James River Equipment

OIL ANALYSIS REPORT

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

Area
**[05W47700]**
Machine Id
**CATERPILLAR 950GC C285096 (S/N 0M5T05487)**
Component
**Diesel Engine**
Fluid
**JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (21 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

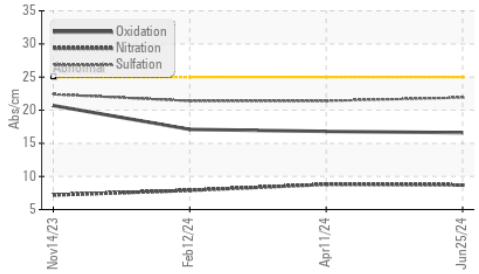
There is no indication of any contamination in the oil.

## FLUID CONDITION

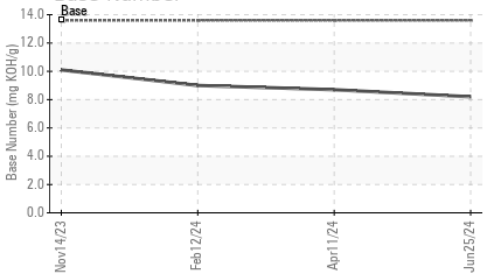
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | JR0225324 | JR0211027 | JR0203118 |
| Sample Date | | Client Info | | 25 Jun 2024 | 11 Apr 2024 | 12 Feb 2024 |
| Machine Age | hrs | Client Info | | 2989 | 2465 | 2018 |
| Oil Age | hrs | Client Info | | 524 | 447 | 533 |
| Filter Age | hrs | Client Info | | 524 | 447 | 533 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | ABNORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >100 | 9 | 14 | 14 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | 1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 15 | ▲ 26 | 19 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 1 | <1 | 2 |
| Tin | ppm | ASTM D5185m | >15 | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 6 | 6 | 7 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | <1 | <1 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.4 | 0.4 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.7 | 8.8 | 7.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 21.9 | 21.4 | 21.4 |
| 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 | >0.2 | NEG | NEG | NEG |
| Sodium | ppm | ASTM D5185m | | 2 | 1 | 1 |
| Boron | ppm | ASTM D5185m | | 176 | 222 | 133 |
| Barium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 254 | 233 | 150 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 791 | 869 | 636 |
| Calcium | ppm | ASTM D5185m | | 1423 | 1532 | 1642 |
| Phosphorus | ppm | ASTM D5185m | | 817 | 980 | 921 |
| Zinc | ppm | ASTM D5185m | | 1114 | 1154 | 1060 |
| Sulfur | ppm | ASTM D5185m | | 3073 | 3765 | 3040 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.6 | 16.8 | 17.1 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 13.6 | 8.2 | 8.7 | 9.0 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.0 | 12.9 | 12.5 |

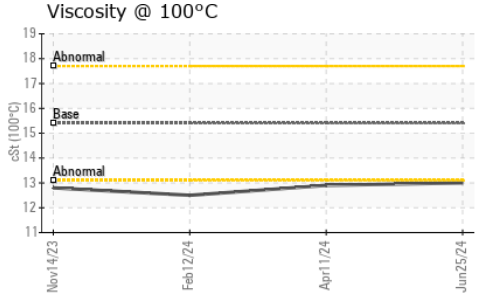
FT-IR (Direct Trend)



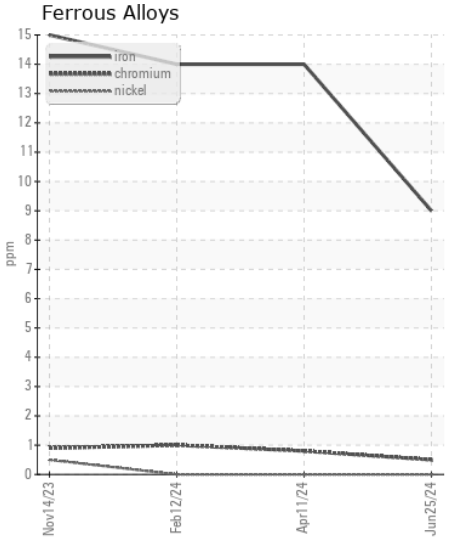

Base Number



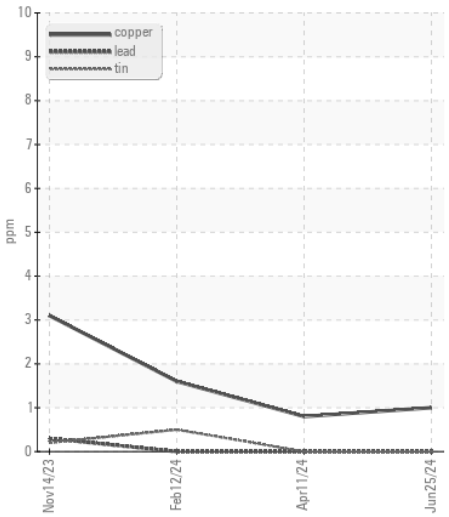

Viscosity @ 100°C



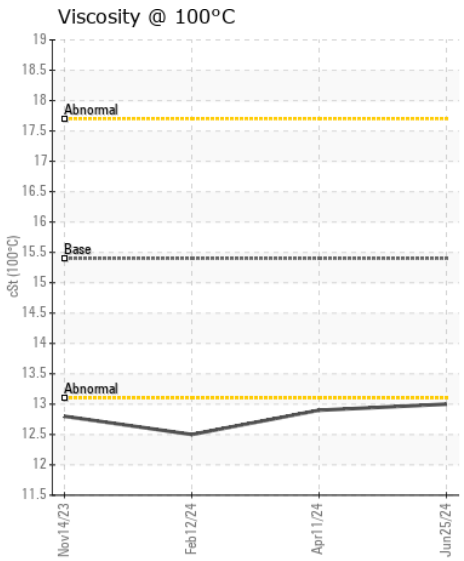

Ferrous Alloys




Non-ferrous Metals




Viscosity @ 100°C

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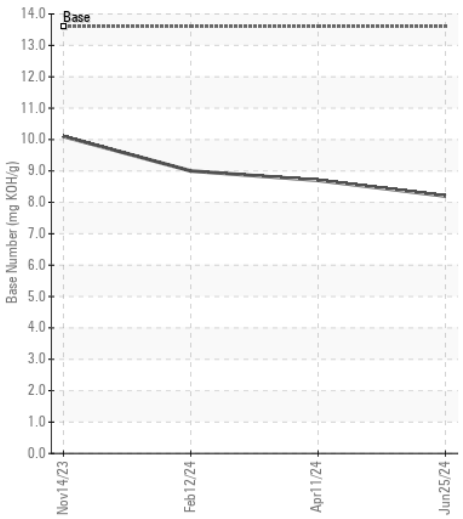


Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : JR0225324
**Lab Number** : 06220971
**Unique Number** : 11099168
**Test Package** : CONST ( Additional Tests: TBN )

**Received** : 26 Jun 2024
**Tested** : 27 Jun 2024
**Diagnosed** : 27 Jun 2024 - Wes Davis

*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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