



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

Machine Id
KLEEMANN KT80-2 Z008.0814

Component
Diesel Engine

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

RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | JR0201161 | JR0193845 | JR0173859 |
| Sample Date | | Client Info | | 26 Feb 2024 | 11 Jan 2024 | 12 Sep 2023 |
| Machine Age | hrs | Client Info | | 6933 | 5870 | 3082 |
| Oil Age | hrs | Client Info | | 498 | 500 | 500 |
| Filter Age | hrs | Client Info | | 498 | 500 | 500 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | N/A | Changed | Changed |
| Sample Status | | | | SEVERE | MARGINAL | ATTENTION |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 24 | 19 | 32 |
| Chromium | ppm | ASTM D5185m | >20 | 2 | <1 | 2 |
| Nickel | ppm | ASTM D5185m | >4 | 1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 9 | 7 | <1 |
| Lead | ppm | ASTM D5185m | >40 | <1 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 2 | 0 | <1 |
| Tin | ppm | ASTM D5185m | >15 | 1 | <1 | 1 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

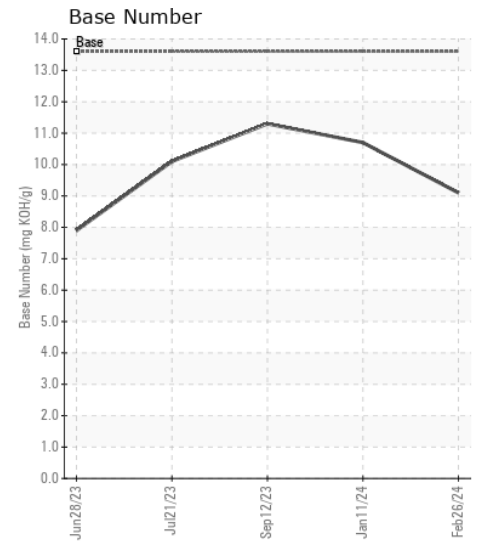
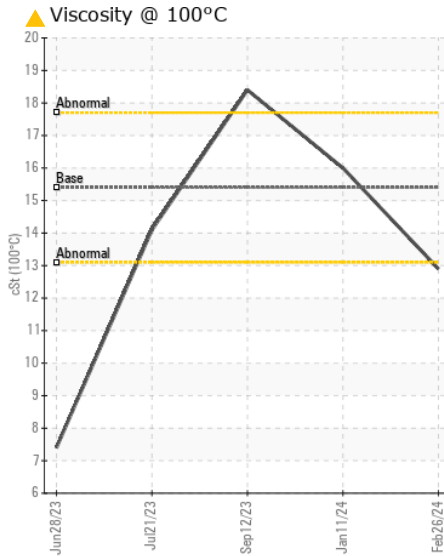
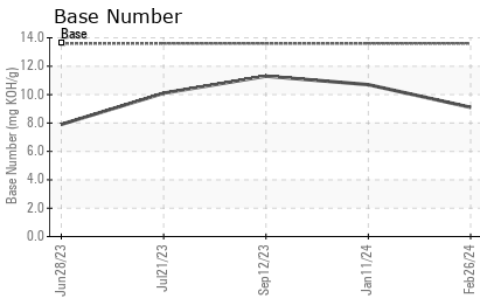
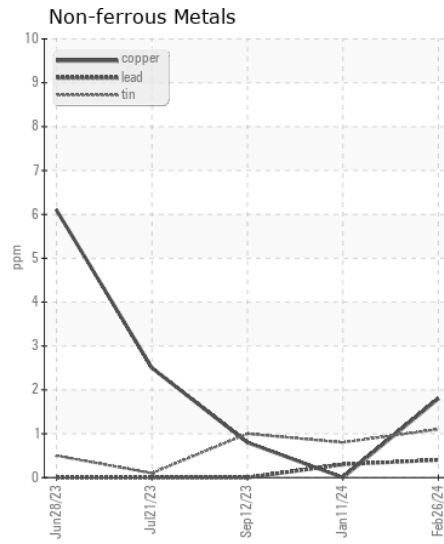
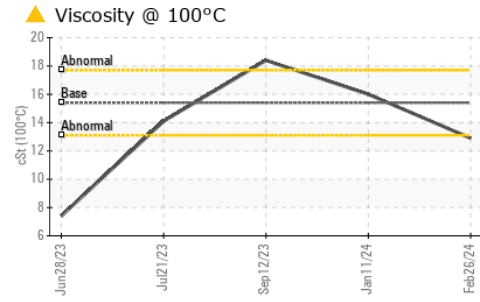
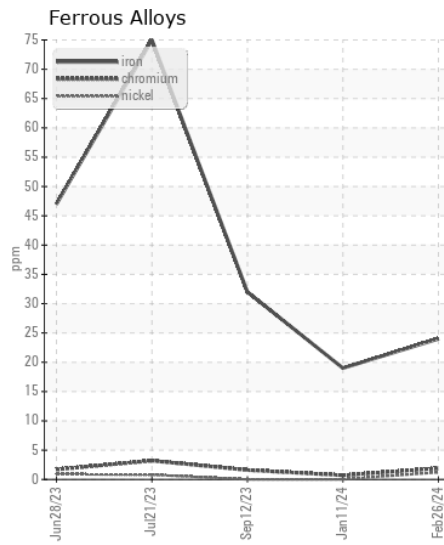
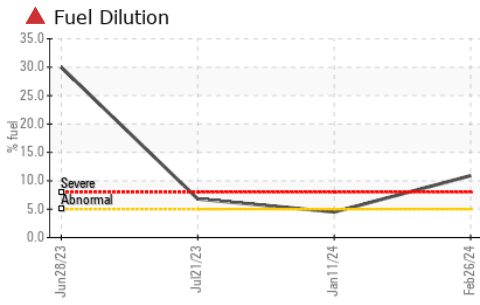
There is a high amount of fuel present in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|---------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 21 | 14 | 15 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 2 | <1 |
| Fuel | % | ASTM D3524 | >5 | ▲ 10.9 | ▲ 4.5 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 1.5 | 2.1 | 2.6 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 14.0 | 16.3 | 19.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 28.0 | 30.7 | 34.1 |
| 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

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

| | | | | | | |
|------------------|----------|-------------|------|---------------|------|--------|
| Sodium | ppm | ASTM D5185m | | 2 | 1 | 2 |
| Boron | ppm | ASTM D5185m | | 172 | 201 | 154 |
| Barium | ppm | ASTM D5185m | | 2 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 227 | 234 | 265 |
| Manganese | ppm | ASTM D5185m | | 1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 675 | 791 | 867 |
| Calcium | ppm | ASTM D5185m | | 1209 | 1303 | 1576 |
| Phosphorus | ppm | ASTM D5185m | | 714 | 844 | 854 |
| Zinc | ppm | ASTM D5185m | | 886 | 986 | 1068 |
| Sulfur | ppm | ASTM D5185m | | 2615 | 2719 | 3498 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 28.2 | 31.4 | 37.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 13.6 | 9.1 | 10.7 | 11.3 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | ▲ 12.9 | 16.0 | ● 18.4 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0201161 **Received** : 28 Feb 2024
Lab Number : 06102715 **Tested** : 04 Mar 2024
Unique Number : 10900945 **Diagnosed** : 04 Mar 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

JRE - NEW BERN
 3816 MARTIN LUTHER KING BLVD
 NEW BERN, NC
 US 28562
 Contact: NEW BERN SHOP
 nick.etherdridge@jamesriverequipment.com; canastasio@wearcheckusa.com

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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