



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

Machine Id
JOHN DEERE 1023E 53000173 (S/N 1LV1023EVJJ116301)

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 | | JR0137485 | JR0041617 | JR0041531 |
| Sample Date | | Client Info | | 09 Jan 2024 | 23 Feb 2021 | 12 Feb 2020 |
| Machine Age | hrs | Client Info | | 658 | 407 | 238 |
| Oil Age | hrs | Client Info | | 89 | 0 | 0 |
| Filter Age | hrs | Client Info | | 89 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

Metal levels are typical for a new component breaking in.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >51 | 7 | 13 | 10 |
| Chromium | ppm | ASTM D5185m | >11 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >31 | 3 | 3 | 6 |
| Lead | ppm | ASTM D5185m | >26 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >26 | 2 | 3 | 3 |
| Tin | ppm | ASTM D5185m | >4 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

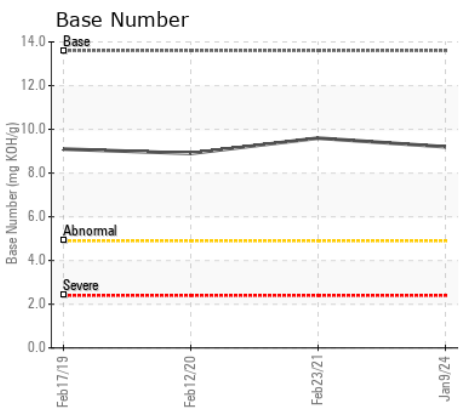
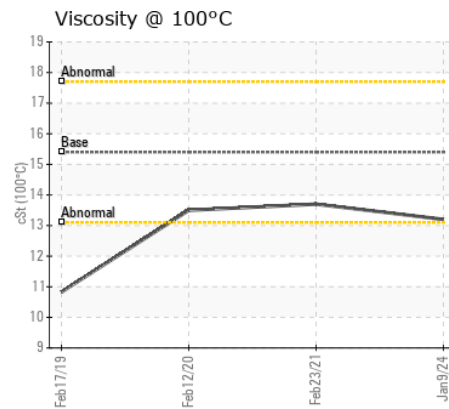
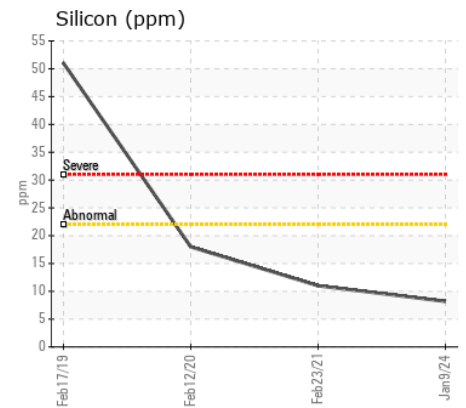
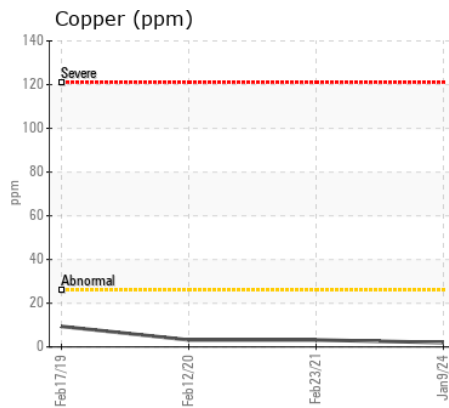
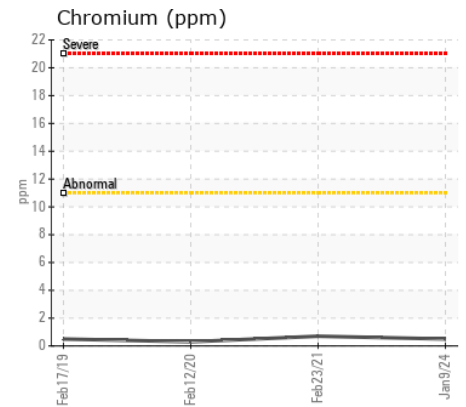
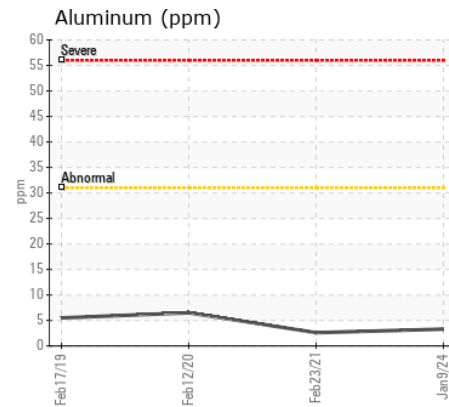
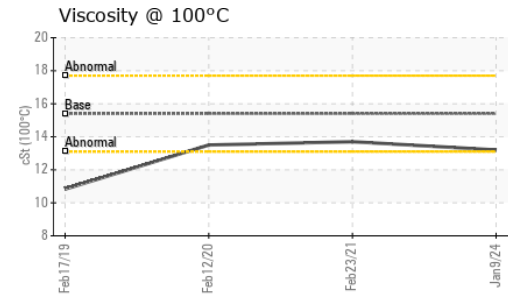
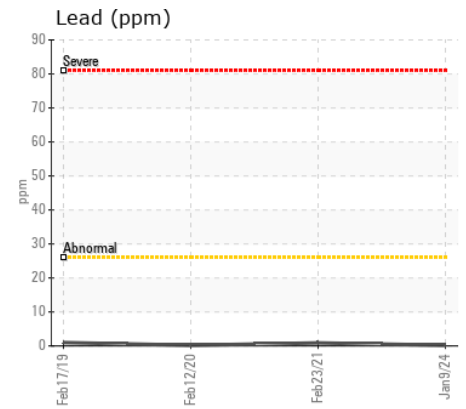
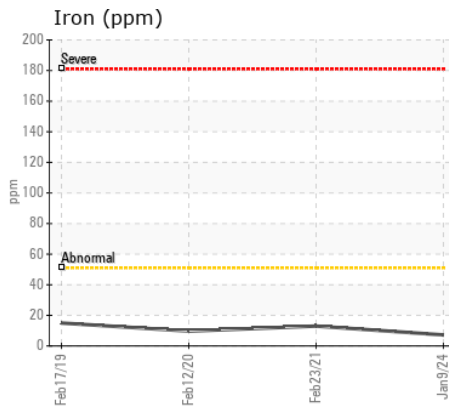
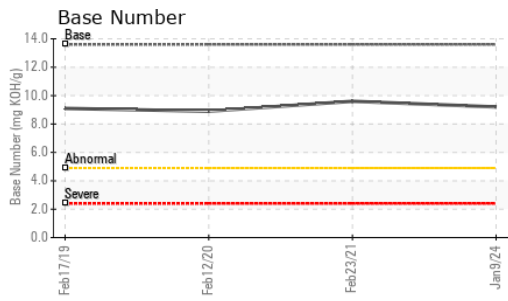
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >22 | 8 | 11 | 18 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | <1 | <1 |
| Fuel | | WC Method | >2.1 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.21 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.1 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.7 | 8 | 7.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.5 | 21.2 | 19.5 |
| 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 | >0.21 | 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 | >31 | 0 | 2 | 4 |
| Boron | ppm | ASTM D5185m | | 276 | 300 | 245 |
| Barium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m | | 236 | 272 | 256 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 753 | 826 | 800 |
| Calcium | ppm | ASTM D5185m | | 1313 | 1502 | 1450 |
| Phosphorus | ppm | ASTM D5185m | | 890 | 916 | 912 |
| Zinc | ppm | ASTM D5185m | | 1008 | 1103 | 964 |
| Sulfur | ppm | ASTM D5185m | | 3188 | 2667 | 3514 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 14.4 | 15.9 | 14.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 13.6 | 9.2 | 9.6 | 8.9 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.2 | 13.7 | 13.5 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0137485 **Received** : 11 Jan 2024
Lab Number : 06058687 **Diagnosed** : 12 Jan 2024
Unique Number : 10830069 **Diagnostician** : Wes Davis
Test Package : MOBCE (Additional Tests: TBN)

Certificate L2367
 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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