



OIL ANALYSIS REPORT

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

Area

Store 3 - Norton

Machine Id

JOHN DEERE 437E 1T0437EDVPL435304

Component

Diesel Engine

Fluid

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (5 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|----------|
| Sample Number | | Client Info | | LEC0045009 | LEC0043056 | --- |
| Sample Date | | Client Info | | 06 Feb 2024 | 09 Aug 2023 | --- |
| Machine Age | hrs | Client Info | | 862 | 384 | --- |
| Oil Age | hrs | Client Info | | 478 | 384 | --- |
| Filter Age | hrs | Client Info | | 478 | 384 | --- |
| Oil Changed | | Client Info | | Changed | Changed | --- |
| Filter Changed | | Client Info | | Changed | Changed | --- |
| Sample Status | | | | ABNORMAL | ABNORMAL | --- |

WEAR

The copper level has decreased, but is still abnormal. All other component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|--------------|-----|
| Iron | ppm | ASTM D5185m | >51 | 28 | 32 | --- |
| Chromium | ppm | ASTM D5185m | >11 | <1 | <1 | --- |
| Nickel | ppm | ASTM D5185m | >5 | <1 | 1 | --- |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | --- |
| Silver | ppm | ASTM D5185m | >3 | 0 | <1 | --- |
| Aluminum | ppm | ASTM D5185m | >31 | 4 | 3 | --- |
| Lead | ppm | ASTM D5185m | >26 | <1 | 1 | --- |
| Copper | ppm | ASTM D5185m | >26 | ▲ 77 | ▲ 609 | --- |
| Tin | ppm | ASTM D5185m | >4 | 2 | 1 | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | --- |
| White Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | --- |

CONTAMINATION

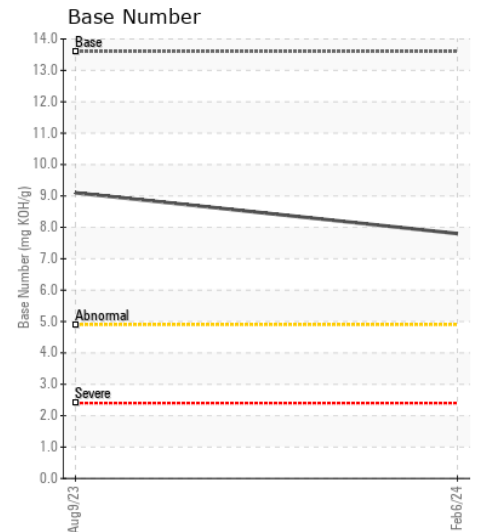
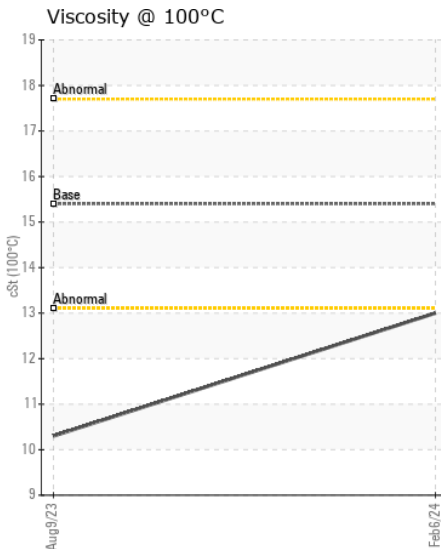
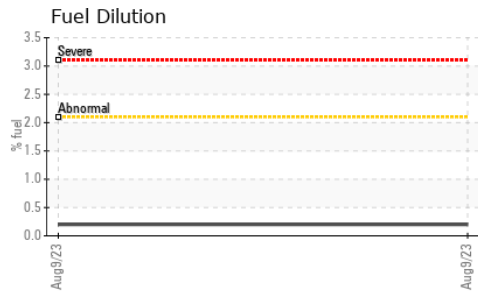
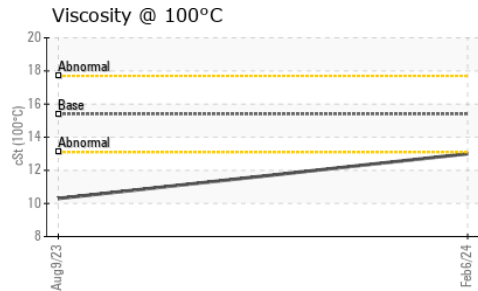
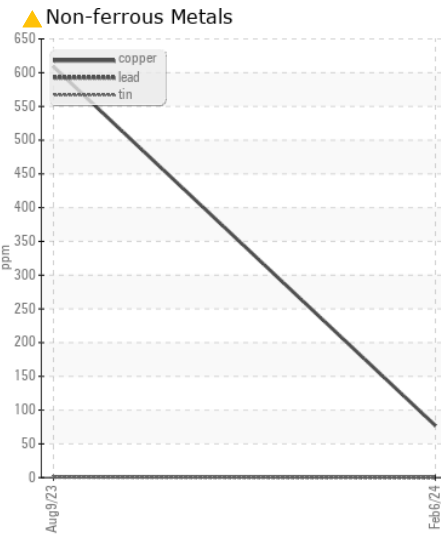
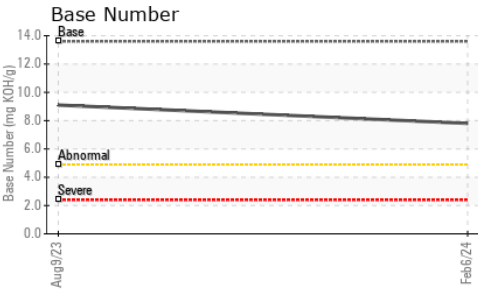
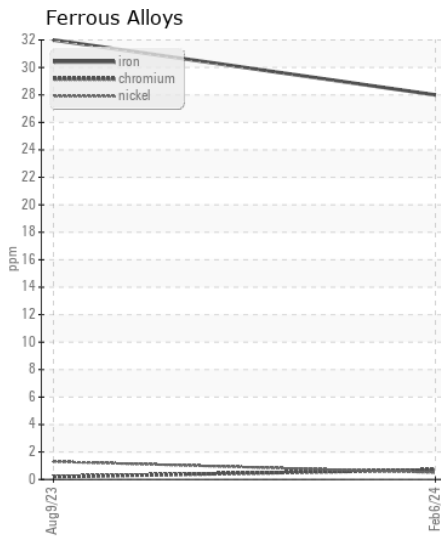
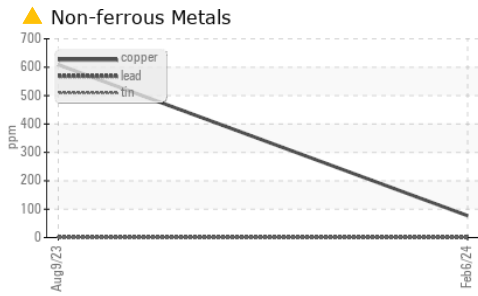
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-----|
| Silicon | ppm | ASTM D5185m | >120 | 6 | 12 | --- |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 6 | --- |
| Fuel | % | ASTM D3524 | >2.1 | <1.0 | 0.2 | --- |
| Water | | WC Method | >0.21 | NEG | NEG | --- |
| Glycol | | WC Method | | NEG | NEG | --- |
| Soot % | % | *ASTM D7844 | >3 | 0.4 | 0.2 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.9 | 9.3 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 24.1 | 22.2 | --- |
| Silt | scalar | *Visual | NONE | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | NONE | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | --- |
| Appearance | scalar | *Visual | NORML | NORML | NORML | --- |
| Odor | scalar | *Visual | NORML | NORML | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.21 | 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 | 5 | 0 | --- |
| Boron | ppm | ASTM D5185m | | 145 | 254 | --- |
| Barium | ppm | ASTM D5185m | | 0 | 6 | --- |
| Molybdenum | ppm | ASTM D5185m | | 246 | 288 | --- |
| Manganese | ppm | ASTM D5185m | | 1 | 4 | --- |
| Magnesium | ppm | ASTM D5185m | | 824 | 844 | --- |
| Calcium | ppm | ASTM D5185m | | 1505 | 1588 | --- |
| Phosphorus | ppm | ASTM D5185m | | 887 | 950 | --- |
| Zinc | ppm | ASTM D5185m | | 1096 | 1135 | --- |
| Sulfur | ppm | ASTM D5185m | | 2932 | 3211 | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 19.1 | 17.6 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 13.6 | 7.8 | 9.1 | --- |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.0 | ▲ 10.3 | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0045009 **Received** : 08 Feb 2024
Lab Number : 06084285 **Tested** : 12 Feb 2024
Unique Number : 10871730 **Diagnosed** : 12 Feb 2024 - Don Baldrige
Test Package : CONST (Additional Tests: FuelDilution, TBN)

LESLIE EQUIPMENT COMPANY
 105 TENNIS CENTER DR.
 MARIETTA, OH
 US 45750-9765
 Contact: LEANNE KENDALL
 KendalLeanne@lec1.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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