# OIL ANALYSIS REPORT

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

Machine Id
**857-4894**
Component
**Diesel Engine**
Fluid
**CHEVRON DELO 400 SAE 10W30 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

The iron level is abnormal. All other component wear rates are normal.

## CONTAMINATION

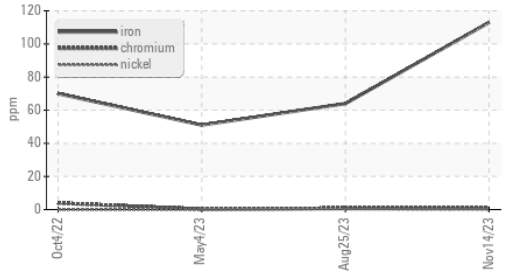
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

## FLUID CONDITION

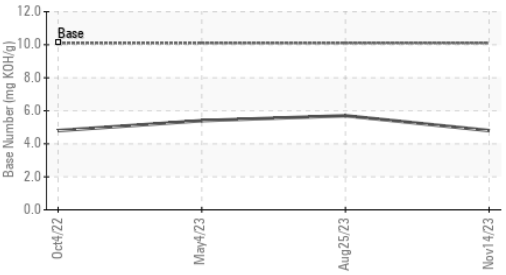
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | RPL0014638 | RPL0011002 | RPL0010450 |
| Sample Date | | Client Info | | 14 Nov 2023 | 25 Aug 2023 | 04 May 2023 |
| Machine Age | hrs | Client Info | | 2280 | 1826 | 17379 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | Changed |
| Filter Changed | | Client Info | | N/A | N/A | Changed |
| Sample Status | | | | ABNORMAL | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >100 | ▲ 113 | 64 | 51 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | 138 | 85 | 35 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | 11 | 7 | 16 |
| 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 |
| Silicon | ppm | ASTM D5185m | >25 | 16 | 12 | 14 |
| Potassium | ppm | ASTM D5185m | >20 | 327 | 192 | 125 |
| 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 | 0.5 | 0.3 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 12.5 | 10.7 | 10.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 27.4 | 22.8 | 24.4 |
| 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 | | 4 | 5 | 6 |
| Boron | ppm | ASTM D5185m | | 21 | 28 | 26 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 18 | 17 | 11 |
| Manganese | ppm | ASTM D5185m | | 1 | 1 | 2 |
| Magnesium | ppm | ASTM D5185m | | 780 | 695 | 627 |
| Calcium | ppm | ASTM D5185m | | 1479 | 1319 | 1408 |
| Phosphorus | ppm | ASTM D5185m | 1260 | 785 | 671 | 674 |
| Zinc | ppm | ASTM D5185m | 1400 | 908 | 828 | 786 |
| Sulfur | ppm | ASTM D5185m | | 3281 | 2743 | 3121 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 23.9 | 18.3 | 20.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.1 | 4.8 | 5.7 | 5.4 |
| Visc @ 100°C | cSt | ASTM D445 | 11.1 | 12.3 | 12.0 | 12.1 |

