



OIL ANALYSIS REPORT

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

Area
[134708]

Machine Id
53M4380

Component
Diesel Engine

Fluid
SHELL ROTELLA T 10W30 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number | | Client Info | | CU0021739 | --- | --- |
| Sample Date | | Client Info | | 23 Feb 2024 | --- | --- |
| Machine Age | kms | Client Info | | 51394 | --- | --- |
| Oil Age | kms | Client Info | | 11475 | --- | --- |
| Filter Age | kms | Client Info | | 0 | --- | --- |
| Oil Changed | | Client Info | | N/A | --- | --- |
| Filter Changed | | Client Info | | N/A | --- | --- |
| Sample Status | | | | NORMAL | --- | --- |

WEAR

Metal levels are typical for a new component breaking in. The wear metal levels do not reflect the reported failure.

| | | | | | | |
|----------|-----|---------------|------|--------------|-----|-----|
| Iron | ppm | ASTM D5185(m) | >90 | 17 | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | <1 | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >2 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | --- | --- |
| Silver | ppm | ASTM D5185(m) | >2 | <1 | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | 6 | --- | --- |
| Lead | ppm | ASTM D5185(m) | >40 | 1 | --- | --- |
| Copper | ppm | ASTM D5185(m) | >330 | 4 | --- | --- |
| Tin | ppm | ASTM D5185(m) | >15 | <1 | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | --- | --- |

CONTAMINATION

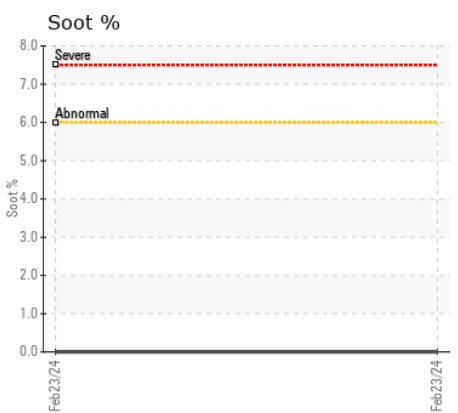
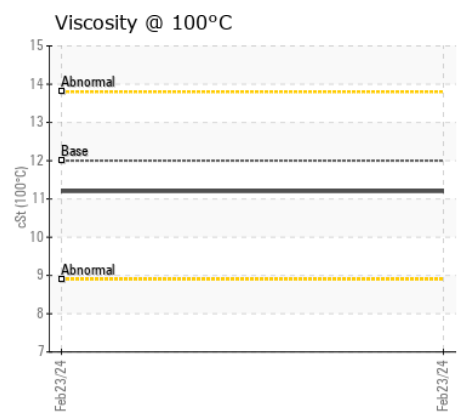
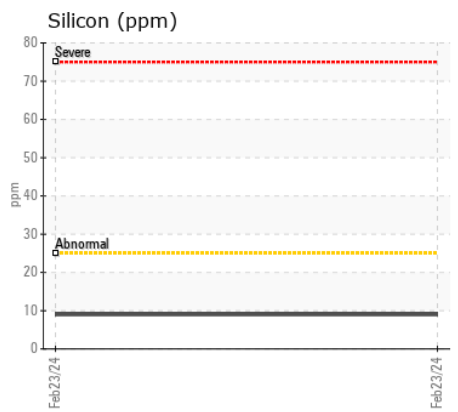
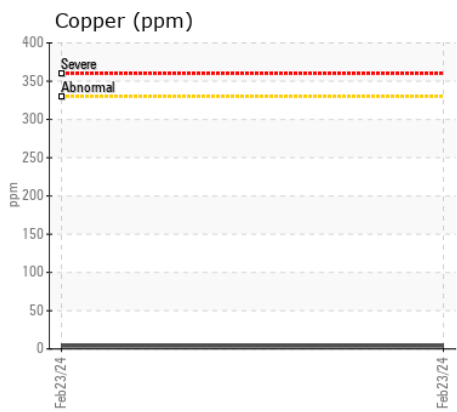
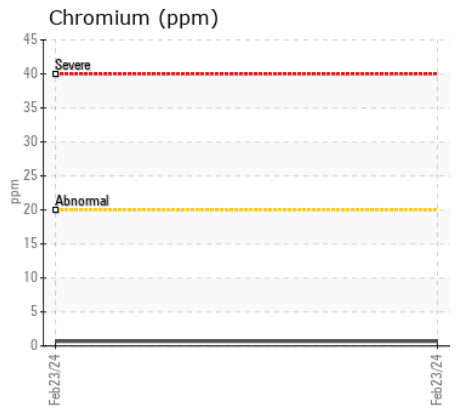
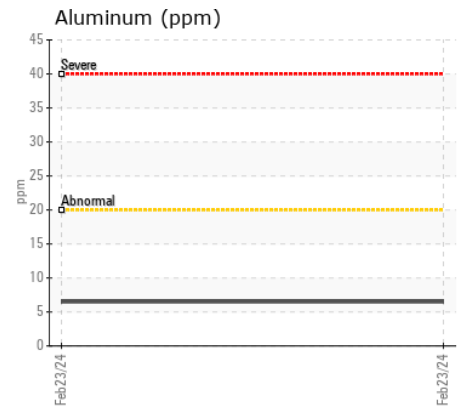
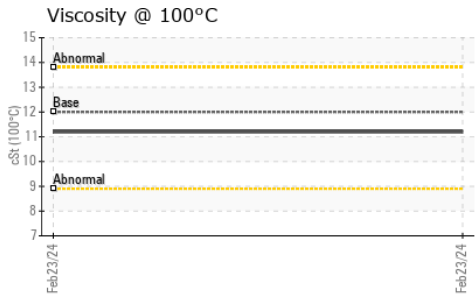
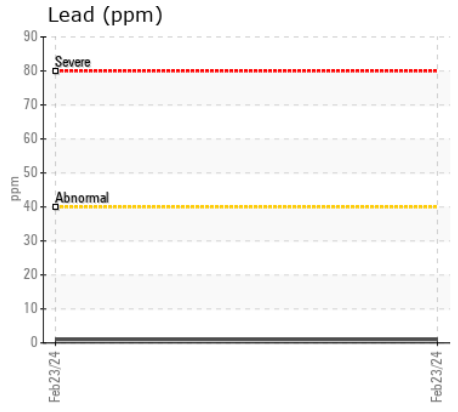
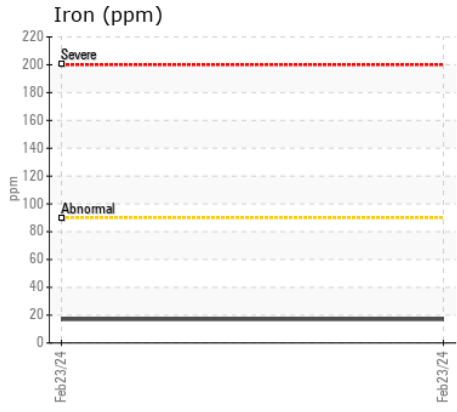
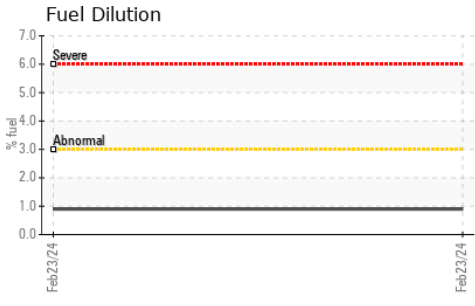
Fuel content negligible. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|---------------|------|-------------|-----|-----|
| Silicon | ppm | ASTM D5185(m) | >25 | 9 | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | 22 | --- | --- |
| Fuel | % | ASTM D7593* | >3.0 | 0.9 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | ASTM D7844* | >6 | 0 | --- | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | 6.5 | --- | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 16.9 | --- | --- |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | --- | --- |

FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

| | | | | | | |
|--------------|----------|---------------|-----|--------------|-----|-----|
| Sodium | ppm | ASTM D5185(m) | | 2 | --- | --- |
| Boron | ppm | ASTM D5185(m) | | 16 | --- | --- |
| Barium | ppm | ASTM D5185(m) | | <1 | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | | 13 | --- | --- |
| Manganese | ppm | ASTM D5185(m) | | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | | 105 | --- | --- |
| Calcium | ppm | ASTM D5185(m) | | 2096 | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | | 826 | --- | --- |
| Zinc | ppm | ASTM D5185(m) | | 940 | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | | 2956 | --- | --- |
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 10.1 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 12. | 11.2 | --- | --- |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : CU0021739 **Received** : 28 Feb 2024
Lab Number : 02618616 **Tested** : 01 Mar 2024
Unique Number : 5735726 **Diagnosed** : 01 Mar 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel)

CUMMINS DIESEL
 50 SIMMONDS DRIVE
 DARTMOUTH, NS
 CA B3B 1R3
 Contact: Stephen Hulse
 stephen.hulse@cummins.com
 T: (782)409-4641
 F: (902)468-5177

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.