



OIL ANALYSIS REPORT

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

Area
Store 9 - Marietta
Machine Id
JOHN DEERE 568

Component
Hydraulic System
Fluid
JOHN DEERE ZINC-FREE HYDRAULIC OIL 46 (--- GAL)

RECOMMENDATION

Recommend drain oil if not already done. Reduce drain interval to 2000 hours or drain and flush and use recommended zinc free oil.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | LEC0051116 | LEC0046996 | LEC0028822 |
| Sample Date | | Client Info | | 12 Jun 2024 | 18 Jan 2024 | 12 Oct 2022 |
| Machine Age | hrs | Client Info | | 1722 | 1496 | 972 |
| Oil Age | hrs | Client Info | | 500 | 1496 | 972 |
| Filter Age | hrs | Client Info | | 500 | 1496 | 972 |
| Oil Changed | | Client Info | | Not Changed | Not Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | ABNORMAL | ABNORMAL | ABNORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|-------|
| PQ | | ASTM D8184 | >50 | 18 | 13 | 10 |
| Iron | ppm | ASTM D5185m | >32 | 5 | 4 | 3 |
| Chromium | ppm | ASTM D5185m | >9 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >9 | 2 | 0 | 0 |
| Lead | ppm | ASTM D5185m | >28 | <1 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >50 | 4 | 3 | 4 |
| Tin | ppm | ASTM D5185m | >5 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

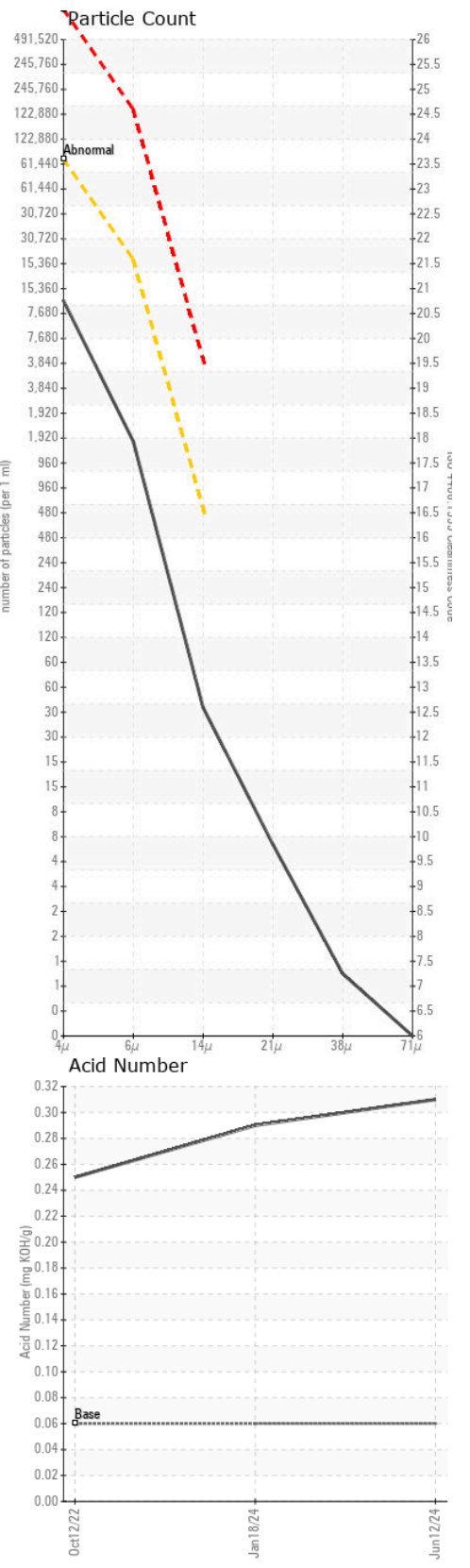
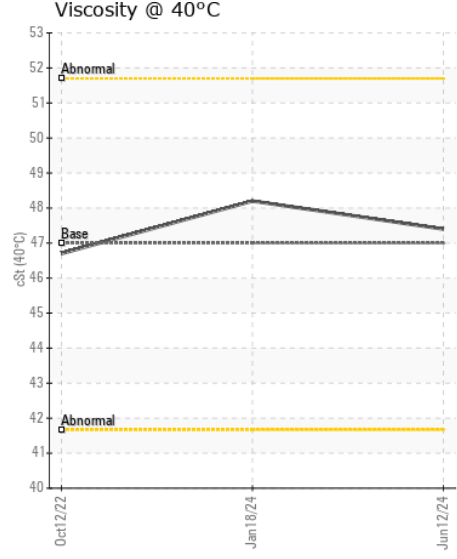
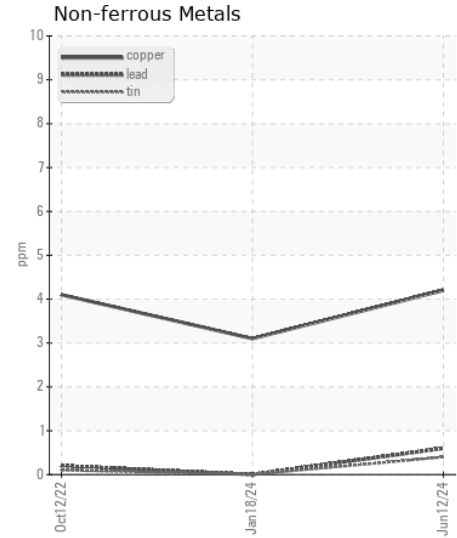
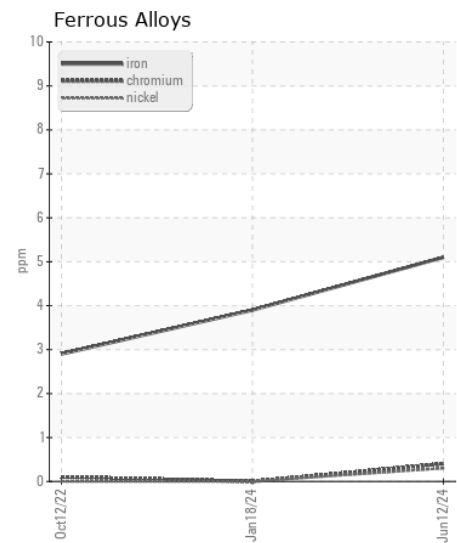
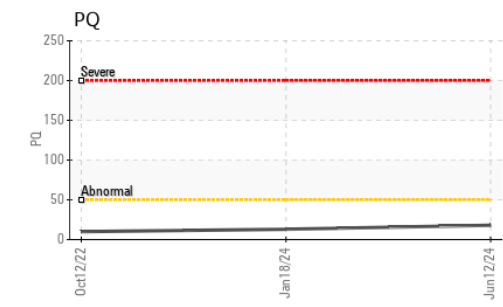
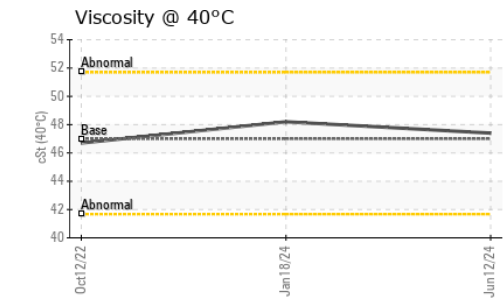
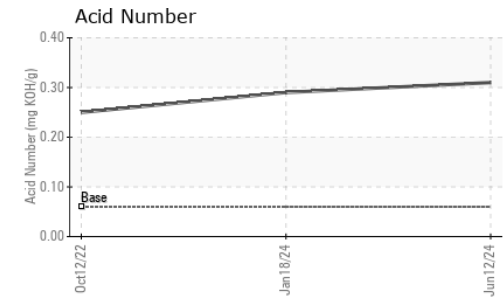
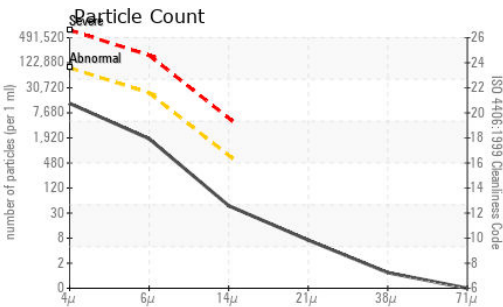
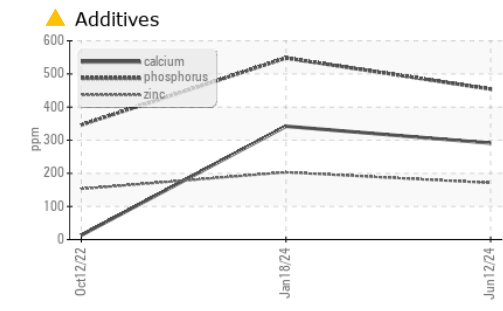
The amount and size of particulates present in the system are acceptable.

| | | | | | | |
|------------------|--------|--------------|-----------|-----------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >11 | 2 | <1 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | 0 | 0 |
| Water | | WC Method | >0.075 | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >80000 | 11286 | 31357 | 42256 |
| Particles >6µm | | ASTM D7647 | >20000 | 1603 | 2289 | 11735 |
| Particles >14µm | | ASTM D7647 | >640 | 40 | 45 | 366 |
| Particles >21µm | | ASTM D7647 | >160 | 6 | 8 | 30 |
| Particles >38µm | | ASTM D7647 | >40 | 1 | 0 | 2 |
| Particles >71µm | | ASTM D7647 | >10 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >23/21/16 | 21/18/12 | 22/18/13 | 23/21/16 |
| 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 | >0.075 | NEG | NEG | NEG |

FLUID CONDITION

Zinc level above manufacturer's recommendations. The AN level is acceptable for this fluid.

| | | | | | | |
|------------------|----------|-------------|------|--------------|--------------|--------------|
| Sodium | ppm | ASTM D5185m | >21 | 0 | <1 | 0 |
| Boron | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | | 12 | 12 | 6 |
| Calcium | ppm | ASTM D5185m | | 291 | 342 | 13 |
| Phosphorus | ppm | ASTM D5185m | | 454 | 548 | 346 |
| Zinc | ppm | ASTM D5185m | | ▲ 171 | ▲ 203 | ▲ 153 |
| Sulfur | ppm | ASTM D5185m | | 761 | 974 | 1664 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.06 | 0.31 | 0.29 | 0.25 |
| Visc @ 40°C | cSt | ASTM D445 | 47 | 47.4 | 48.2 | 46.7 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0051116 **Received** : 18 Jun 2024
Lab Number : 06213369 **Tested** : 19 Jun 2024
Unique Number : 11086233 **Diagnosed** : 20 Jun 2024 - Don Baldrige
Test Package : CONST (Additional Tests: PQ)

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 T:
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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)