# OIL ANALYSIS REPORT

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

Machine Id
**6308**
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 40 (45 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 40. Please confirm.
Please specify the component make and model with your next sample.

## WEAR

Metal levels are typical for a new component breaking in.

## CONTAMINATION

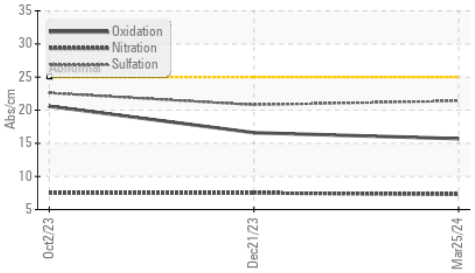
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

## FLUID CONDITION

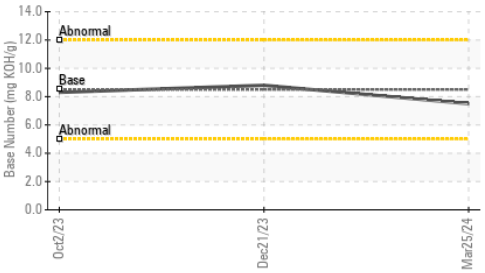
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0883176** | WC0883304 | WC0795952 |
| Sample Date | | Client Info | | **25 Mar 2024** | 21 Dec 2023 | 02 Oct 2023 |
| Machine Age | mls | Client Info | | **48153** | 32487 | 17538 |
| Oil Age | mls | Client Info | | **15000** | 0 | 0 |
| Filter Age | mls | Client Info | | **15000** | 0 | 0 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Filter Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >100 | **13** | 17 | 39 |
| Chromium | ppm | ASTM D5185m | >20 | **<1** | 2 | 2 |
| Nickel | ppm | ASTM D5185m | >4 | **<1** | <1 | 3 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Silver | ppm | ASTM D5185m | >3 | **<1** | <1 | 2 |
| Aluminum | ppm | ASTM D5185m | >20 | **8** | 17 | 66 |
| Lead | ppm | ASTM D5185m | >40 | **0** | 4 | <1 |
| Copper | ppm | ASTM D5185m | >330 | **279** | 421 | 174 |
| Tin | ppm | ASTM D5185m | >15 | **<1** | 2 | 7 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | **4** | 5 | 8 |
| Potassium | ppm | ASTM D5185m | >20 | **16** | 40 | 195 |
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | 0.2 |
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | **0.4** | 0.4 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **7.3** | 7.5 | 7.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **21.4** | 20.8 | 22.6 |
| 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 | >216 | **2** | 2 | 6 |
| Boron | ppm | ASTM D5185m | 250 | **186** | 8 | 35 |
| Barium | ppm | ASTM D5185m | 10 | **0** | 0 | 3 |
| Molybdenum | ppm | ASTM D5185m | 100 | **79** | 72 | 44 |
| Manganese | ppm | ASTM D5185m | | **<1** | 1 | 4 |
| Magnesium | ppm | ASTM D5185m | 450 | **618** | 931 | 521 |
| Calcium | ppm | ASTM D5185m | 3000 | **1329** | 1249 | 1649 |
| Phosphorus | ppm | ASTM D5185m | 1150 | **1052** | 959 | 735 |
| Zinc | ppm | ASTM D5185m | 1350 | **1255** | 1210 | 936 |
| Sulfur | ppm | ASTM D5185m | 4250 | **3457** | 2778 | 2593 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **15.7** | 16.6 | 20.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | **7.5** | 8.8 | 8.3 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | **13.1** | 12.6 | 9.5 |

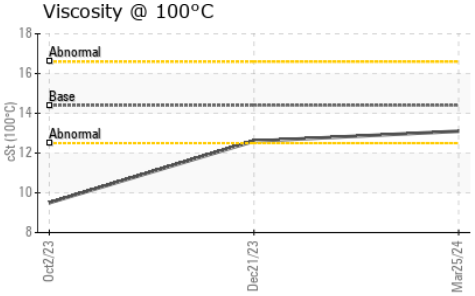
FT-IR (Direct Trend)



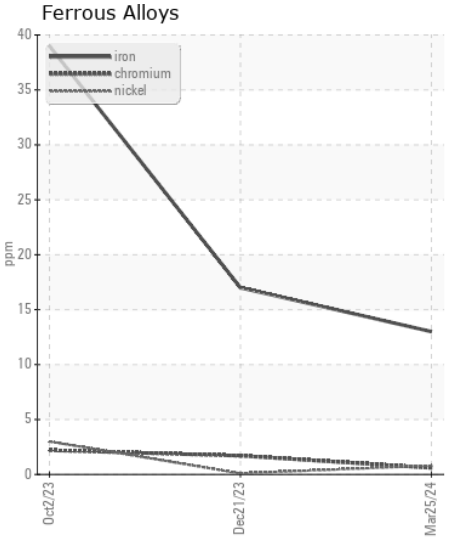

Base Number



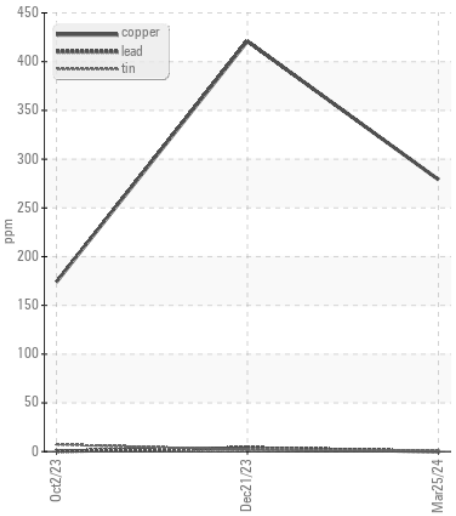

Viscosity @ 100°C



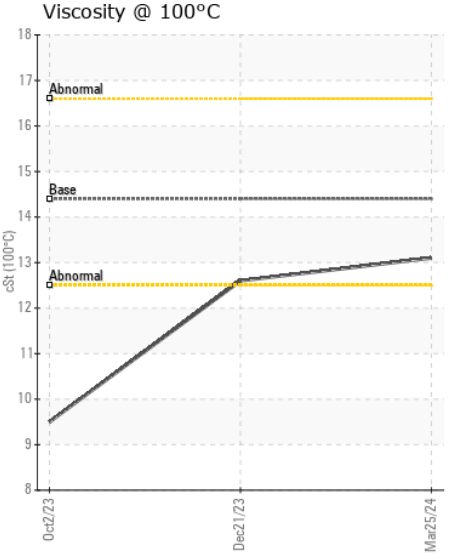

Ferrous Alloys



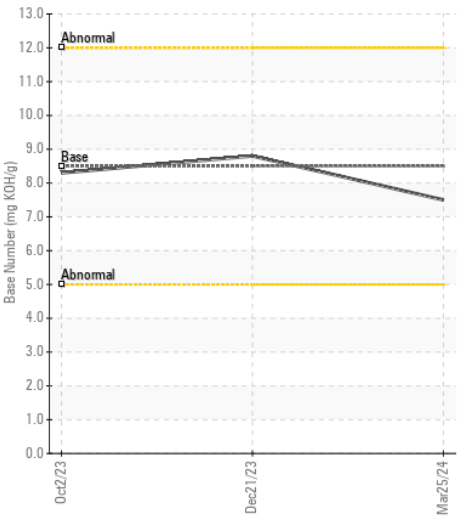

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0883176
**Lab Number** : 06146361
**Unique Number** : 10976439
**Test Package** : FLEET

**Received** : 11 Apr 2024
**Tested** : 12 Apr 2024
**Diagnosed** : 12 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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