



WEAR CHECK

OIL ANALYSIS REPORT

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

Machine Id
5026
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T4 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0909748 | WC0866871 | WC0831944 |
| Sample Date | | Client Info | | 08 Apr 2024 | 19 Jan 2024 | 09 Oct 2023 |
| Machine Age | hrs | Client Info | | 1940 | 1685 | 1303 |
| Oil Age | hrs | Client Info | | 250 | 250 | 250 |
| Filter Age | hrs | Client Info | | 250 | 250 | 250 |
| 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 | >100 | 6 | 10 | 13 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | 1 | 2 | 3 |
| Lead | ppm | ASTM D5185m | >40 | 1 | <1 | <1 |
| Copper | ppm | ASTM D5185m | >330 | <1 | 1 | 2 |
| Tin | ppm | ASTM D5185m | >15 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| 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.

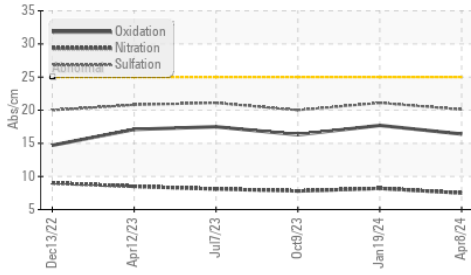
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 5 | 5 | 9 |
| Potassium | ppm | ASTM D5185m | >20 | 6 | 8 | 10 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.2 | 0.3 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 7.5 | 8.2 | 7.8 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.1 | 21.1 | 20.0 |
| 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

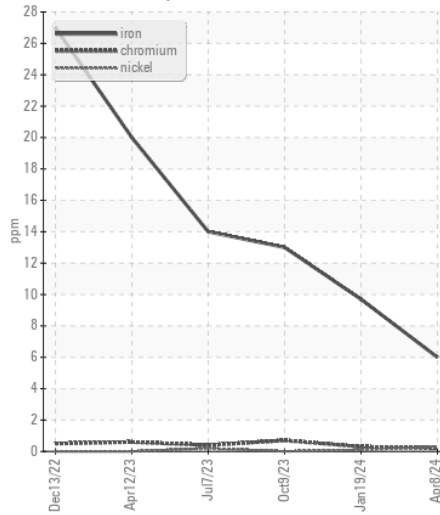
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium | ppm | ASTM D5185m | | 2 | 0 | 2 |
| Boron | ppm | ASTM D5185m | | 126 | 150 | 128 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 10 | 8 | 15 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | | 35 | 40 | 87 |
| Calcium | ppm | ASTM D5185m | | 2331 | 1997 | 2011 |
| Phosphorus | ppm | ASTM D5185m | | 1006 | 875 | 932 |
| Zinc | ppm | ASTM D5185m | | 1197 | 1133 | 1191 |
| Sulfur | ppm | ASTM D5185m | | 4163 | 3338 | 3287 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.4 | 17.7 | 16.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.1 | 7.2 | 7.0 | 6.7 |
| Visc @ 100°C | cSt | ASTM D445 | 15 | 13.3 | 13.4 | 13.5 |

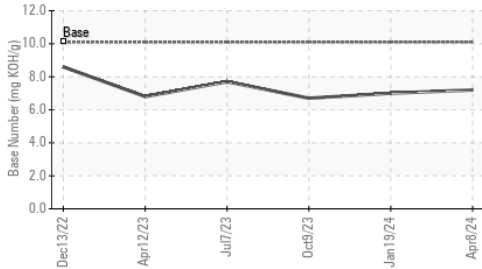
FT-IR (Direct Trend)



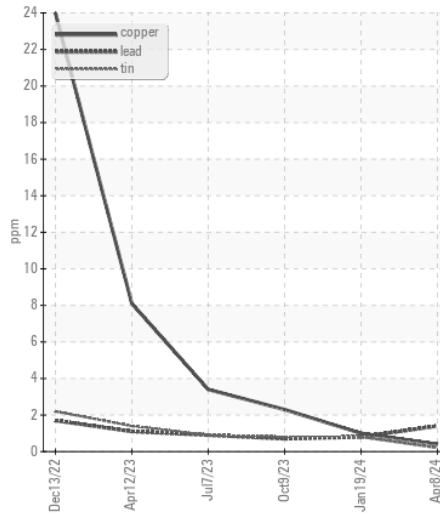
Ferrous Alloys



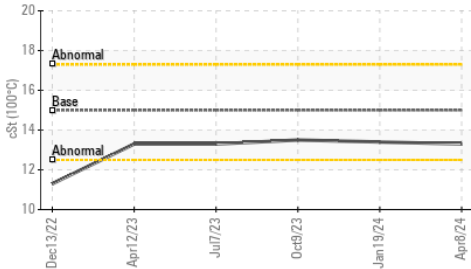
Base Number



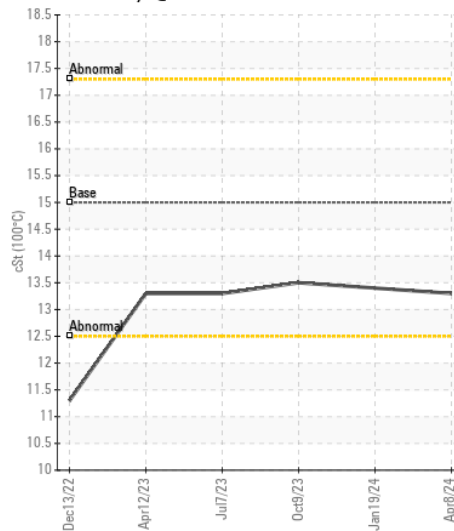
Non-ferrous Metals



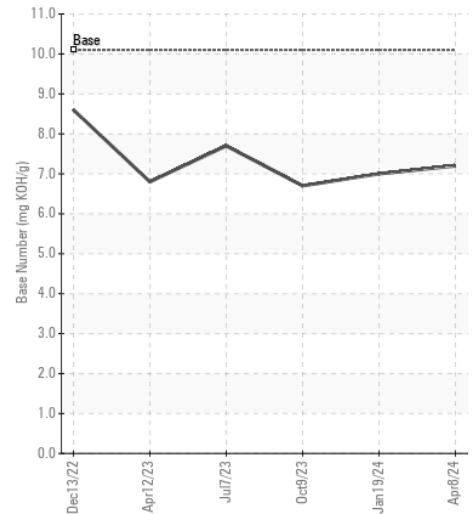
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0909748
Lab Number : 06145619
Unique Number : 10970427
Test Package : FLEET

Received : 11 Apr 2024
Tested : 12 Apr 2024
Diagnosed : 12 Apr 2024 - Wes Davis

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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)