



OIL ANALYSIS REPORT

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

Machine Id
CUMMINS 846-5180
 Component
1 Diesel Engine
 Fluid
MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|----------|
| Sample Number | | Client Info | | RPL0019446 | RPL0016834 | --- |
| Sample Date | | Client Info | | 07 Mar 2024 | 09 Dec 2023 | --- |
| Machine Age | mls | Client Info | | 13853 | 9119 | --- |
| Oil Age | mls | Client Info | | 13853 | 9119 | --- |
| Filter Age | mls | Client Info | | 13853 | 9119 | --- |
| Oil Changed | | Client Info | | Not Changd | Filtered | --- |
| Filter Changed | | Client Info | | Not Changd | Changed | --- |
| Sample Status | | | | ABNORMAL | ABNORMAL | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|-----|
| Iron | ppm | ASTM D5185m | >90 | 36 | 24 | --- |
| Chromium | ppm | ASTM D5185m | >20 | 1 | <1 | --- |
| Nickel | ppm | ASTM D5185m | >2 | <1 | <1 | --- |
| Titanium | ppm | ASTM D5185m | >2 | <1 | <1 | --- |
| Silver | ppm | ASTM D5185m | >2 | <1 | <1 | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 12 | 7 | --- |
| Lead | ppm | ASTM D5185m | >40 | 2 | 2 | --- |
| Copper | ppm | ASTM D5185m | >330 | 21 | 20 | --- |
| Tin | ppm | ASTM D5185m | >15 | 3 | 2 | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | --- |
| White Metal | scalar | *Visual | NONE | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | --- |

CONTAMINATION

Sodium and/or potassium levels are high. Test for glycol is negative.

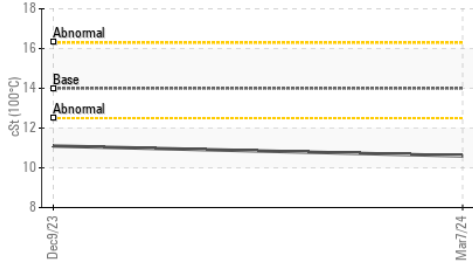
| | | | | | | |
|------------------|----------|-------------|-------|----------------|------------|-----|
| Silicon | ppm | ASTM D5185m | >25 | 40 | 40 | --- |
| Potassium | ppm | ASTM D5185m | >20 | 54 | 36 | --- |
| Fuel | % | ASTM D3524 | >3.0 | <1.0 | 1.7 | --- |
| Water | | WC Method | >0.2 | NEG | NEG | --- |
| Glycol | % | *ASTM D2982 | | NEG | NEG | --- |
| Soot % | % | *ASTM D7844 | >6 | 0.3 | 0.2 | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 9.3 | 8.4 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.7 | 18.9 | --- |
| 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 | --- |

FLUID CONDITION

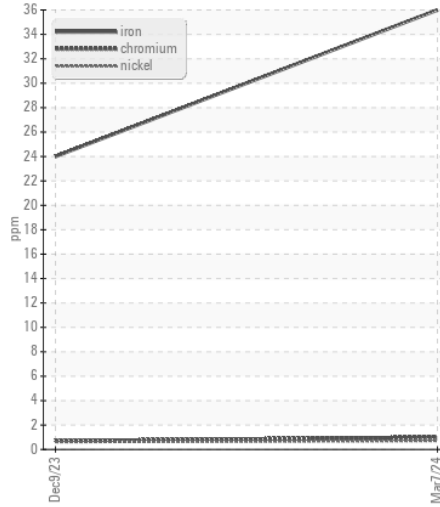
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

| | | | | | | |
|------------------|----------|-------------|-----|-------------|-------------|-----|
| Sodium | ppm | ASTM D5185m | | 4 | 2 | --- |
| Boron | ppm | ASTM D5185m | 0 | 51 | 79 | --- |
| Barium | ppm | ASTM D5185m | 0 | 3 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 0 | 13 | 13 | --- |
| Manganese | ppm | ASTM D5185m | | 5 | 5 | --- |
| Magnesium | ppm | ASTM D5185m | 0 | 710 | 710 | --- |
| Calcium | ppm | ASTM D5185m | | 1243 | 1242 | --- |
| Phosphorus | ppm | ASTM D5185m | | 708 | 663 | --- |
| Zinc | ppm | ASTM D5185m | | 859 | 826 | --- |
| Sulfur | ppm | ASTM D5185m | | 2916 | 3239 | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.6 | 14.6 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.4 | 6.7 | 7.8 | --- |
| Visc @ 100°C | cSt | ASTM D445 | 14 | 10.6 | 11.1 | --- |

