



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

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

Machine Id
CASE IH CASE IH 7110

Component
Diesel Engine

Fluid
TRC PRO-SPEC III SYNTHETIC BLEND 15W40 (22 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | TR06151318 | TR05838616 | TR05578900 |
| Sample Date | | Client Info | | 18 Mar 2024 | 14 Apr 2023 | 08 Jun 2022 |
| Machine Age | hrs | Client Info | | 3750 | 3500 | 3250 |
| Oil Age | hrs | Client Info | | 1250 | 1000 | 740 |
| Filter Age | hrs | Client Info | | 250 | 250 | 250 |
| Oil Changed | | Client Info | | Changed | Not Changed | Not Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >90 | 61 | 51 | 39 |
| Chromium | ppm | ASTM D5185m | >20 | 2 | 2 | 2 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | 5 | 4 | 2 |
| Lead | ppm | ASTM D5185m | >40 | 11 | 3 | 9 |
| Copper | ppm | ASTM D5185m | >330 | 32 | 28 | 27 |
| Tin | ppm | ASTM D5185m | >15 | <1 | <1 | 1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

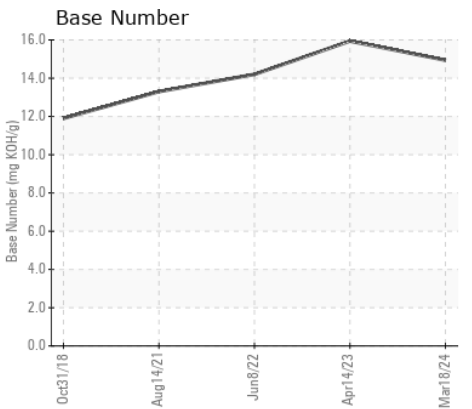
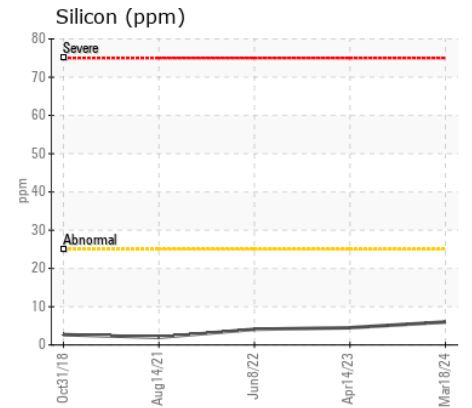
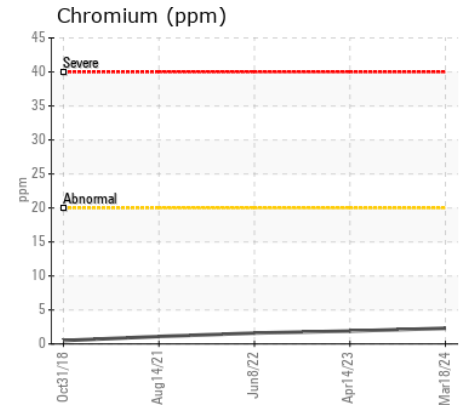
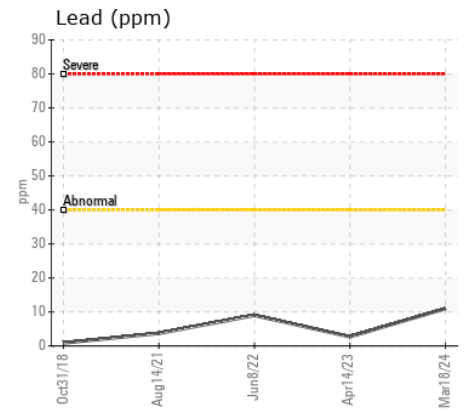
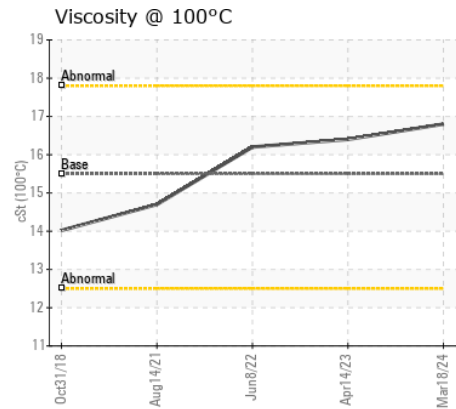
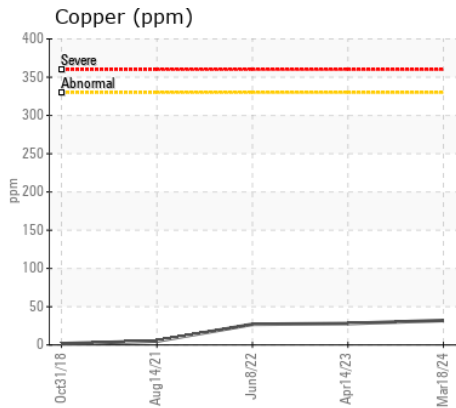
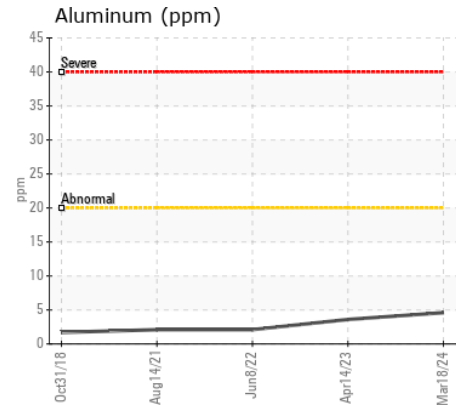
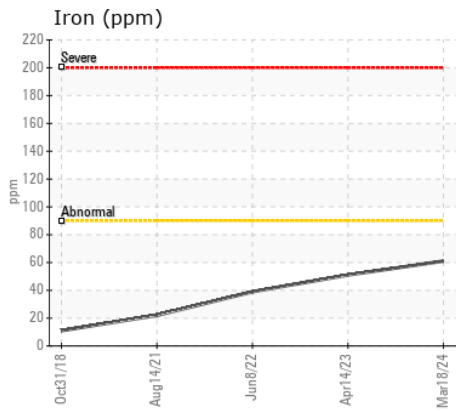
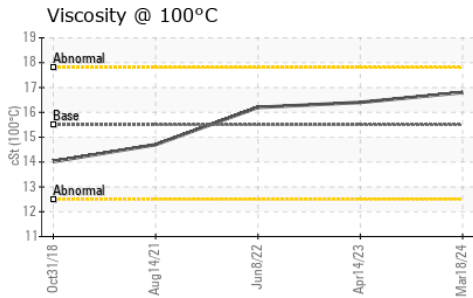
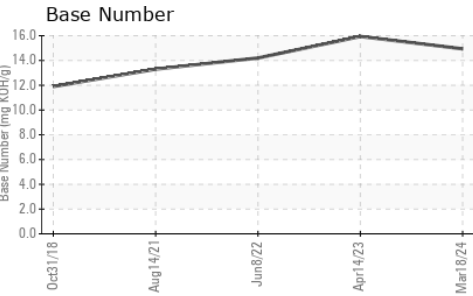
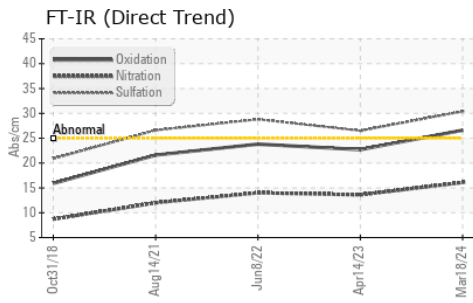
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 6 | 4 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 4 | 0 | <1 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >6 | 0.7 | 0.6 | 0.5 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 16.1 | 13.6 | 14.0 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 30.4 | 26.5 | 28.8 |
| 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 | >0.2 | 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 | | 7 | 6 | 7 |
| Boron | ppm | ASTM D5185m | | 1 | <1 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | <1 | 1 | 2 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 26 | 26 | 27 |
| Calcium | ppm | ASTM D5185m | | 6970 | 5991 | 5588 |
| Phosphorus | ppm | ASTM D5185m | | 1466 | 1199 | 1165 |
| Zinc | ppm | ASTM D5185m | | 1706 | 1504 | 1460 |
| Sulfur | ppm | ASTM D5185m | | 4987 | 5334 | 4771 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 26.6 | 22.7 | 23.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 14.94 | 15.94 | 14.2 |
| Visc @ 100°C | cSt | ASTM D445 | 15.5 | 16.8 | 16.4 | 16.2 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06151318
Lab Number : 06151318
Unique Number : 10981396
Test Package : MOB 2

Received : 16 Apr 2024
Tested : 18 Apr 2024
Diagnosed : 19 Apr 2024 - Sean Felton

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 NEWPORT, AR
 US 72112-8049

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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: