James River Equipment

OIL ANALYSIS REPORT

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

Machine Id
# JOHN DEERE 317G 1T0317GJLJJ328487
Component
## Diesel Engine
Fluid
## JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

## RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

## WEAR

Cylinder, crank, or cam shaft wear is indicated.

## CONTAMINATION

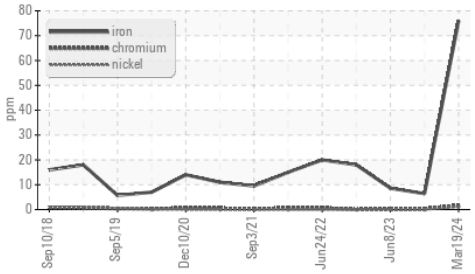
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

## FLUID CONDITION

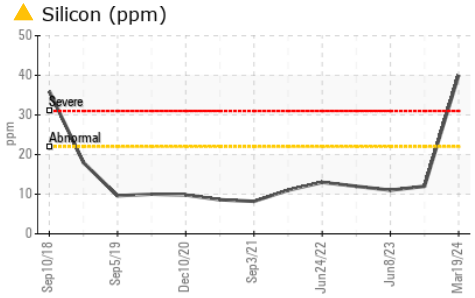
The BN result indicates that there is suitable alkalinity remaining in the oil.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | JR0207977 | JR0191464 | JR0175819 |
| Sample Date | | Client Info | | 19 Mar 2024 | 18 Nov 2023 | 08 Jun 2023 |
| Machine Age | hrs | Client Info | | 3818 | 3447 | 3239 |
| Oil Age | hrs | Client Info | | 371 | 208 | 194 |
| Filter Age | hrs | Client Info | | 371 | 208 | 194 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | ABNORMAL | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >51 | ▲ 76 | 6 | 9 |
| Chromium | ppm | ASTM D5185m | >11 | 2 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | 1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 1 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >31 | ● 21 | 10 | 6 |
| Lead | ppm | ASTM D5185m | >26 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >26 | 2 | <1 | 1 |
| Tin | ppm | ASTM D5185m | >4 | <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 |
| Silicon | ppm | ASTM D5185m | >22 | ▲ 40 | 12 | 11 |
| Potassium | ppm | ASTM D5185m | >20 | 4 | <1 | 0 |
| 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 |
| Soot % | % | *ASTM D7844 | >3 | 0.7 | 0.3 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.9 | 8.5 | 9.3 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.3 | 21.2 | 21.1 |
| 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 | >0.21 | NEG | NEG | NEG |
| Sodium | ppm | ASTM D5185m | >31 | 0 | 1 | 2 |
| Boron | ppm | ASTM D5185m | | 212 | 242 | 231 |
| Barium | ppm | ASTM D5185m | | 3 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 261 | 235 | 218 |
| Manganese | ppm | ASTM D5185m | | 1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 780 | 818 | 744 |
| Calcium | ppm | ASTM D5185m | | 1470 | 1394 | 1398 |
| Phosphorus | ppm | ASTM D5185m | | 838 | 872 | 807 |
| Zinc | ppm | ASTM D5185m | | 1065 | 1065 | 991 |
| Sulfur | ppm | ASTM D5185m | | 4101 | 2904 | 3306 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 19.1 | 16.4 | 16.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 13.6 | 8.4 | 8.4 | 9.1 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.4 | 13.2 | 13.6 |

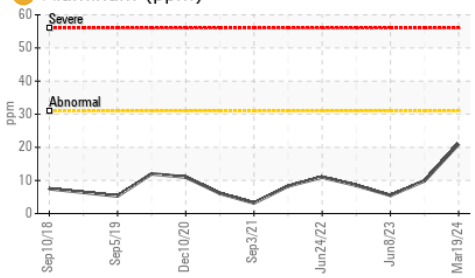
Ferrous Alloys



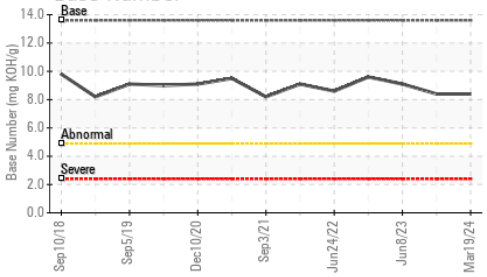

Silicon (ppm)



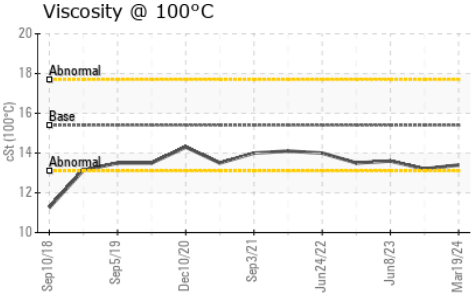

Aluminum (ppm)



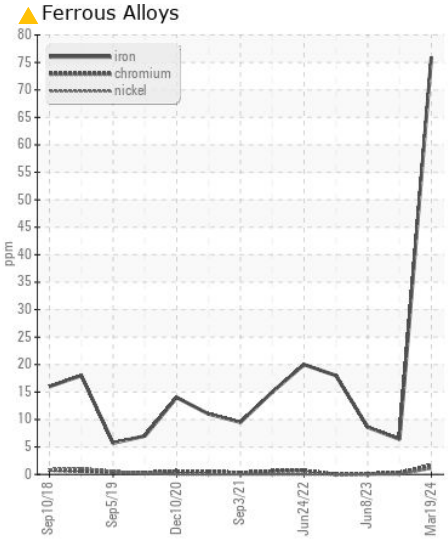

Base Number



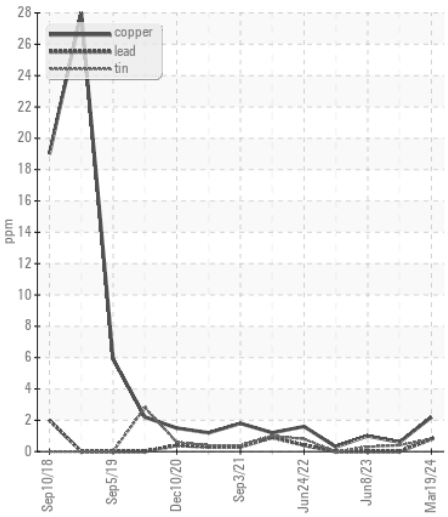

Viscosity @ 100°C



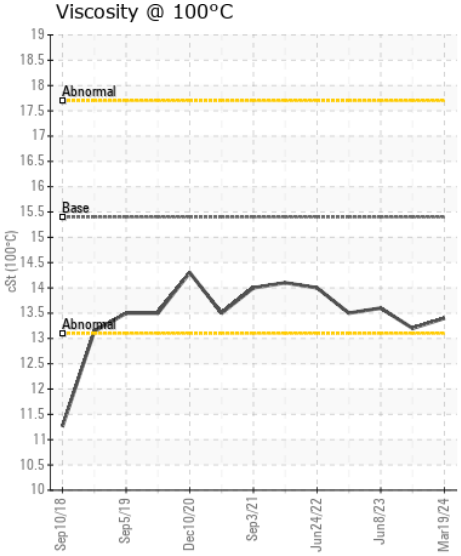

Ferrous Alloys



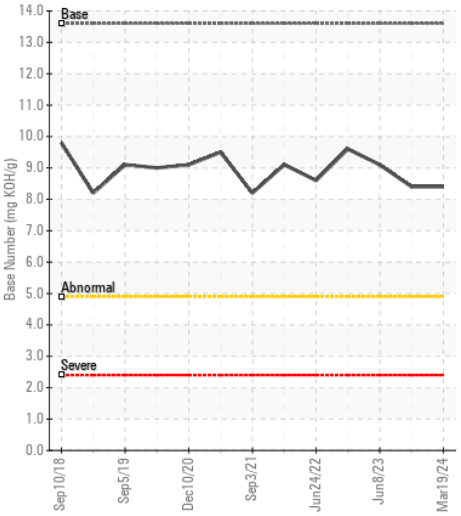

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : JR0207977
**Lab Number** : 06125365
**Unique Number** : 10939516
**Test Package** : CONST ( Additional Tests: TBN )

**Received** : 21 Mar 2024
**Tested** : 25 Mar 2024
**Diagnosed** : 25 Mar 2024 - Sean Felton

*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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