



OIL ANALYSIS REPORT

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

Machine Id
KENWORTH 008
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | RW0005469 | RW0004729 | RW0004788 |
| Sample Date | | Client Info | | 13 Apr 2024 | 24 Feb 2024 | 30 Sep 2023 |
| Machine Age | hrs | Client Info | | 2946 | 2671 | 2391 |
| Oil Age | hrs | Client Info | | 275 | 280 | 241 |
| Filter Age | hrs | Client Info | | 275 | 280 | 241 |
| Oil Changed | | Client Info | | Changed | Changed | 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 | 6 | 15 | 6 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 3 | 2 | 8 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 1 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 0 | 2 | <1 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

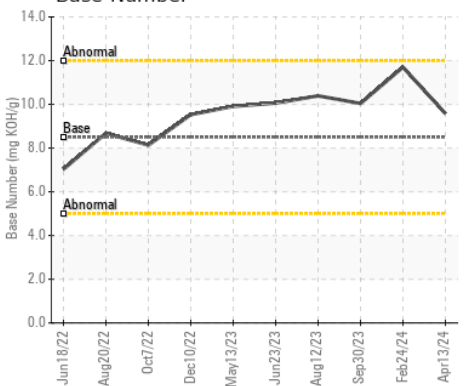
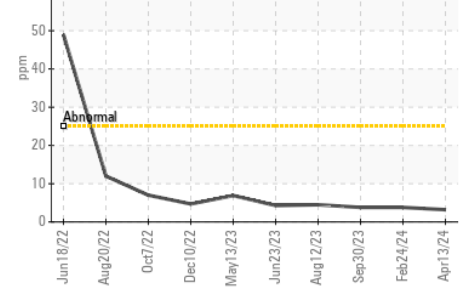
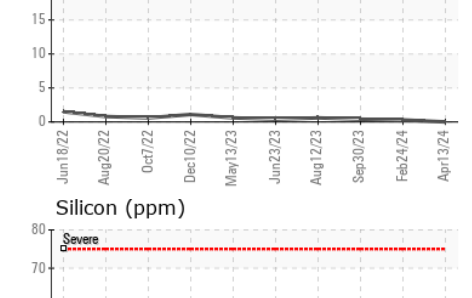
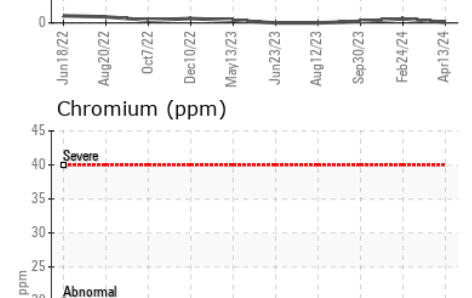
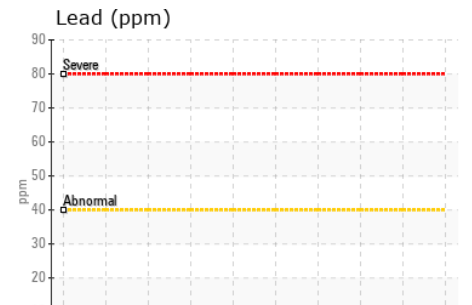
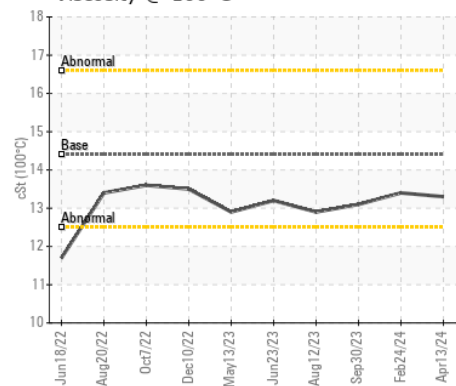
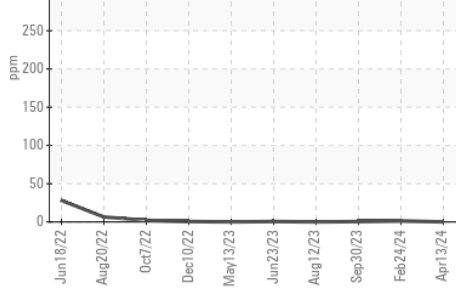
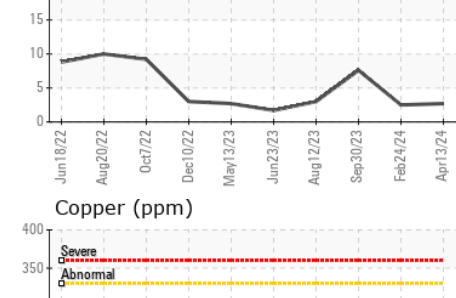
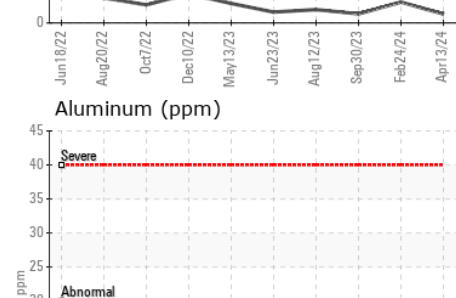
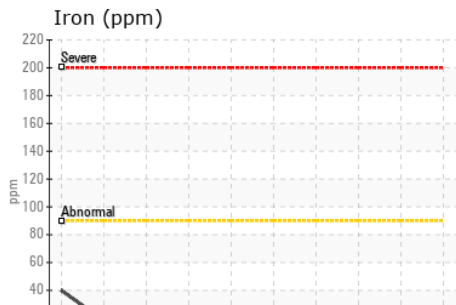
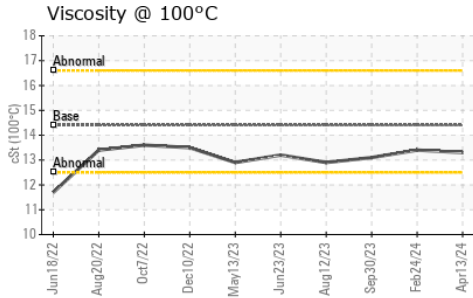
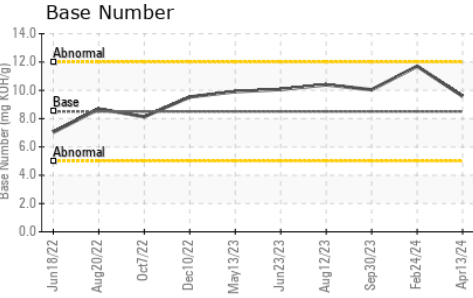
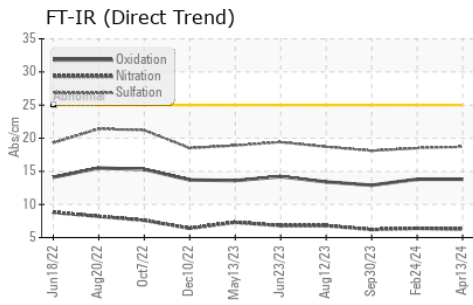
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 3 | 4 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 5 | <1 | 9 |
| 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 | 0.3 | 0.3 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.3 | 6.4 | 6.2 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 18.7 | 18.5 | 18.1 |
| 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 | >158 | 2 | <1 | 2 |
| Boron | ppm | ASTM D5185m | 250 | 2 | 4 | 6 |
| Barium | ppm | ASTM D5185m | 10 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 63 | 67 | 63 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | 1083 | 1065 | 864 |
| Calcium | ppm | ASTM D5185m | 3000 | 1256 | 1426 | 1062 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1213 | 1243 | 959 |
| Zinc | ppm | ASTM D5185m | 1350 | 1481 | 1569 | 1151 |
| Sulfur | ppm | ASTM D5185m | 4250 | 4298 | 4516 | 3015 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 13.8 | 13.8 | 12.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 9.58 | 11.70 | 10.04 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.3 | 13.4 | 13.1 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RW0005469
Lab Number : 06161026
Unique Number : 10996449
Test Package : MOB 2

HALLACK CONTRACTING, INC.
 4223 W POLK
 HART, MI
 US 49420

Received : 25 Apr 2024
Tested : 26 Apr 2024
Diagnosed : 26 Apr 2024 - Wes Davis

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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