# OIL ANALYSIS REPORT

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

Machine Id
**FREIGHTLINER 44708**
Component
**Diesel Engine**
Fluid
**CHEVRON DELO 400 MULTIGRADE 15W40 (--- QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

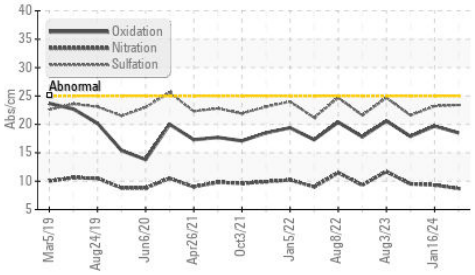
There is no indication of any contamination in the oil.

## FLUID CONDITION

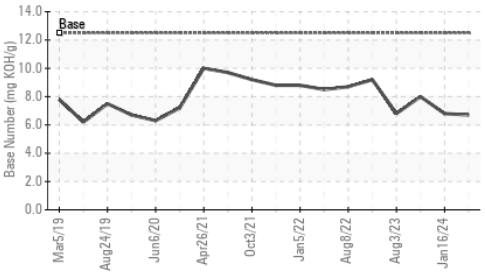
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0881756** | WC0795614 | WC0795593 |
| Sample Date | | Client Info | | **20 Mar 2024** | 16 Jan 2024 | 01 Oct 2023 |
| Machine Age | mls | Client Info | | **695019** | 671813 | 636353 |
| Oil Age | mls | Client Info | | **23758** | 33000 | 25000 |
| Filter Age | mls | Client Info | | **23758** | 33000 | 25000 |
| Oil Changed | | Client Info | | **N/A** | Changed | Changed |
| Filter Changed | | Client Info | | **N/A** | Changed | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >80 | **17** | 19 | 17 |
| Chromium | ppm | ASTM D5185m | >5 | **<1** | 1 | 1 |
| Nickel | ppm | ASTM D5185m | >2 | **0** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >30 | **7** | 9 | 11 |
| Lead | ppm | ASTM D5185m | >30 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >150 | **3** | 3 | 3 |
| Tin | ppm | ASTM D5185m | >5 | **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 |
| Silicon | ppm | ASTM D5185m | >20 | **5** | 5 | 7 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 2 | 3 |
| 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 | **0.6** | 0.7 | 0.7 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.7** | 9.3 | 9.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **23.4** | 23.2 | 21.6 |
| 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 |
| Sodium | ppm | ASTM D5185m | | **1** | <1 | <1 |
| Boron | ppm | ASTM D5185m | 151 | **131** | 10 | 1 |
| Barium | ppm | ASTM D5185m | 0.4 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 250 | **86** | 71 | 68 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 0 | **657** | 940 | 978 |
| Calcium | ppm | ASTM D5185m | 2046 | **1424** | 1097 | 1144 |
| Phosphorus | ppm | ASTM D5185m | 1043 | **1121** | 992 | 1070 |
| Zinc | ppm | ASTM D5185m | 943 | **1387** | 1262 | 1282 |
| Sulfur | ppm | ASTM D5185m | 5012 | **3782** | 2836 | 3454 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **18.5** | 19.7 | 17.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 12.5 | **6.7** | 6.8 | 8.0 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | **14.1** | 14.0 | 14.3 |

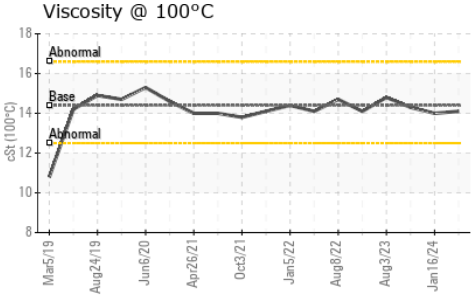
FT-IR (Direct Trend)



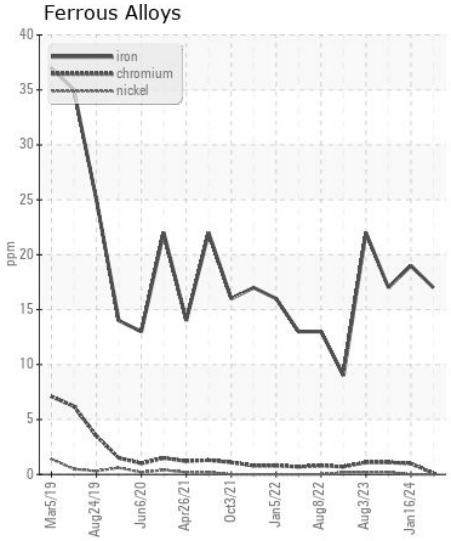

Base Number



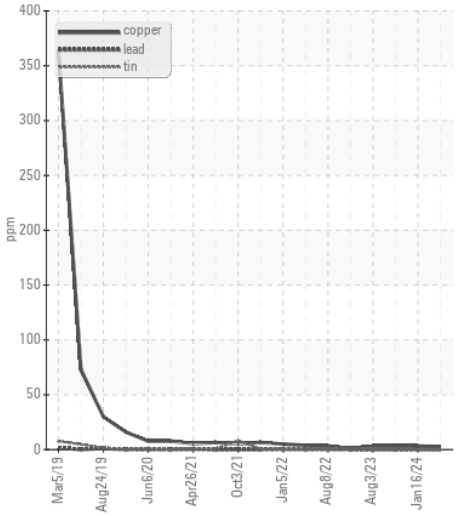

Viscosity @ 100°C



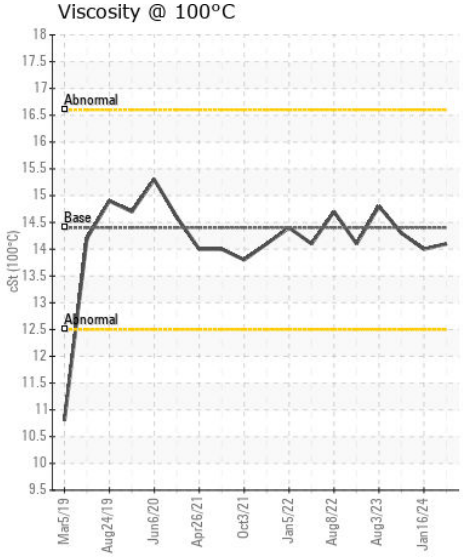

Ferrous Alloys




Non-ferrous Metals




Viscosity @ 100°C




Base Number


Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0881756
**Lab Number** : 06159714
**Unique Number** : 10995137
**Test Package** : FLEET

**Received** : 24 Apr 2024
**Tested** : 25 Apr 2024
**Diagnosed** : 25 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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