# OIL ANALYSIS REPORT

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

Machine Id
**139-407**
Component
**Diesel Engine**
Fluid
**CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)**

## RECOMMENDATION

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

## WEAR

All component wear rates are normal.

## CONTAMINATION

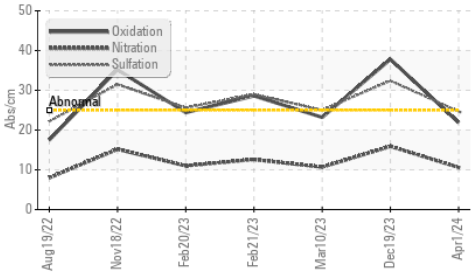
There is no indication of any contamination in the oil.

## FLUID CONDITION

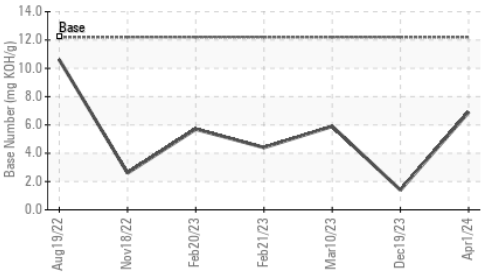
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | RPL0016781 | RPL0015220 | RPL0007282 |
| Sample Date | | Client Info | | 01 Apr 2024 | 19 Dec 2023 | 10 Mar 2023 |
| Machine Age | mls | Client Info | | 265936 | 253489 | 196025 |
| Oil Age | mls | Client Info | | 12447 | 196025 | 25000 |
| Filter Age | mls | Client Info | | 0 | 196025 | 25000 |
| Oil Changed | | Client Info | | N/A | Changed | Changed |
| Filter Changed | | Client Info | | N/A | Changed | Changed |
| Sample Status | | | | NORMAL | ABNORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >100 | 12 | 33 | 13 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 4 | 4 | 5 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 1 | 5 | 1 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 7 | 6 | 8 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 16 | 11 |
| 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 | 0.3 | 0.8 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.6 | 15.9 | 10.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 24.7 | 32.4 | 25.0 |
| 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 |
| Sodium | ppm | ASTM D5185m | | 2 | 5 | 1 |
| Boron | ppm | ASTM D5185m | | 182 | 29 | 92 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 120 | 89 | 138 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 628 | 516 | 672 |
| Calcium | ppm | ASTM D5185m | | 1528 | 979 | 1458 |
| Phosphorus | ppm | ASTM D5185m | 1360 | 708 | 524 | 699 |
| Zinc | ppm | ASTM D5185m | 1480 | 814 | 676 | 907 |
| Sulfur | ppm | ASTM D5185m | | 2783 | 1790 | 2728 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 21.9 | 37.8 | 23.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 12.2 | 6.9 | ▲ 1.4 | 5.9 |
| Visc @ 100°C | cSt | ASTM D445 | 15.1 | 13.8 | 14.8 | 14.2 |

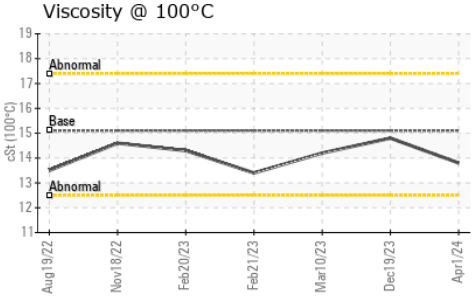
FT-IR (Direct Trend)



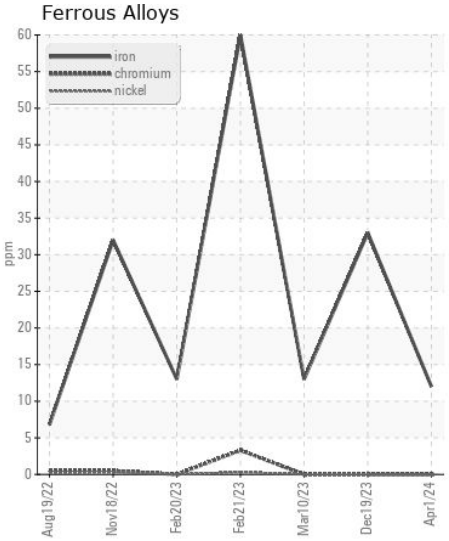

Base Number



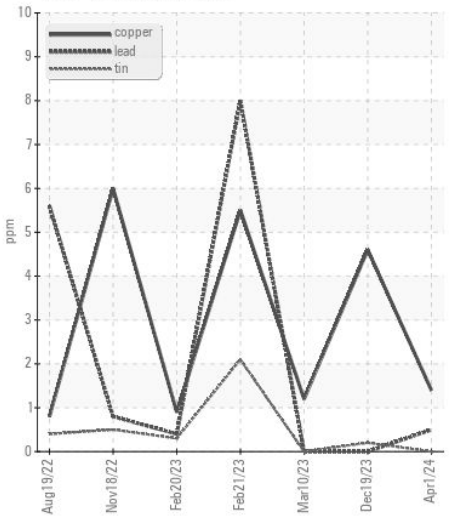

Viscosity @ 100°C



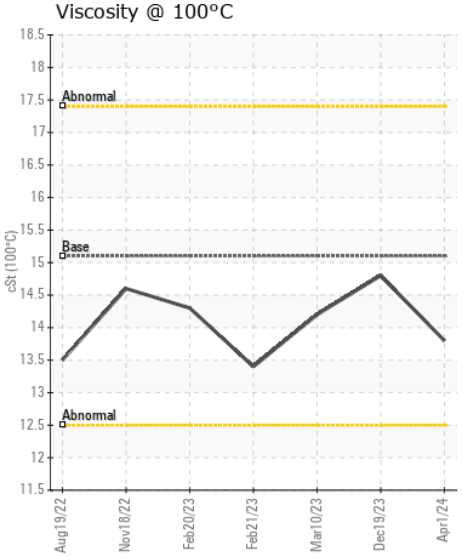

Ferrous Alloys



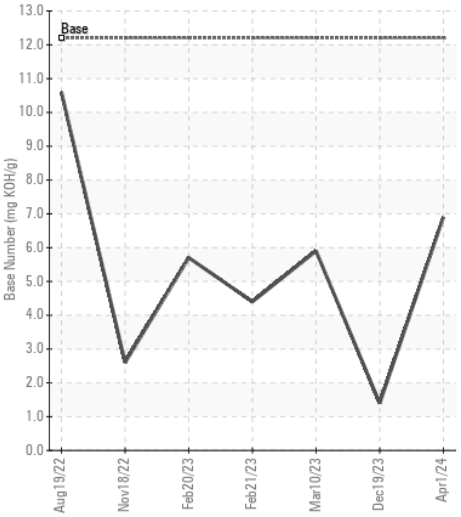

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

| | | | |
|---|---|---|---|
| **Laboratory** | : WearCheck USA - 501 Madison Ave., Cary, NC 27513 | | |
| **Sample No.** | : RPL0016781 | **Received** | : 17 Apr 2024 |
| **Lab Number** | : 06151548 | **Tested** | : 19 Apr 2024 |
| **Unique Number** | : 10981626 | **Diagnosed** | : 19 Apr 2024 - Wes Davis |
| **Test Package** | : FLEET | | |

*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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