



|                 |                  |
|-----------------|------------------|
| WEAR            | <b>ABNORMAL</b>  |
| CONTAMINATION   | <b>NORMAL</b>    |
| FLUID CONDITION | <b>ATTENTION</b> |



Machine Id  
**VOLVO EC750 314245**  
Component  
**Diesel Engine**  
Fluid  
**VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (15 GAL)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. 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 |           | <b>ML0002000</b>   | ML0886273   | VCP420906   |
| Sample Date    |     | Client Info |           | <b>20 May 2024</b> | 09 Feb 2024 | 11 Sep 2023 |
| Machine Age    | hrs | Client Info |           | <b>1584</b>        | 1022        | 915         |
| Oil Age        | hrs | Client Info |           | <b>500</b>         | 500         | 915         |
| Filter Age     | hrs | Client Info |           | <b>500</b>         | 500         | 0           |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | Changed     |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | ABNORMAL    | ABNORMAL    |

**WEAR**

The copper level has decreased, but is still abnormal. All other component wear rates are normal.

|              |        |             |      |              |             |              |
|--------------|--------|-------------|------|--------------|-------------|--------------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>20</b>    | 11          | 25           |
| Chromium     | ppm    | ASTM D5185m | >10  | <b>2</b>     | 1           | 2            |
| Nickel       | ppm    | ASTM D5185m | >10  | <b>3</b>     | 2           | 3            |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0           | 0            |
| Silver       | ppm    | ASTM D5185m | >2   | <b>&lt;1</b> | 0           | 0            |
| Aluminum     | ppm    | ASTM D5185m | >10  | <b>5</b>     | 4           | 2            |
| Lead         | ppm    | ASTM D5185m | >20  | <b>2</b>     | 0           | 5            |
| Copper       | ppm    | ASTM D5185m | >15  | <b>▲ 35</b>  | <b>▲ 92</b> | <b>▲ 376</b> |
| Tin          | ppm    | ASTM D5185m | >10  | <b>3</b>     | 2           | 7            |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0           | <1           |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE        | NONE         |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE        | NONE         |

**CONTAMINATION**

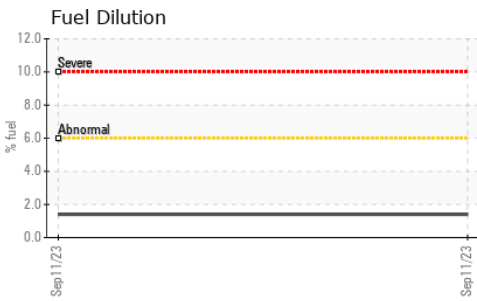
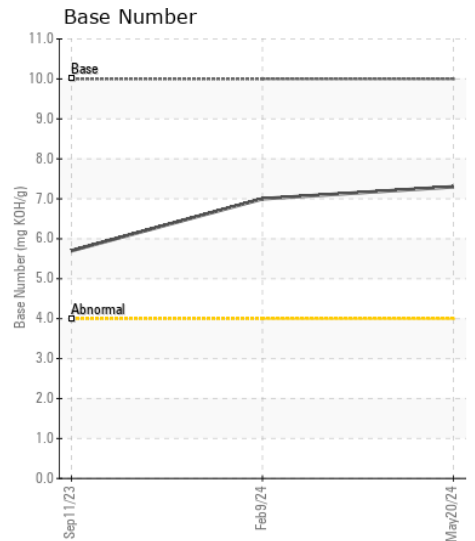
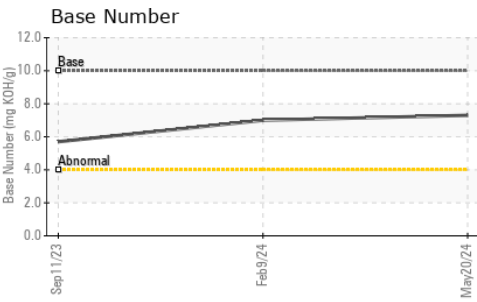
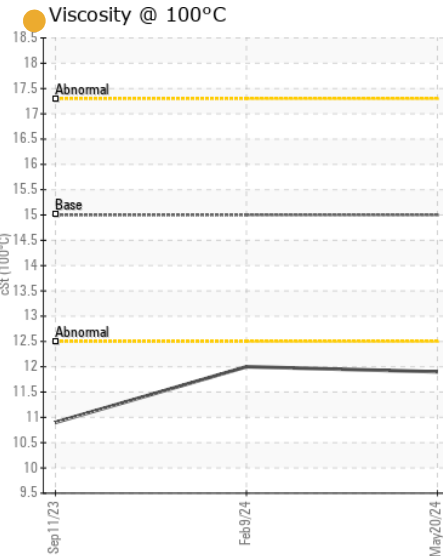
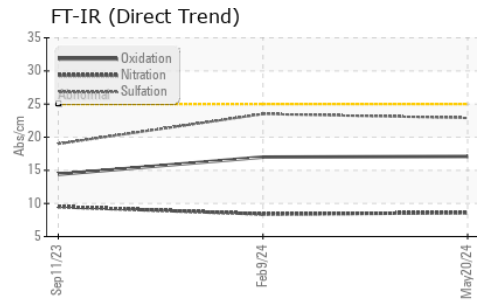
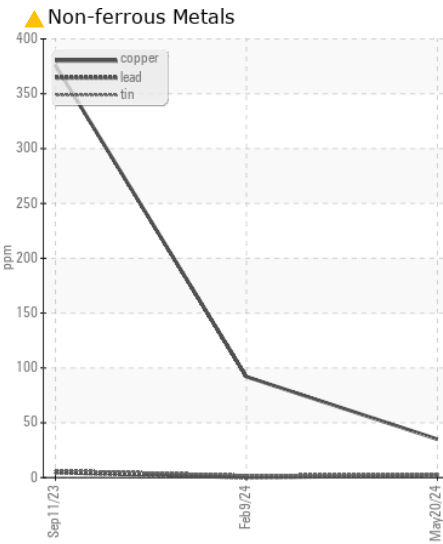
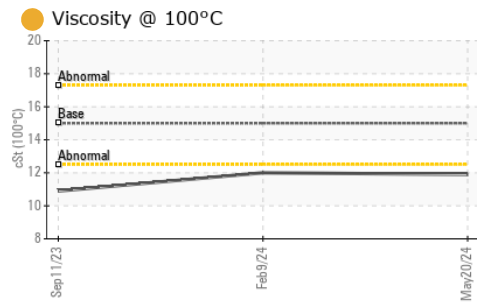
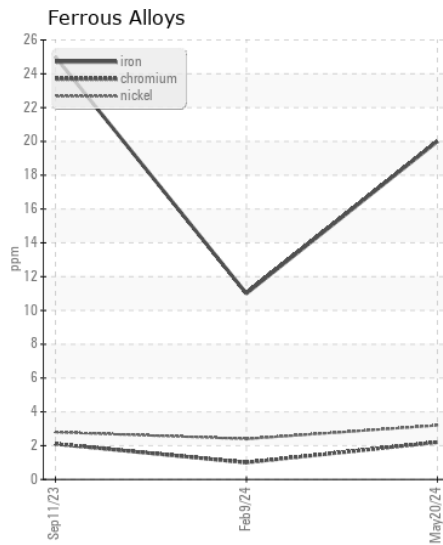
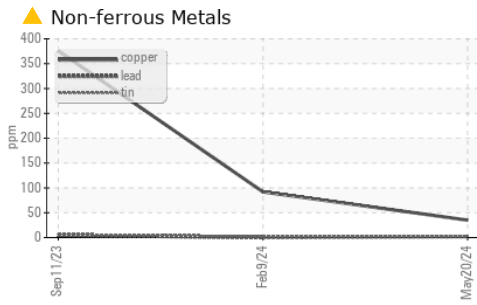
There is no indication of any contamination in the oil.

