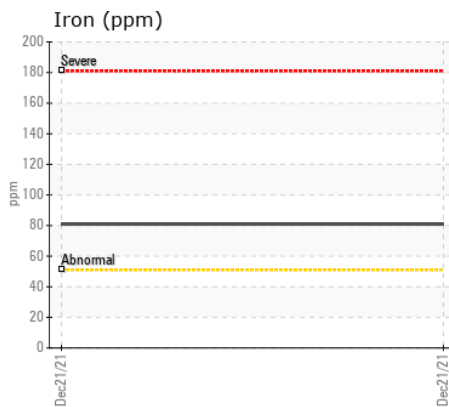
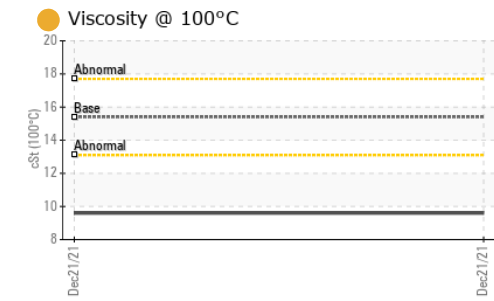
Fuel content negligible. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|-------|-----|-----|
| Silicon | ppm | ASTM D5185m | >22 | 11 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 2 | --- | --- |
| Fuel | % | ASTM D3524 | >2.1 | 0.1 | --- | --- |
| Water | % | ASTM D6304 | >0.21 | 0.132 | --- | --- |
| ppm Water | ppm | ASTM D6304 | >2100 | 1320 | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | *ASTM D7844 | >3 | 0.2 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.7 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 26.9 | --- | --- |
| 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 | >0.21 | NEG | --- | --- |

FLUID CONDITION

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

| | | | | | | |
|------------------|----------|-------------|------|------|-----|-----|
| Sodium | ppm | ASTM D5185m | >31 | 5 | --- | --- |
| Boron | ppm | ASTM D5185m | | 165 | --- | --- |
| Barium | ppm | ASTM D5185m | | 1 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | 264 | --- | --- |
| Manganese | ppm | ASTM D5185m | | 9 | --- | --- |
| Magnesium | ppm | ASTM D5185m | | 775 | --- | --- |
| Calcium | ppm | ASTM D5185m | | 1416 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | 696 | --- | --- |
| Zinc | ppm | ASTM D5185m | | 884 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 2838 | --- | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 21.8 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 13.6 | 7.9 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 9.6 | --- | --- |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0112670 **Received** : 05 Jan 2022
Lab Number : 05436828 **Tested** : 07 Jan 2022
Unique Number : 9801021 **Diagnosed** : 07 Jan 2022 - Jonathan Hester
Test Package : MOBCE (Additional Tests: FuelDilution, KF, PercentFuel, TBN)

JRE - ELIZABETH CITY
 129 KNOBBS CREEK DR
 ELIZABETH CITY, NC
 US 27909
 Contact: CHARLES PARKER
 charles.parker@jamesriverequipment.com
 T: (252)333-2280
 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)