



OIL ANALYSIS REPORT

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

Machine Id
KENWORTH 258 (S/N 1XKWP4TX6LR373960)
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (11 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0755486 | WC0755474 | WC0722163 |
| Sample Date | | Client Info | | 31 Jul 2023 | 24 Feb 2023 | 08 Nov 2022 |
| Machine Age | mls | Client Info | | 392314 | 0 | 0 |
| Oil Age | mls | Client Info | | 20000 | 0 | 0 |
| Filter Age | mls | Client Info | | 20000 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | N/A | N/A |
| Filter Changed | | Client Info | | Changed | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | ABNORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 24 | 43 | 68 |
| Chromium | ppm | ASTM D5185m | >20 | 1 | 2 | 4 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 10 | 12 | 7 |
| Lead | ppm | ASTM D5185m | >40 | 6 | 4 | 17 |
| Copper | ppm | ASTM D5185m | >330 | <1 | 1 | 3 |
| 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

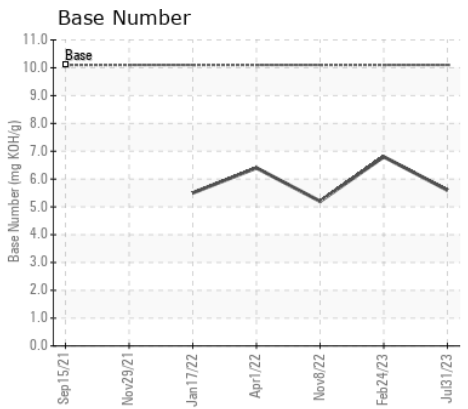
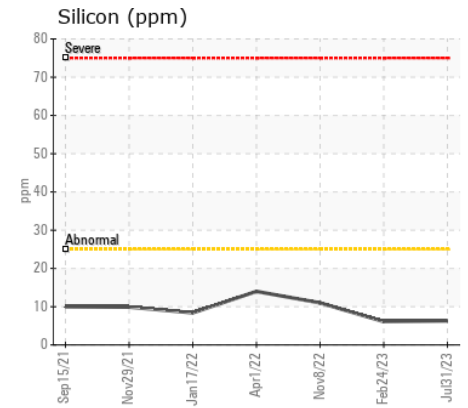
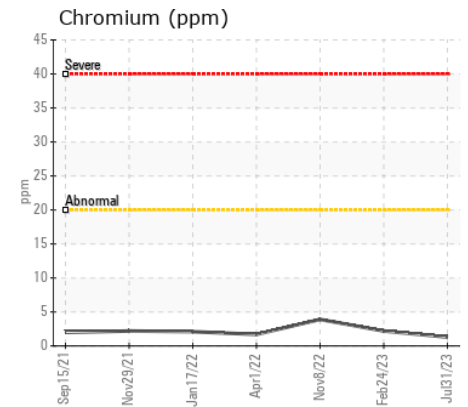
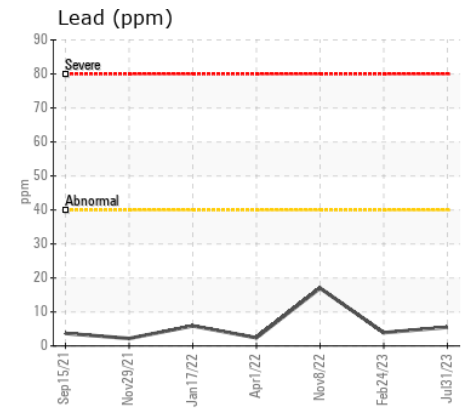
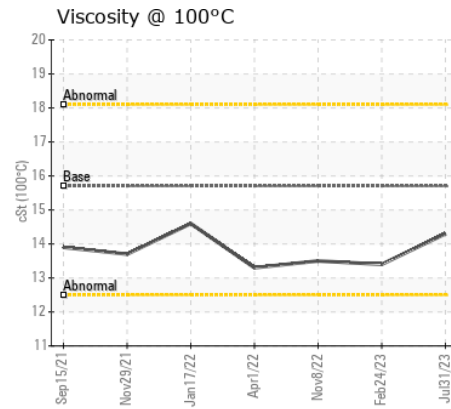
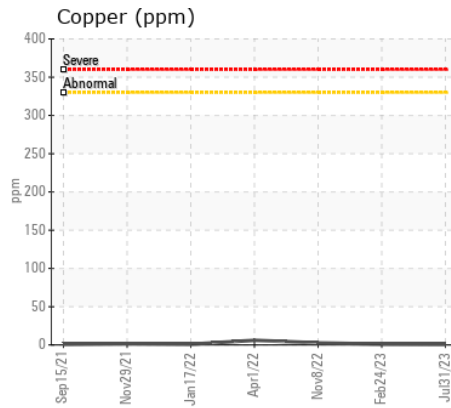
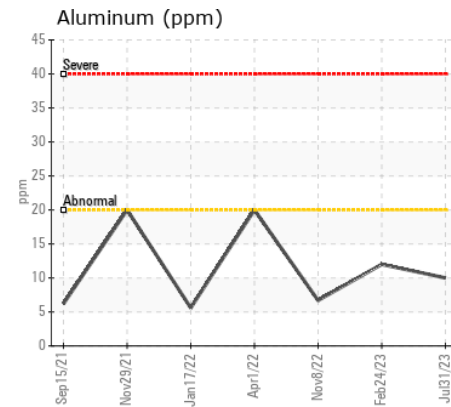
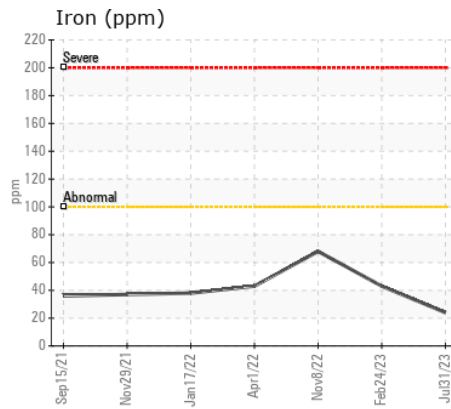
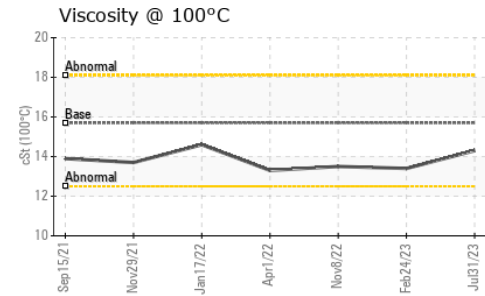
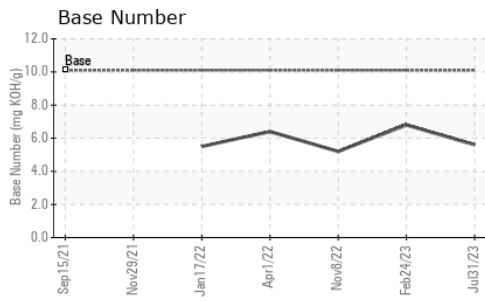
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 6 | 6 | 11 |
