



OIL ANALYSIS REPORT

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

Area

Store 9 - Marietta [146280]

Machine Id

JOHN DEERE 304L 1LU304LXLZB048374

Component

Diesel Engine

Fluid

JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (3 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 |           | LEC0046162  | LEC0037272  | LEC0023547  |
| Sample Date    |     | Client Info |           | 10 Jan 2024 | 03 Jan 2023 | 08 Nov 2021 |
| Machine Age    | hrs | Client Info |           | 5748        | 5040        | 4184        |
| Oil Age        | hrs | Client Info |           | 708         | 856         | 1731        |
| Filter Age     | hrs | Client Info |           | 708         | 856         | 0           |
| Oil Changed    |     | Client Info |           | Changed     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | Changed     | Changed     | Changed     |
| Sample Status  |     |             |           | ATTENTION   | ABNORMAL    | NORMAL      |

WEAR

All component wear rates are normal.

|              |        |             |      |      |      |      |
|--------------|--------|-------------|------|------|------|------|
| Iron         | ppm    | ASTM D5185m | >51  | 20   | ▲ 76 | 12   |
| Chromium     | ppm    | ASTM D5185m | >11  | <1   | 2    | <1   |
| Nickel       | ppm    | ASTM D5185m | >5   | <1   | <1   | 0    |
| Titanium     | ppm    | ASTM D5185m |      | 0    | <1   | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | 0    | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >31  | 5    | ▲ 7  | 2    |
| Lead         | ppm    | ASTM D5185m | >26  | 2    | <1   | <1   |
| Copper       | ppm    | ASTM D5185m | >26  | 2    | 5    | <1   |
| Tin          | ppm    | ASTM D5185m | >4   | 2    | <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

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

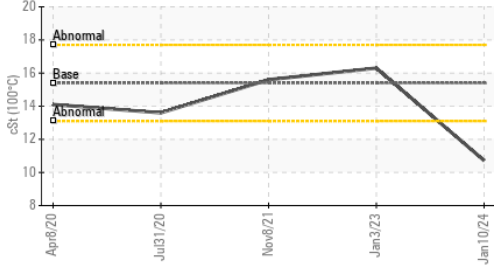
|                  |          |             |       |       |       |       |
|------------------|----------|-------------|-------|-------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >120  | 17    | ▲ 18  | 4     |
| Potassium        | ppm      | ASTM D5185m | >20   | 5     | 3     | 0     |
| Fuel             | %        | ASTM D3524  | >2.1  | 0.5   | <1.0  | <1.0  |
| Water            |          | WC Method   | >0.21 | NEG   | NEG   | NEG   |
| Glycol           |          | WC Method   |       | NEG   | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | 0.9   | 1.9   | 0.5   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | 25.6  | 16.2  | 9.3   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | 12.8  | 33.7  | 23.3  |
| 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

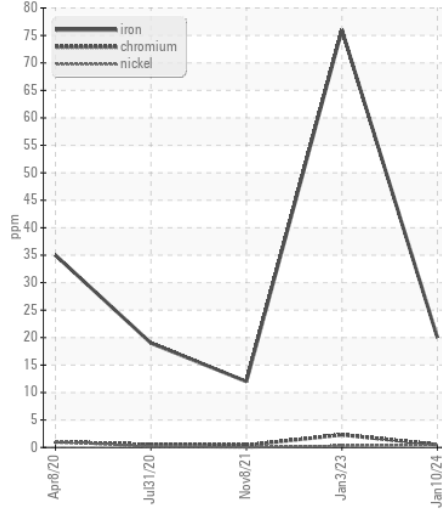
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

|                  |          |             |      |         |      |      |
|------------------|----------|-------------|------|---------|------|------|
| Sodium           | ppm      | ASTM D5185m | >31  | 2       | <1   | <1   |
| Boron            | ppm      | ASTM D5185m |      | 169     | 97   | 252  |
| Barium           | ppm      | ASTM D5185m |      | 0       | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m |      | 240     | 297  | 252  |
| Manganese        | ppm      | ASTM D5185m |      | <1      | <1   | <1   |
| Magnesium        | ppm      | ASTM D5185m |      | 892     | 844  | 803  |
| Calcium          | ppm      | ASTM D5185m |      | 1609    | 1673 | 1413 |
| Phosphorus       | ppm      | ASTM D5185m |      | 906     | 962  | 879  |
| Zinc             | ppm      | ASTM D5185m |      | 1182    | 1195 | 981  |
| Sulfur           | ppm      | ASTM D5185m |      | 3041    | 3525 | 2643 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | 28.5    | 33.6 | 18.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 13.6 | 28.6    | 8.2  | 9.9  |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.4 | ▲ 10.72 | 16.3 | 15.6 |

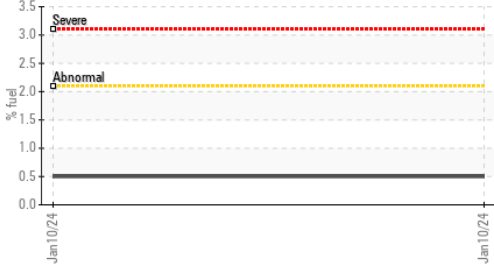
▲ Viscosity @ 100°C



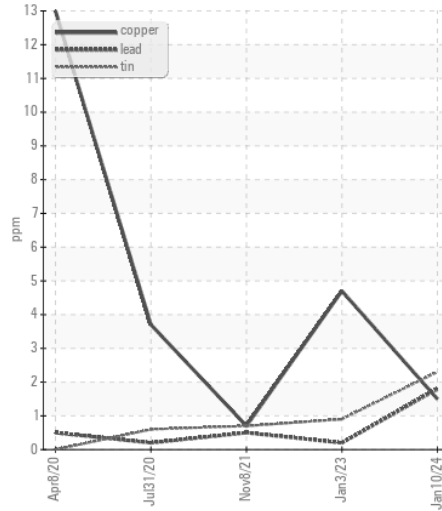
Ferrous Alloys



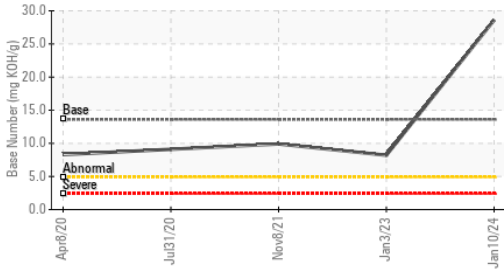
Fuel Dilution



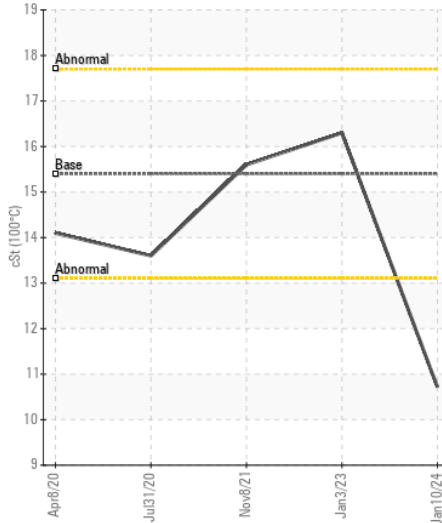
Non-ferrous Metals



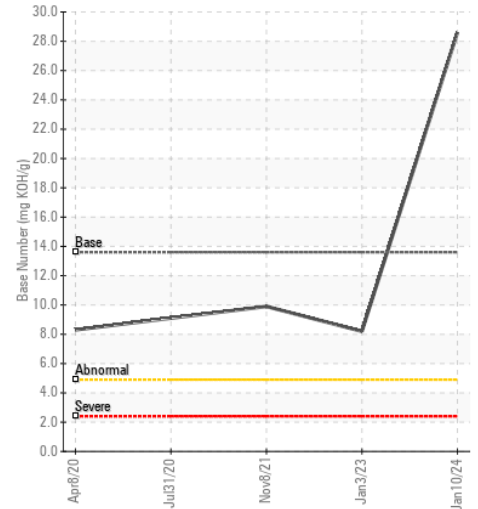
Base Number



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0046162 **Received** : 12 Jan 2024  
**Lab Number** : 06060036 **Diagnosed** : 18 Jan 2024  
**Unique Number** : 10831418 **Diagnostician** : Jonathan Hester  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

**LESLIE EQUIPMENT COMPANY**  
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 T:  
 F: (740)373-5570

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)