|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >20   | <b>12</b>      | 11    | 30    |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>3</b>       | <1    | 8     |
| Fuel             | %        | ASTM D3524  | >6.0  | <b>&lt;1.0</b> | <1.0  | 1.4   |
| Water            |          | WC Method   | >0.1  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           | %        | *ASTM D2982 |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.4</b>     | 0.4   | 0.4   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>8.6</b>     | 8.4   | 9.5   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>22.9</b>    | 23.5  | 19.0  |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Emulsified Water | scalar   | *Visual     | >0.1  | <b>NEG</b>     | 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 |      | <b>2</b>      | 1      | 4      |
| Boron            | ppm      | ASTM D5185m | 2.5  | <b>247</b>    | 249    | 27     |
| Barium           | ppm      | ASTM D5185m | 0.0  | <b>0</b>      | 0      | 0      |
| Molybdenum       | ppm      | ASTM D5185m | 0.7  | <b>173</b>    | 122    | 84     |
| Manganese        | ppm      | ASTM D5185m | 0.0  | <b>&lt;1</b>  | <1     | 2      |
| Magnesium        | ppm      | ASTM D5185m | 256  | <b>1054</b>   | 600    | 22     |
| Calcium          | ppm      | ASTM D5185m | 2057 | <b>2105</b>   | 1582   | 2119   |
| Phosphorus       | ppm      | ASTM D5185m | 935  | <b>999</b>    | 757    | 942    |
| Zinc             | ppm      | ASTM D5185m | 1223 | <b>1387</b>   | 905    | 1141   |
| Sulfur           | ppm      | ASTM D5185m | 4079 | <b>3786</b>   | 2456   | 3538   |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>17.1</b>   | 17.0   | 14.4   |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 10   | <b>7.3</b>    | 7.0    | 5.7    |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.0 | <b>● 11.9</b> | ● 12.0 | ● 10.9 |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ML0002000 **Received** : 24 May 2024  
**Lab Number** : 06190304 **Tested** : 29 May 2024  
**Unique Number** : 11047056 **Diagnosed** : 29 May 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: FuelDilution, Glycol, TBN )

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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)