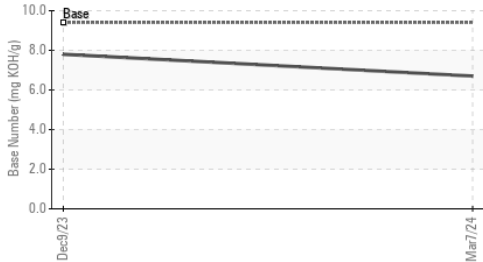
● Viscosity @ 100°C



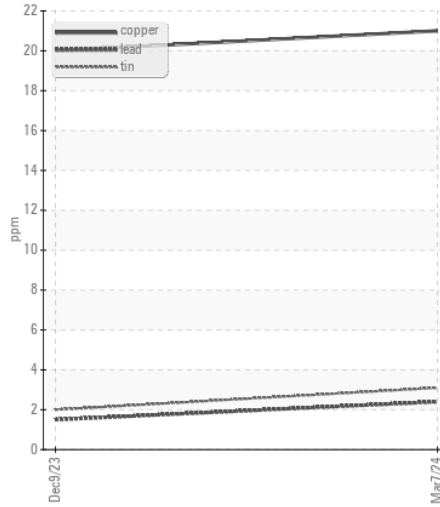
Ferrous Alloys



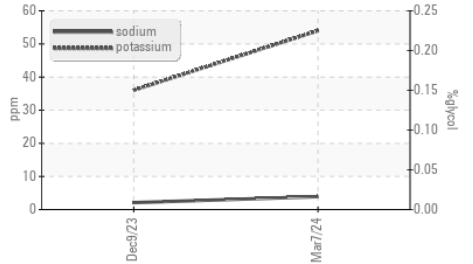
Base Number



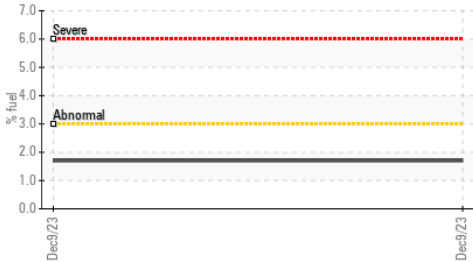
Non-ferrous Metals



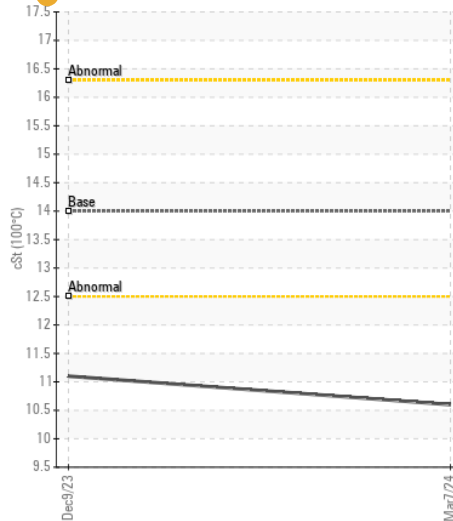
Glycol Contamination



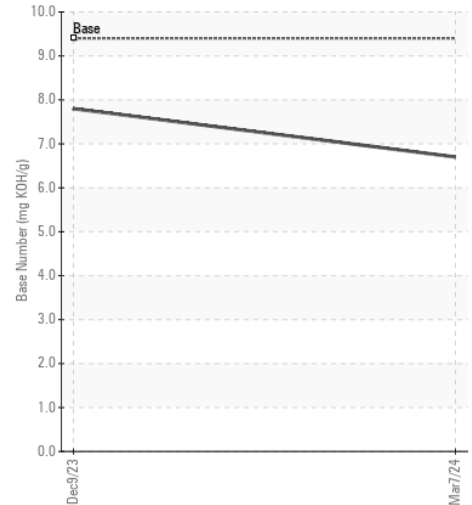
Fuel Dilution



● Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RPL0019446 **Received** : 19 Mar 2024
Lab Number : 06121991 **Tested** : 21 Mar 2024
Unique Number : 10936142 **Diagnosed** : 21 Mar 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, Glycol, PercentFuel)

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 US 90660
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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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F: