James River Equipment

OIL ANALYSIS REPORT

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

Machine Id
## JOHN DEERE 160G 1FF160GXCNF058600
Component
## Diesel Engine
Fluid
## JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

### WEAR

Bearing and/or bushing wear is indicated.

### CONTAMINATION

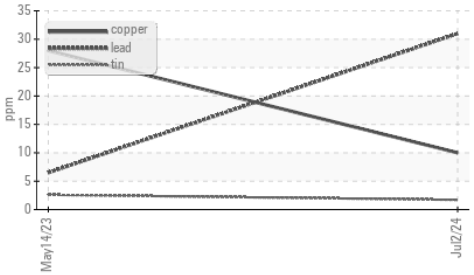
There is no indication of any contamination in the oil.

### FLUID CONDITION

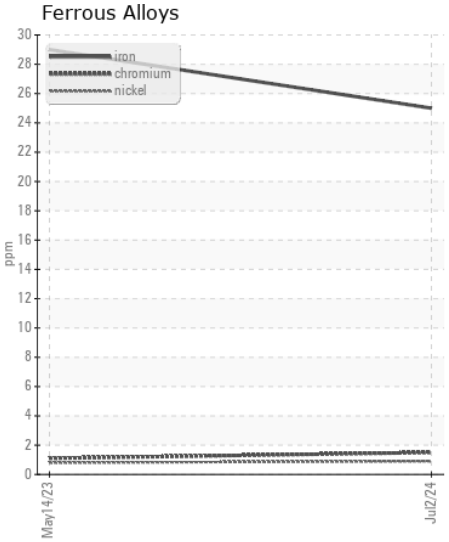
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | JR0218973 | JR0173956 | --- |
| Sample Date | | Client Info | | 02 Jul 2024 | 14 May 2023 | --- |
| Machine Age | hrs | Client Info | | 1048 | 504 | --- |
| Oil Age | hrs | Client Info | | 541 | 504 | --- |
| Filter Age | hrs | Client Info | | 541 | 504 | --- |
| Oil Changed | | Client Info | | Changed | Changed | --- |
| Filter Changed | | Client Info | | Changed | Changed | --- |
| Sample Status | | | | ABNORMAL | ATTENTION | --- |
| Iron | ppm | ASTM D5185m | >51 | 25 | 29 | --- |
| Chromium | ppm | ASTM D5185m | >11 | 2 | 1 | --- |
| Nickel | ppm | ASTM D5185m | >5 | <1 | <1 | --- |
| Titanium | ppm | ASTM D5185m | | 1 | <1 | --- |
| Silver | ppm | ASTM D5185m | >3 | <1 | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >31 | 7 | 8 | --- |
| Lead | ppm | ASTM D5185m | >26 | ▲ 31 | 6 | --- |
| Copper | ppm | ASTM D5185m | >26 | 10 | 28 | --- |
| Tin | ppm | ASTM D5185m | >4 | 2 | 3 | --- |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | --- |
| White Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Silicon | ppm | ASTM D5185m | >22 | 10 | 11 | --- |
| Potassium | ppm | ASTM D5185m | >20 | 4 | 3 | --- |
| Fuel | | WC Method | >2.1 | <1.0 | 0.5 | --- |
| 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 | 10.3 | 10.0 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 26.1 | 25.2 | --- |
| Silt | scalar | *Visual | NONE | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | NONE | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | --- |
| Appearance | scalar | *Visual | NORML | NORML | NONE | --- |
| Odor | scalar | *Visual | NORML | NORML | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.21 | NEG | NEG | --- |
| Sodium | ppm | ASTM D5185m | >31 | 6 | 6 | --- |
| Boron | ppm | ASTM D5185m | | 109 | 141 | --- |
| Barium | ppm | ASTM D5185m | | 0 | 6 | --- |
| Molybdenum | ppm | ASTM D5185m | | 279 | 242 | --- |
| Manganese | ppm | ASTM D5185m | | 2 | 5 | --- |
| Magnesium | ppm | ASTM D5185m | | 948 | 811 | --- |
| Calcium | ppm | ASTM D5185m | | 1605 | 1550 | --- |
| Phosphorus | ppm | ASTM D5185m | | 932 | 852 | --- |
| Zinc | ppm | ASTM D5185m | | 1210 | 1075 | --- |
| Sulfur | ppm | ASTM D5185m | | 3182 | 2790 | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 20.9 | 21.5 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 13.6 | 7.3 | 7.6 | --- |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.7 | 11.2 | --- |

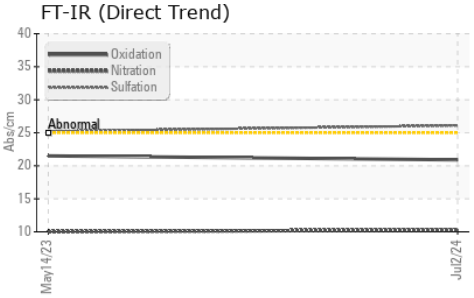
Non-ferrous Metals



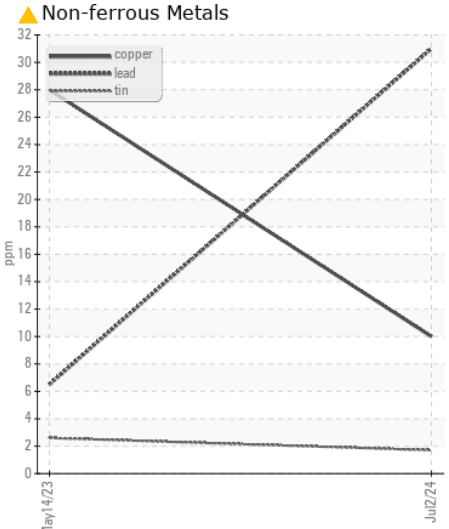

Ferrous Alloys



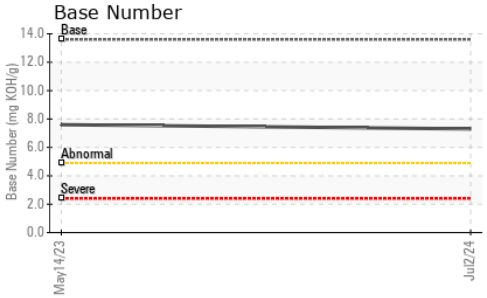

FT-IR (Direct Trend)



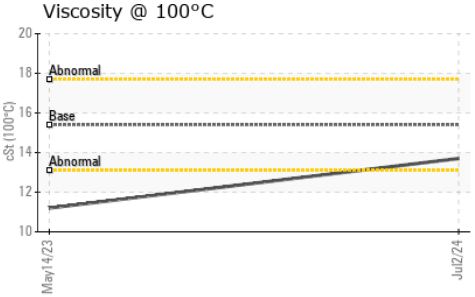

Non-ferrous Metals



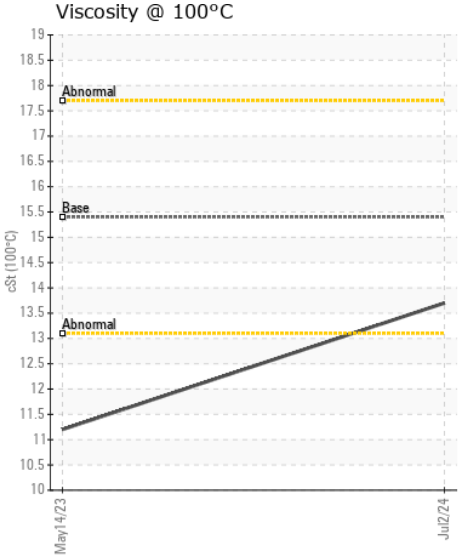

Base Number



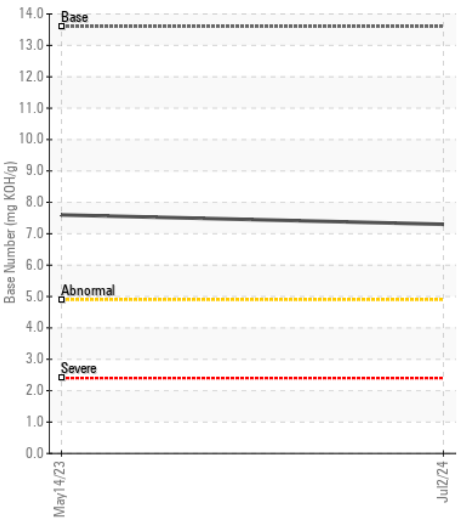

Viscosity @ 100°C




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : JR0218973 **Received** : 08 Jul 2024
**Lab Number** : 06229674 **Tested** : 09 Jul 2024
**Unique Number** : 11113167 **Diagnosed** : 09 Jul 2024 - Jonathan Hester
**Test Package** : CONST ( Additional Tests: 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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