



# OIL ANALYSIS REPORT

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

Area

**RAY JONES**

Machine Id

**VV088685**

Component

**Right Diesel Engine**

Fluid

**VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)**

## RECOMMENDATION

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 |           | <b>WC0847280</b>   | ---      | ---      |
| Sample Date    |     | Client Info |           | <b>01 Nov 2023</b> | ---      | ---      |
| Machine Age    | hrs | Client Info |           | <b>583</b>         | ---      | ---      |
| Oil Age        | hrs | Client Info |           | <b>583</b>         | ---      | ---      |
| Filter Age     | hrs | Client Info |           | <b>583</b>         | ---      | ---      |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | ---      | ---      |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | ---      | ---      |
| Sample Status  |     |             |           | <b>NORMAL</b>      | ---      | ---      |

## WEAR

Metal levels are typical for a components first oil change.

|              |        |               |      |              |     |     |
|--------------|--------|---------------|------|--------------|-----|-----|
| Iron         | ppm    | ASTM D5185(m) | >80  | <b>24</b>    | --- | --- |
| Chromium     | ppm    | ASTM D5185(m) | >6   | <b>&lt;1</b> | --- | --- |
| Nickel       | ppm    | ASTM D5185(m) | >2   | <b>1</b>     | --- | --- |
| Titanium     | ppm    | ASTM D5185(m) | >2   | <b>0</b>     | --- | --- |
| Silver       | ppm    | ASTM D5185(m) | >2   | <b>0</b>     | --- | --- |
| Aluminum     | ppm    | ASTM D5185(m) | >20  | <b>2</b>     | --- | --- |
| Lead         | ppm    | ASTM D5185(m) | >95  | <b>1</b>     | --- | --- |
| Copper       | ppm    | ASTM D5185(m) | >85  | <b>9</b>     | --- | --- |
| Tin          | ppm    | ASTM D5185(m) | >9   | <b>&lt;1</b> | --- | --- |
| Vanadium     | ppm    | ASTM D5185(m) |      | <b>0</b>     | --- | --- |
| White Metal  | scalar | Visual*       | NONE | <b>NONE</b>  | --- | --- |
| Yellow Metal | scalar | Visual*       | NONE | <b>NONE</b>  | --- | --- |

## CONTAMINATION

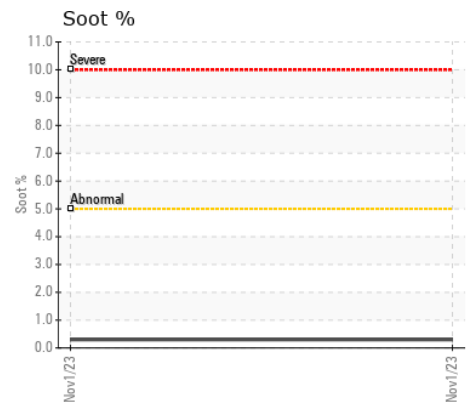
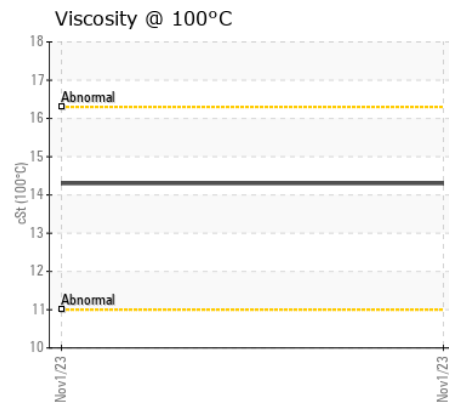
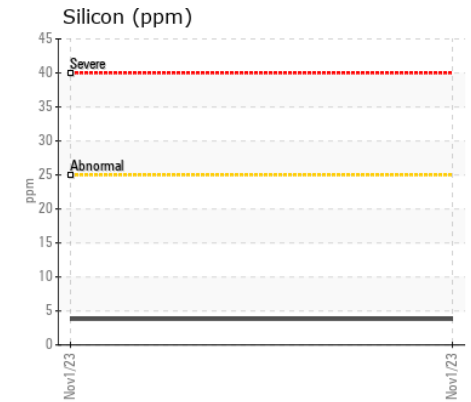
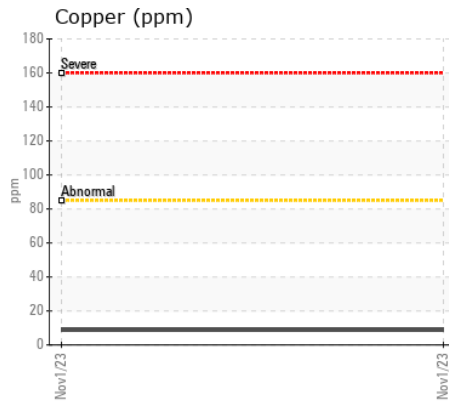
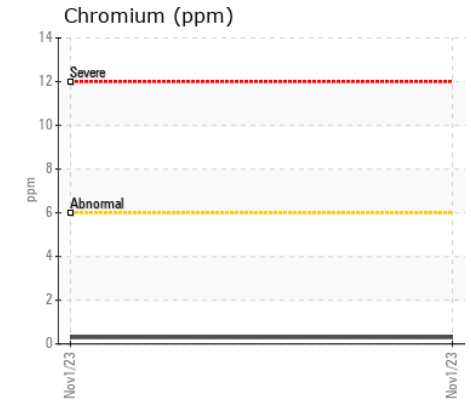
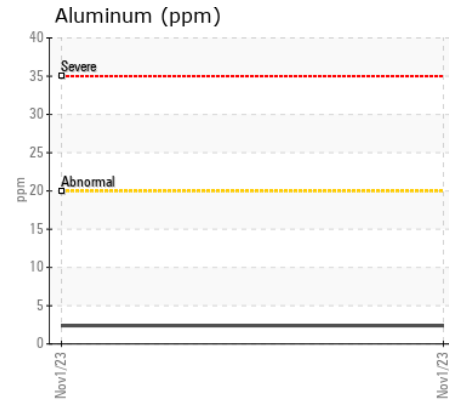
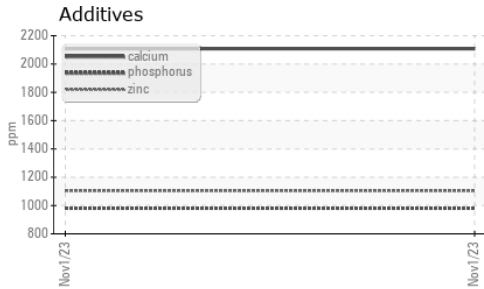
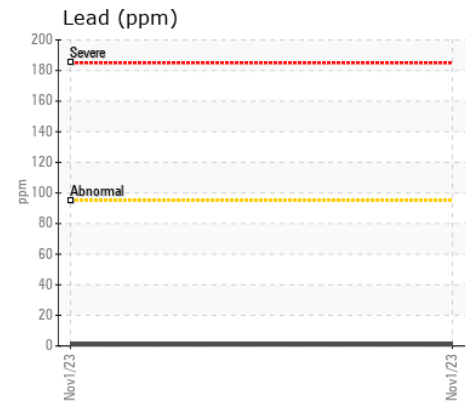
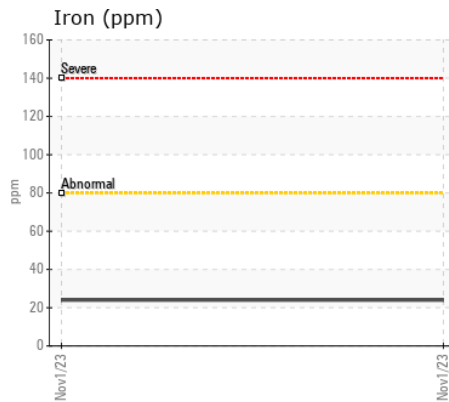
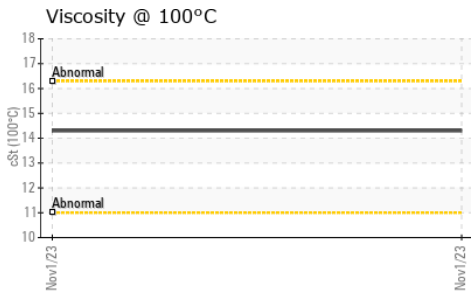
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

|                  |          |               |       |                |     |     |
|------------------|----------|---------------|-------|----------------|-----|-----|
| Silicon          | ppm      | ASTM D5185(m) | >25   | <b>4</b>       | --- | --- |
| Potassium        | ppm      | ASTM D5185(m) | >20   | <b>7</b>       | --- | --- |
| Fuel             |          | WC Method     | >4.0  | <b>&lt;1.0</b> | --- | --- |
| Water            |          | WC Method     | >0.1  | <b>NEG</b>     | --- | --- |
| Glycol           |          | WC Method     |       | <b>NEG</b>     | --- | --- |
| Soot %           | %        | ASTM D7844*   |       | <b>0.3</b>     | --- | --- |
| Nitration        | Abs/cm   | ASTM D7624*   | >20   | <b>7.2</b>     | --- | --- |
| Sulfation        | Abs/.1mm | ASTM D7415*   | >30   | <b>20.4</b>    | --- | --- |
| Silt             | scalar   | Visual*       | NONE  | <b>NONE</b>    | --- | --- |
| Debris           | scalar   | Visual*       | NONE  | <b>NONE</b>    | --- | --- |
| Sand/Dirt        | scalar   | Visual*       | NONE  | <b>NONE</b>    | --- | --- |
| Appearance       | scalar   | Visual*       | NORML | <b>NORML</b>   | --- | --- |
| Odor             | scalar   | Visual*       | NORML | <b>NORML</b>   | --- | --- |
| Emulsified Water | scalar   | Visual*       | >0.1  | <b>NEG</b>     | --- | --- |

## 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) |     | <b>3</b>    | --- | --- |
| Boron        | ppm      | ASTM D5185(m) |     | <b>140</b>  | --- | --- |
| Barium       | ppm      | ASTM D5185(m) |     | <b>0</b>    | --- | --- |
| Molybdenum   | ppm      | ASTM D5185(m) |     | <b>3</b>    | --- | --- |
| Manganese    | ppm      | ASTM D5185(m) |     | <b>0</b>    | --- | --- |
| Magnesium    | ppm      | ASTM D5185(m) |     | <b>66</b>   | --- | --- |
| Calcium      | ppm      | ASTM D5185(m) |     | <b>2108</b> | --- | --- |
| Phosphorus   | ppm      | ASTM D5185(m) |     | <b>981</b>  | --- | --- |
| Zinc         | ppm      | ASTM D5185(m) |     | <b>1104</b> | --- | --- |
| Sulfur       | ppm      | ASTM D5185(m) |     | <b>3101</b> | --- | --- |
| Oxidation    | Abs/.1mm | ASTM D7414*   | >25 | <b>15.8</b> | --- | --- |
| Visc @ 100°C | cSt      | ASTM D7279(m) |     | <b>14.3</b> | --- | --- |



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0847280 **Received** : 15 Feb 2024  
**Lab Number** : 02615864 **Tested** : 20 Feb 2024  
**Unique Number** : 5732974 **Diagnosed** : 20 Feb 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: Visual )

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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.