



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

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

Machine Id
JOHN DEERE 5325N TR-160

Component
Diesel Engine

Fluid
TRC MOLY XL PRO-SPEC IV XP 15W40 (12 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | TR06224693 | TR05588388 | TR05299541 |
| Sample Date | | Client Info | | 21 Jun 2024 | 01 Jul 2022 | 30 Jun 2021 |
| Machine Age | hrs | Client Info | | 8949 | 7597 | 7012 |
| Oil Age | hrs | Client Info | | 500 | 400 | 500 |
| Filter Age | hrs | Client Info | | 500 | 400 | 500 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | ABNORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >51 | 8 | 12 | 7 |
| Chromium | ppm | ASTM D5185m | >11 | <1 | <1 | 1 |
| Nickel | ppm | ASTM D5185m | >5 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >3 | <1 | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >31 | 4 | 2 | 0 |
| Lead | ppm | ASTM D5185m | >26 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >26 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >4 | <1 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

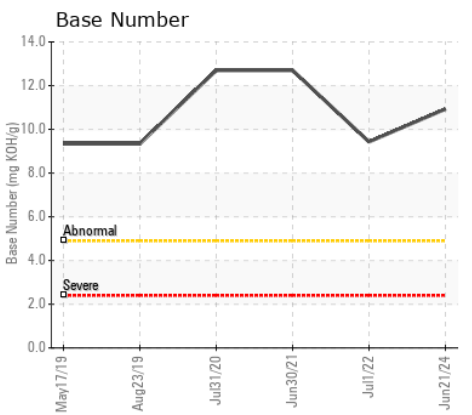
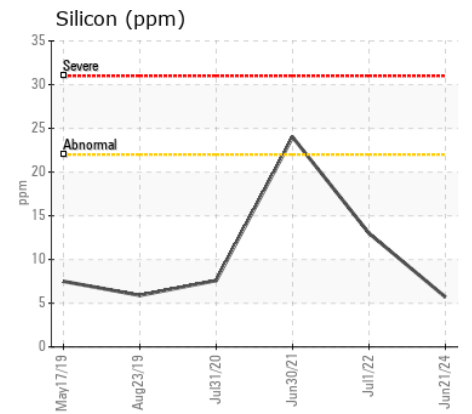
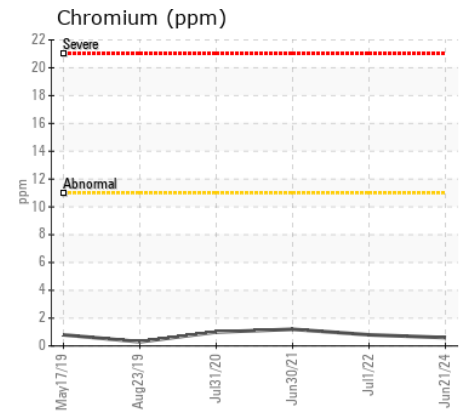
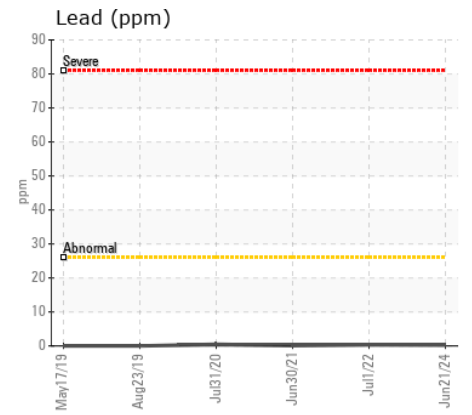
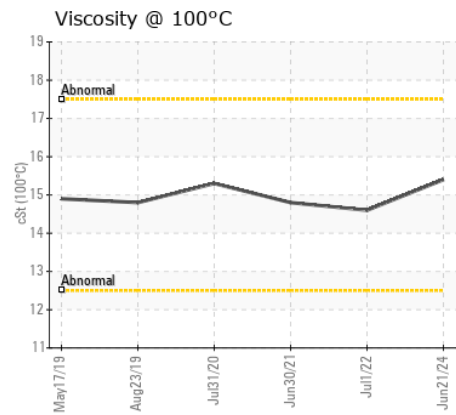
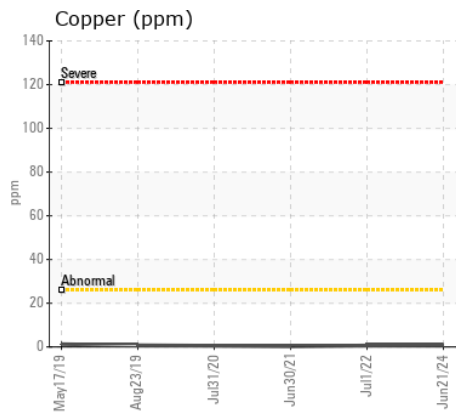
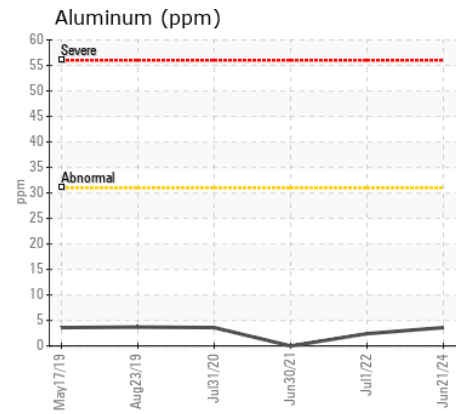
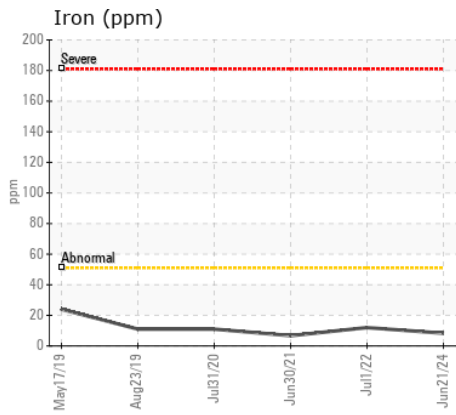
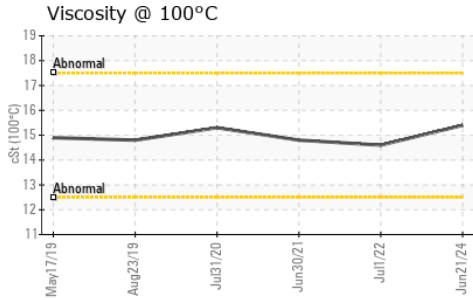
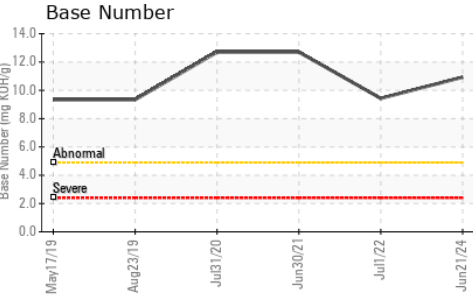
