



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



Machine Id
JOHN DEERE 323D 1T0323DALB0202373
 Component
Diesel Engine
 Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (2 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | JR0179759 | JRMC421614 | JRMC403478 |
| Sample Date | | Client Info | | 21 May 2024 | 30 Aug 2017 | 14 Mar 2017 |
| Machine Age | hrs | Client Info | | 1736 | 999 | 932 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Chngd | Changed | Changed |
| Filter Changed | | Client Info | | Not Chngd | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|-------------|------|------|
| Iron | ppm | ASTM D5185m | >51 | 7 | 16 | 15 |
| Chromium | ppm | ASTM D5185m | >11 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >5 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >31 | 0 | 5 | 4 |
| Lead | ppm | ASTM D5185m | >26 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >26 | 0 | 2 | 2 |
| Tin | ppm | ASTM D5185m | >4 | 0 | 9 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

There is no indication of any contamination in the oil.

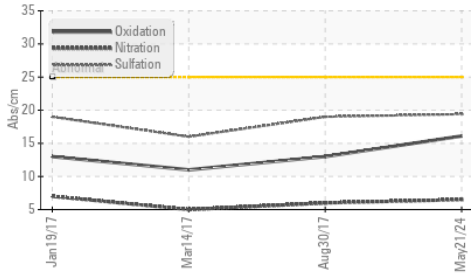
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >22 | 2 | 11 | 8 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 2 | 1 |
| Fuel | | WC Method | >2.1 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.21 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.1 | 0 | 0 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.5 | 6. | 5. |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.4 | 19. | 16. |
| 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

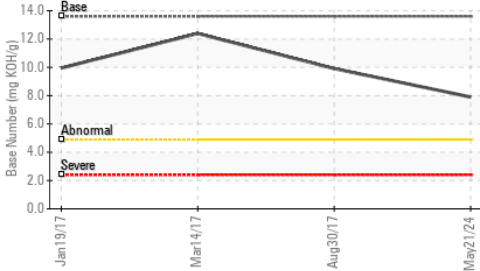
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|-------------|-------|-------|
| Sodium | ppm | ASTM D5185m | >31 | 3 | 4 | 4 |
| Boron | ppm | ASTM D5185m | | 222 | 227 | 229 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 35 | 225 | 233 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 123 | 776 | 792 |
| Calcium | ppm | ASTM D5185m | | 2123 | 1378 | 1354 |
| Phosphorus | ppm | ASTM D5185m | | 966 | 770 | 756 |
| Zinc | ppm | ASTM D5185m | | 1170 | 924 | 991 |
| Sulfur | ppm | ASTM D5185m | | 3835 | 2749 | 2634 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.1 | 13. | 11. |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 13.6 | 7.9 | 9.91 | 12.39 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 14.0 | 14.74 | 14.9 |

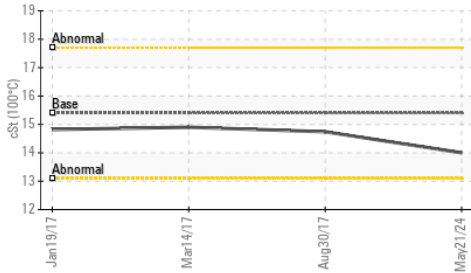
FT-IR (Direct Trend)



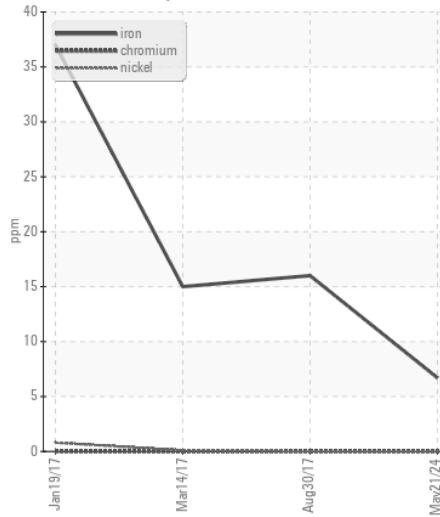
Base Number



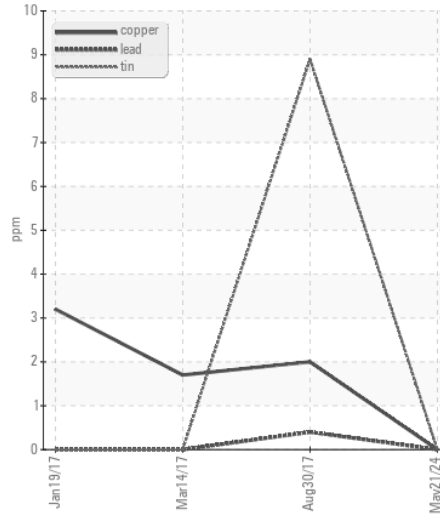
Viscosity @ 100°C



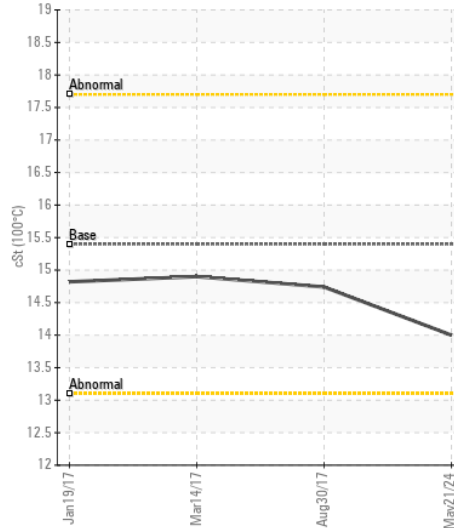
Ferrous Alloys



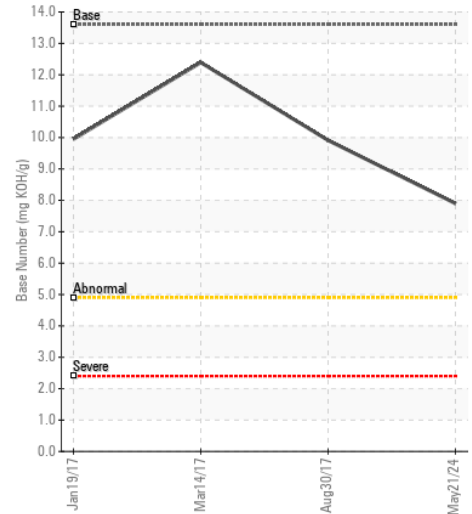
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0179759 **Received** : 22 May 2024
Lab Number : 06187460 **Tested** : 23 May 2024
Unique Number : 11044212 **Diagnosed** : 24 May 2024 - Don Baldrige
Test Package : CONST (Additional Tests: TBN)

JRE - ASHLAND
 11047 LEADBETTER RD
 ASHLAND, VA
 US 23005
 Contact: DAVID ZIEG
 dzieg@jamesriverequipment.com
 T: (804)798-6001
 F: (804)798-0292

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)