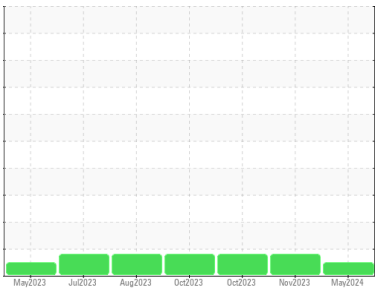
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## JOHN DEERE 624L 624L UNIT 1
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

**Wear**
All component wear rates are normal.

**Contamination**
There is no indication of any contamination in the oil.

**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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PE0003842** | PE0002530 | PE0002524 |
| Sample Date | | Client Info | | **14 May 2024** | 15 Nov 2023 | 20 Oct 2023 |
| Machine Age | hrs | Client Info | | **7596** | 5959 | 5740 |
| Oil Age | hrs | Client Info | | **7316** | 5740 | 5585 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **NORMAL** | ABNORMAL | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| 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 |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >51 | **38** | 30 | 23 |
| Chromium | ppm | ASTM D5185m | >11 | **1** | 1 | 1 |
| Nickel | ppm | ASTM D5185m | >5 | **7** | ▲ 25 | ▲ 21 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Silver | ppm | ASTM D5185m | >3 | **<1** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >31 | **2** | 2 | 3 |
| Lead | ppm | ASTM D5185m | >26 | **<1** | <1 | <1 |
| Copper | ppm | ASTM D5185m | >26 | **4** | 8 | 7 |
| Tin | ppm | ASTM D5185m | >4 | **<1** | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | <1 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 250 | **2** | <1 | 0 |
| Barium | ppm | ASTM D5185m | 10 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | **60** | 62 | 58 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | **1026** | 930 | 901 |
| Calcium | ppm | ASTM D5185m | 3000 | **1179** | 1149 | 1103 |
| Phosphorus | ppm | ASTM D5185m | 1150 | **1111** | 999 | 1050 |
| Zinc | ppm | ASTM D5185m | 1350 | **1338** | 1281 | 1235 |
| Sulfur | ppm | ASTM D5185m | 4250 | **3652** | 2860 | 3483 |

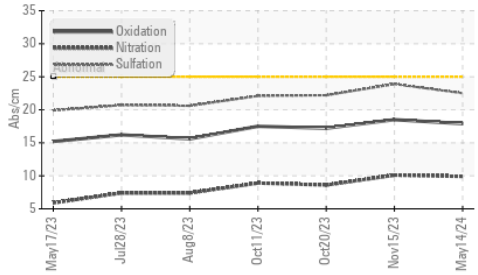
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >22 | **5** | 6 | 5 |
| Sodium | ppm | ASTM D5185m | >216 | **2** | 2 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **1** | 2 | 3 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **1.4** | 1.9 | 1.5 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **9.9** | 10.1 | 8.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **22.5** | 23.9 | 22.2 |

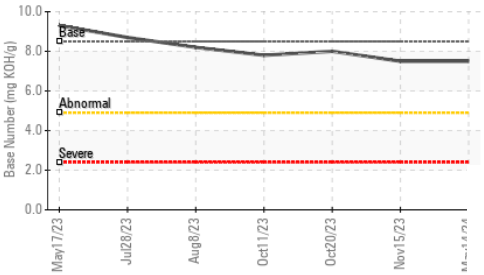
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **17.9** | 18.5 | 17.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | **7.5** | 7.5 | 8.0 |

# OIL ANALYSIS REPORT

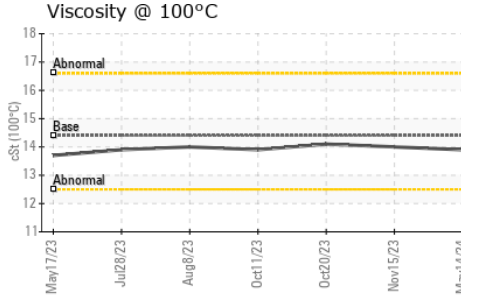
FT-IR (Direct Trend)




Base Number




Viscosity @ 100°C

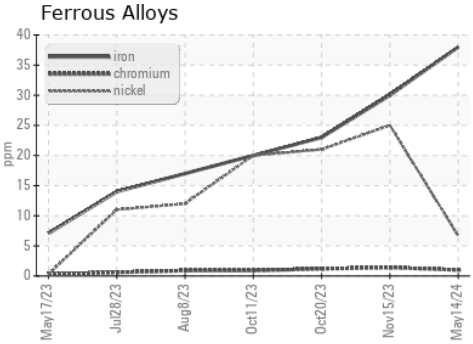



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

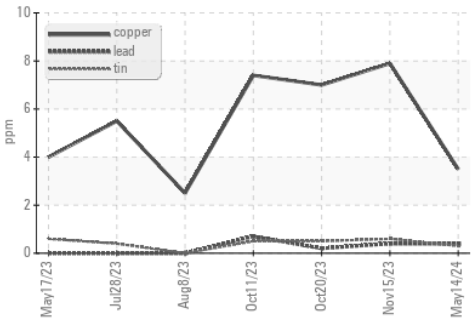
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | **13.9** | 14.0 | 14.1 |

## GRAPHS

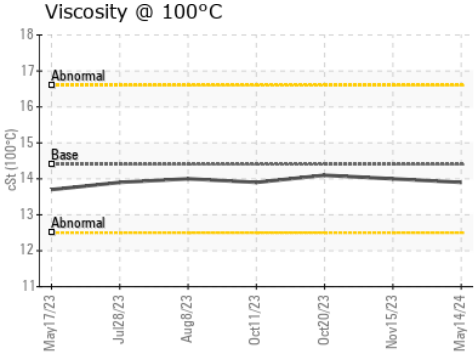
Ferrous Alloys



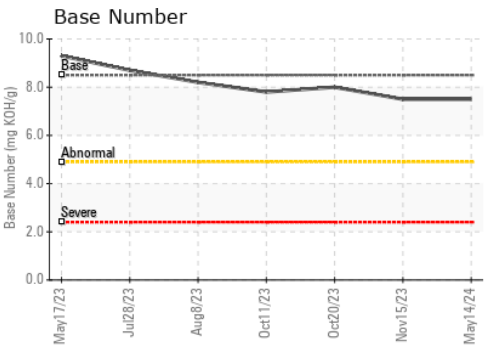

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PE0003842 **Received** : 17 May 2024
**Lab Number** : 06182582 **Tested** : 20 May 2024
**Unique Number** : 11033908 **Diagnosed** : 20 May 2024 - Don Baldridge
**Test Package** : CONST ( Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN )

*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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Submitted By: ROCHELLE MENDOZA