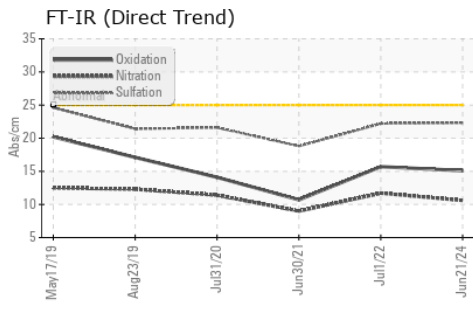
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >22 | 6 | 13 | ▲ 24 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 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 | 0.2 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.6 | 11.7 | 9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.3 | 22.2 | 18.8 |
| 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 | 4 | 3 | 3 |
| Boron | ppm | ASTM D5185m | | 0 | 5 | 1 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 52 | 112 | 95 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 99 | 20 | 18 |
| Calcium | ppm | ASTM D5185m | | 4027 | 4169 | 3913 |
| Phosphorus | ppm | ASTM D5185m | | 956 | 826 | 845 |
| Zinc | ppm | ASTM D5185m | | 1141 | 1008 | 943 |
| Sulfur | ppm | ASTM D5185m | | 4494 | 4706 | 3242 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.1 | 15.7 | 10.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 10.93 | 9.43 | 12.7 |
| Visc @ 100°C | cSt | ASTM D445 | | 15.4 | 14.6 | 14.8 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06224693
Lab Number : 06224693
Unique Number : 11102890
Test Package : MOB 2

Received : 01 Jul 2024
Tested : 02 Jul 2024
Diagnosed : 02 Jul 2024 - Wes Davis

CHERRY HILL FARMS
 PO BOX 308
 SANTAQUIN, UT
 US 84655
 Contact: JOHN AAGARD

To discuss this sample report, contact Customer Service at 1-800-827-0711.

* - 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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F: