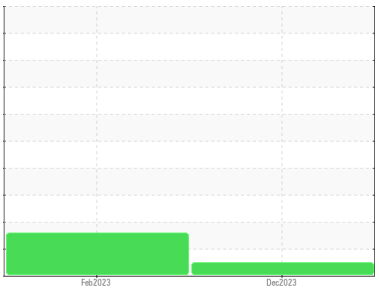
# OIL ANALYSIS REPORT

OIL DIAGNOSTICS

Sample Rating Trend




NORMAL

Area
**{UNASSIGNED}**
Machine Id
**DT847**
Component
**2 Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 30 (36 QTS)**

## DIAGNOSIS

**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 30. Please confirm.

**Wear**
All 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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **PCA0114738** | PCA0090298 | --- |
| Sample Date | | Client Info | | **26 Dec 2023** | 01 Feb 2023 | --- |
| Machine Age | hrs | Client Info | | **3165** | 931 | --- |
| Oil Age | hrs | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **Changed** | Changed | --- |
| Sample Status | | | | **NORMAL** | ABNORMAL | --- |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.2 | **NEG** | NEG | --- |
| Glycol | | WC Method | | **NEG** | NEG | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >120 | **27** | 45 | --- |
| Chromium | ppm | ASTM D5185m | >20 | **1** | 2 | --- |
| Nickel | ppm | ASTM D5185m | >5 | **4** | 5 | --- |
| Titanium | ppm | ASTM D5185m | >2 | **<1** | <1 | --- |
| Silver | ppm | ASTM D5185m | >2 | **<1** | 0 | --- |
| Aluminum | ppm | ASTM D5185m | >20 | **7** | 30 | --- |
| Lead | ppm | ASTM D5185m | >40 | **1** | <1 | --- |
| Copper | ppm | ASTM D5185m | >330 | **12** | 102 | --- |
| Tin | ppm | ASTM D5185m | >15 | **2** | 6 | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | --- |
| Cadmium | ppm | ASTM D5185m | | **<1** | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 250 | **3** | 80 | --- |
| Barium | ppm | ASTM D5185m | 10 | **0** | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 100 | **62** | 119 | --- |
| Manganese | ppm | ASTM D5185m | | **1** | 6 | --- |
| Magnesium | ppm | ASTM D5185m | 450 | **893** | 669 | --- |
| Calcium | ppm | ASTM D5185m | 3000 | **1113** | 1410 | --- |
| Phosphorus | ppm | ASTM D5185m | 1150 | **817** | 650 | --- |
| Zinc | ppm | ASTM D5185m | 1350 | **1194** | 836 | --- |
| Sulfur | ppm | ASTM D5185m | 4250 | **2639** | 2261 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **12** | ▲ 76 | --- |
| Sodium | ppm | ASTM D5185m | >75 | **0** | 3 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **19** | 70 | --- |
| Fuel | % | ASTM D3524 | >3.0 | **<1.0** | 0.5 | --- |

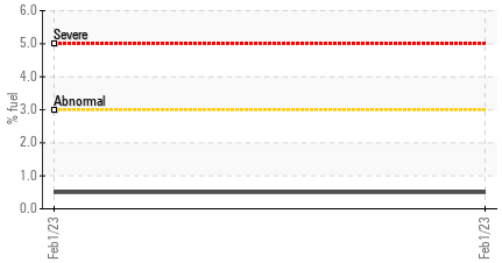
| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >4 | **0.8** | 0.6 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **9.6** | 11.9 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **21.8** | 24.3 | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **17.2** | 23.8 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | **5.7** | 6.8 | --- |

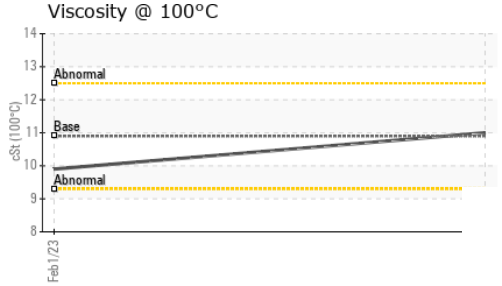
# OIL ANALYSIS REPORT

OIL DIAGNOSTICS

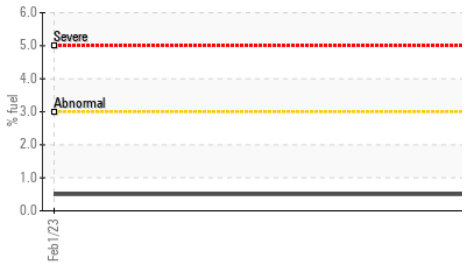
Fuel Dilution




Viscosity @ 100°C




Fuel Dilution

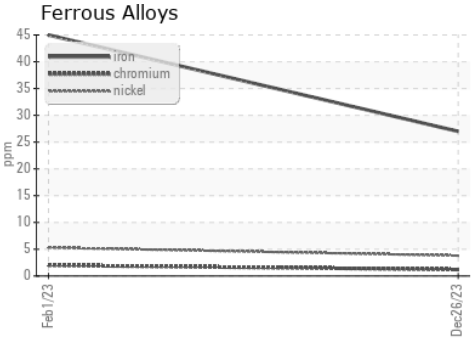



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.2 | **NEG** | NEG | --- |
| Free Water | scalar | *Visual | | **NEG** | NEG | --- |

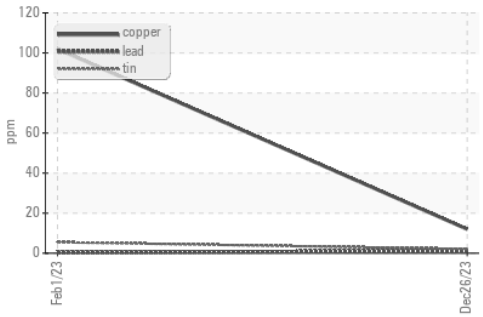
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 10.9 | **11.0** | 9.9 | --- |

## GRAPHS

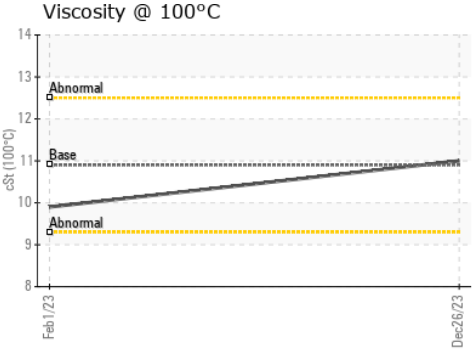
Ferrous Alloys



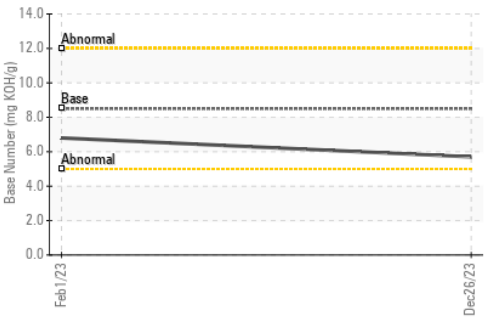

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0114738 **Recieved** : 09 Jan 2024
**Lab Number** : 06055260 **Diagnosed** : 10 Jan 2024
**Unique Number** : 10821209 **Diagnostician** : Wes Davis
**Test Package** : FLEET ( Additional Tests: FuelDilution )

*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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