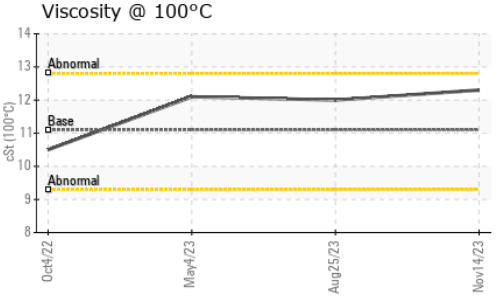
Ferrous Alloys



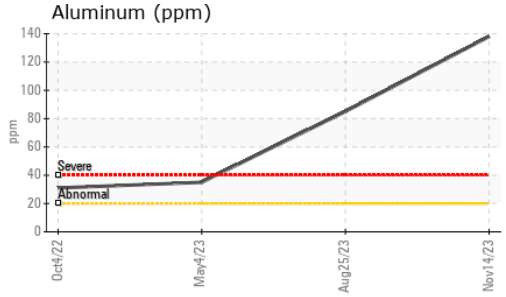

Base Number



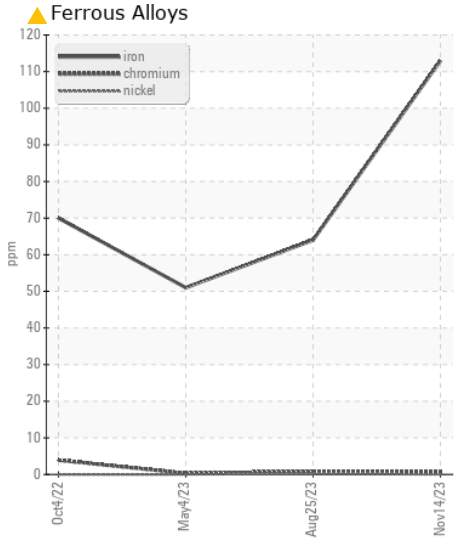

Viscosity @ 100°C



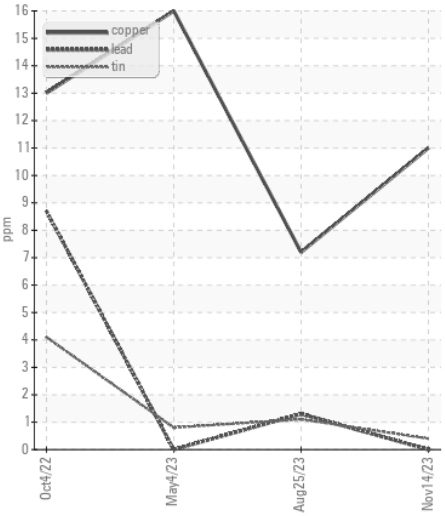

Aluminum (ppm)



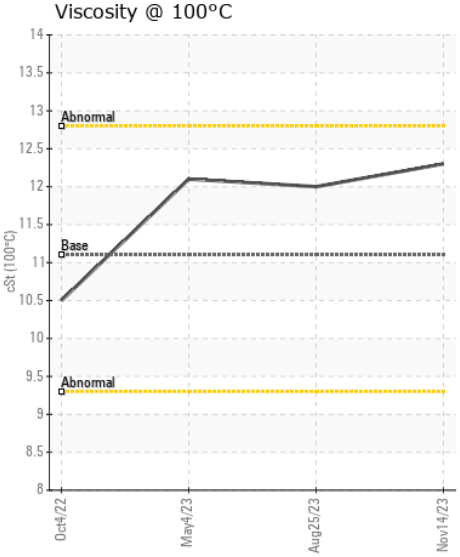

Ferrous Alloys




Non-ferrous Metals




Viscosity @ 100°C

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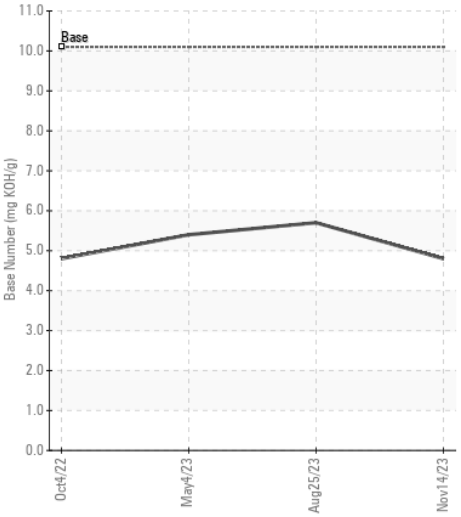


Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : RPL0014638
**Lab Number** : 06056158
**Unique Number** : 10822107
**Test Package** : FLEET

**Recieved** : 10 Jan 2024
**Diagnosed** : 11 Jan 2024
**Diagnostician** : Angela Borella

*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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