



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

Machine Id
JOHN DEERE PM061092

Component
Pump Drive

Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (--- GAL)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. (Customer Sample Comment: Top Up Amount: 1 QTS)

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | JR0203300 | JR0174588 | JR0153256 |
| Sample Date | | Client Info | | 22 Feb 2024 | 31 May 2023 | 11 Nov 2022 |
| Machine Age | hrs | Client Info | | 6469 | 5991 | 5527 |
| Oil Age | hrs | Client Info | | 478 | 5453 | 538 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Oil Added | Changed | N/A |
| Filter Changed | | Client Info | | None | None | N/A |
| Sample Status | | | | SEVERE | NORMAL | NORMAL |

WEAR

The iron and chrome levels are severe. Gear wear is indicated.

| | | | | | | |
|--------------|--------|-------------|------|--------------|-------|------|
| PQ | | ASTM D8184 | | 2912 | 28 | 20 |
| Iron | ppm | ASTM D5185m | >151 | 12958 | 90 | 72 |
| Chromium | ppm | ASTM D5185m | >11 | 120 | 1 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | 5 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >21 | 15 | <1 | 5 |
| Lead | ppm | ASTM D5185m | >51 | 2 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >51 | 9 | 1 | <1 |
| Tin | ppm | ASTM D5185m | >4 | 1 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | MODER | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

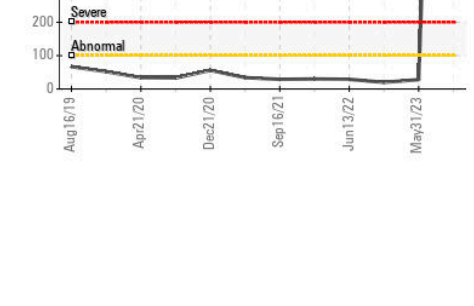
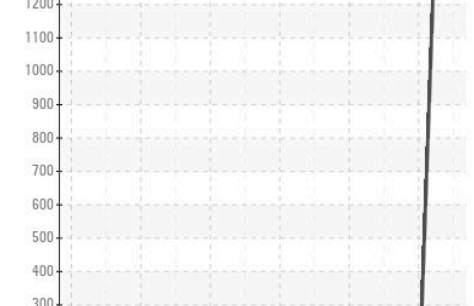
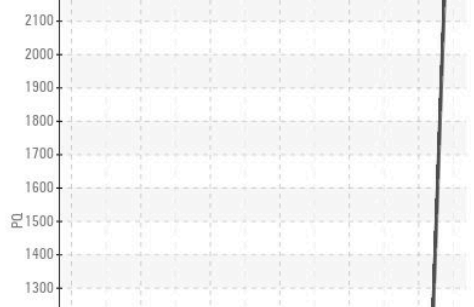
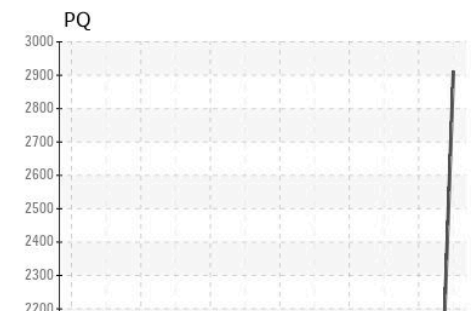
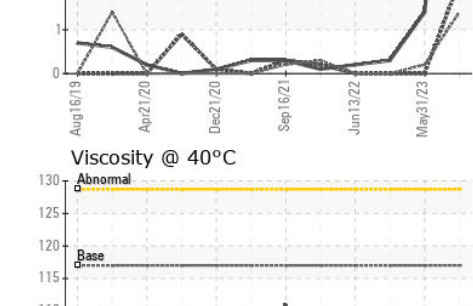
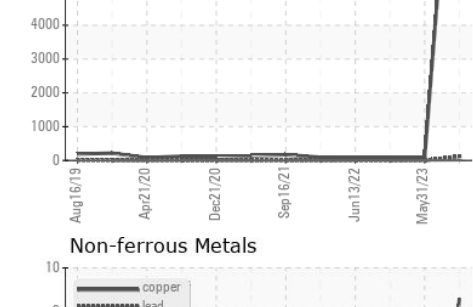
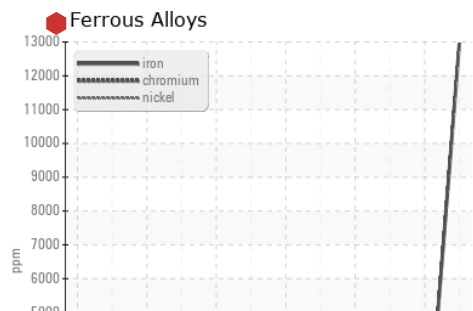
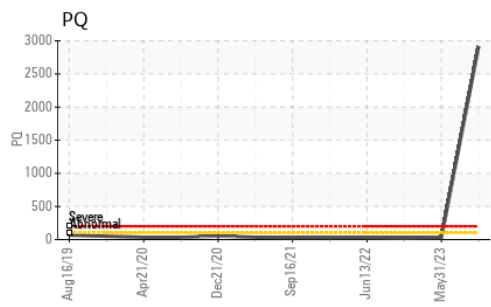
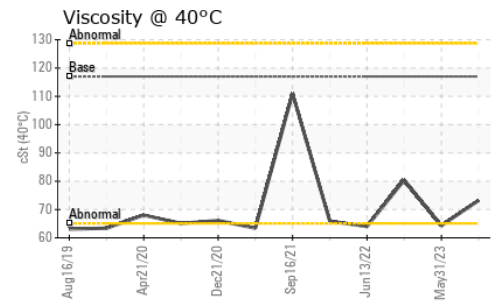
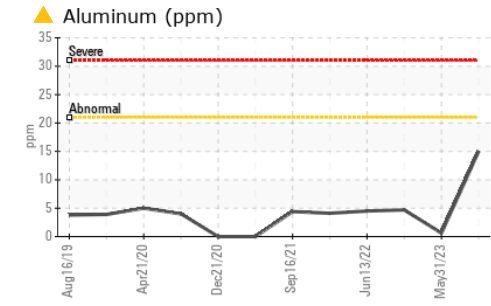
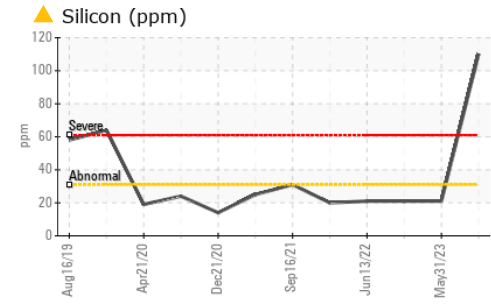
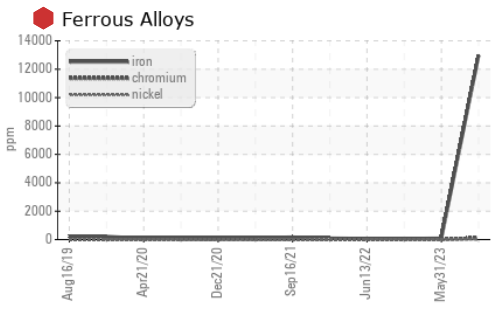
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >31 | 110 | 21 | 21 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 1 | 3 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| 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 | >0.1 | NEG | NEG | NEG |

FLUID CONDITION

The oil is no longer serviceable due to the presence of contaminants.

| | | | | | | |
|-------------|-----|-------------|-----|-------------|------|------|
| Sodium | ppm | ASTM D5185m | >51 | 3 | 3 | 0 |
| Boron | ppm | ASTM D5185m | | 244 | 300 | 260 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 231 | 230 | 232 |
| Manganese | ppm | ASTM D5185m | | 98 | 3 | 1 |
| Magnesium | ppm | ASTM D5185m | | 734 | 781 | 703 |
| Calcium | ppm | ASTM D5185m | | 1276 | 1503 | 1397 |
| Phosphorus | ppm | ASTM D5185m | | 833 | 906 | 869 |
| Zinc | ppm | ASTM D5185m | | 896 | 1025 | 1001 |
| Sulfur | ppm | ASTM D5185m | | 2824 | 3660 | 3620 |
| Visc @ 40°C | cSt | ASTM D445 | 117 | 73.2 | 64.3 | 80.4 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0203300 **Received** : 26 Feb 2024
Lab Number : 06100326 **Tested** : 27 Feb 2024
Unique Number : 10898556 **Diagnosed** : 28 Feb 2024 - Don Baldrige
Test Package : CONST (Additional Tests: PQ)

FITZGERALD EXCAVATING
 PO BOX 2168
 WINCHESTER, VA
 US 22604
 Contact: Service Manager

Certificate L2367
 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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