| Potassium | ppm | ASTM D5185m | >20 | 35 | 129 | ▲ 664 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.9 | 1.2 | 1.8 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.9 | 12.4 | 17 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 25.7 | 24.8 | 35.3 |
| 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 | | 6 | 53 | ▲ 323 |
| Boron | ppm | ASTM D5185m | 316 | 26 | 6 | 15 |
| Barium | ppm | ASTM D5185m | 0.0 | 2 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | 1.2 | 60 | 69 | 112 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | 1 |
| Magnesium | ppm | ASTM D5185m | 24 | 238 | 908 | 802 |
| Calcium | ppm | ASTM D5185m | 2292 | 2042 | 1212 | 1242 |
| Phosphorus | ppm | ASTM D5185m | 1064 | 1029 | 982 | 813 |
| Zinc | ppm | ASTM D5185m | 1160 | 1245 | 1248 | 1061 |
| Sulfur | ppm | ASTM D5185m | 4996 | 3547 | 3383 | 3129 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 20.4 | 20.1 | 32.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.1 | 5.6 | 6.8 | 5.2 |
| Visc @ 100°C | cSt | ASTM D445 | 15.7 | 14.3 | 13.4 | 13.5 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0755486 **Received** : 28 Aug 2023
Lab Number : 05936579 **Tested** : 29 Aug 2023
Unique Number : 10621850 **Diagnosed** : 29 Aug 2023 - Wes Davis
Test Package : MOB 1 (Additional Tests: TBN)

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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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F: