



# VOLVO

## OIL ANALYSIS REPORT

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



Machine Id  
**VOLVO A40G 752249**  
Component  
**Diesel Engine**  
Fluid  
**VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- 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 |           | VCP450598   | ---      | ---      |
| Sample Date    |     | Client Info |           | 24 May 2024 | ---      | ---      |
| Machine Age    | hrs | Client Info |           | 0           | ---      | ---      |
| Oil Age        | hrs | Client Info |           | 0           | ---      | ---      |
| Filter Age     | hrs | Client Info |           | 0           | ---      | ---      |
| Oil Changed    |     | Client Info |           | Changed     | ---      | ---      |
| Filter Changed |     | Client Info |           | Changed     | ---      | ---      |
| Sample Status  |     |             |           | ABNORMAL    | ---      | ---      |

### WEAR

Valve wear is indicated.

|              |        |             |      |      |     |     |
|--------------|--------|-------------|------|------|-----|-----|
| Iron         | ppm    | ASTM D5185m | >100 | 26   | --- | --- |
| Chromium     | ppm    | ASTM D5185m | >20  | <1   | --- | --- |
| Nickel       | ppm    | ASTM D5185m | >2   | ▲ 6  | --- | --- |
| Titanium     | ppm    | ASTM D5185m |      | <1   | --- | --- |
| Silver       | ppm    | ASTM D5185m | >2   | 0    | --- | --- |
| Aluminum     | ppm    | ASTM D5185m | >25  | 4    | --- | --- |
| Lead         | ppm    | ASTM D5185m | >40  | <1   | --- | --- |
| Copper       | ppm    | ASTM D5185m | >330 | 265  | --- | --- |
| Tin          | ppm    | ASTM D5185m | >15  | 4    | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | <1   | --- | --- |
| White Metal  | scalar | *Visual     | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | NONE | --- | --- |

### CONTAMINATION

Elemental level of silicon (Si) above normal indicating ingress of seal material. Tests indicate that there is no fuel present in the oil.

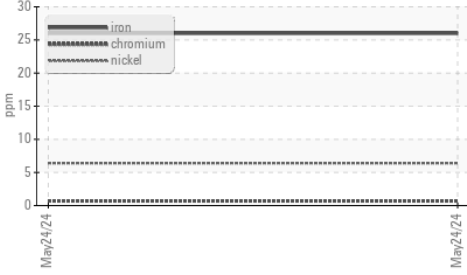
|                  |          |             |       |       |     |     |
|------------------|----------|-------------|-------|-------|-----|-----|
| Silicon          | ppm      | ASTM D5185m | >25   | ▲ 36  | --- | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | 5     | --- | --- |
| Fuel             | %        | ASTM D3524  | >6.0  | 0.4   | --- | --- |
| Water            |          | WC Method   | >0.2  | NEG   | --- | --- |
| Glycol           |          | WC Method   |       | NEG   | --- | --- |
| Soot %           | %        | *ASTM D7844 | >3    | 0.2   | --- | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | 9.4   | --- | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | 21.4  | --- | --- |
| Silt             | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Debris           | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Sand/Dirt        | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Appearance       | scalar   | *Visual     | NORML | NORML | --- | --- |
| Odor             | scalar   | *Visual     | NORML | NORML | --- | --- |
| Emulsified Water | scalar   | *Visual     | >0.2  | NEG   | --- | --- |

### FLUID CONDITION

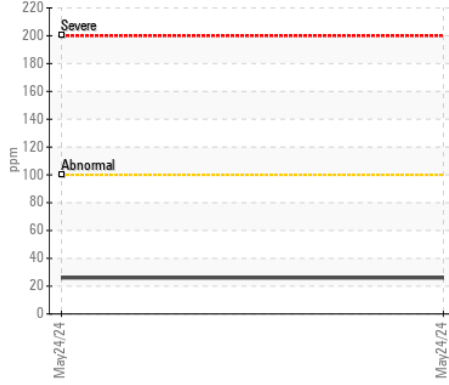
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

|                  |          |             |      |        |     |     |
|------------------|----------|-------------|------|--------|-----|-----|
| Sodium           | ppm      | ASTM D5185m |      | 4      | --- | --- |
| Boron            | ppm      | ASTM D5185m | 2.5  | 16     | --- | --- |
| Barium           | ppm      | ASTM D5185m | 0.0  | 0      | --- | --- |
| Molybdenum       | ppm      | ASTM D5185m | 0.7  | 113    | --- | --- |
| Manganese        | ppm      | ASTM D5185m | 0.0  | 4      | --- | --- |
| Magnesium        | ppm      | ASTM D5185m | 256  | 75     | --- | --- |
| Calcium          | ppm      | ASTM D5185m | 2057 | 2700   | --- | --- |
| Phosphorus       | ppm      | ASTM D5185m | 935  | 1253   | --- | --- |
| Zinc             | ppm      | ASTM D5185m | 1223 | 1503   | --- | --- |
| Sulfur           | ppm      | ASTM D5185m | 4079 | 4742   | --- | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | 15.5   | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 10   | 4.5    | --- | --- |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.0 | ● 10.8 | --- | --- |

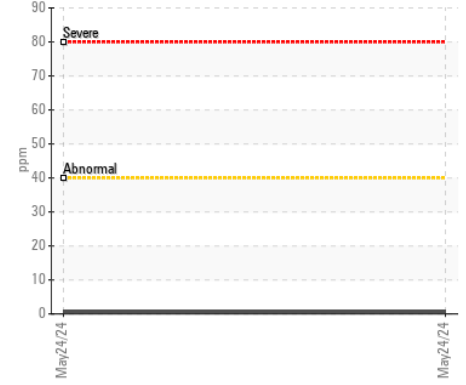
▲ Ferrous Alloys



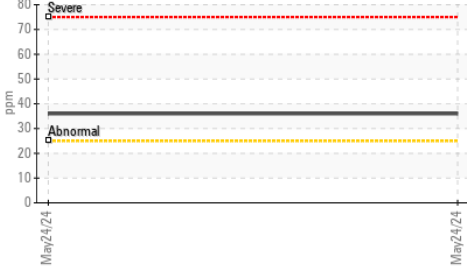
Iron (ppm)



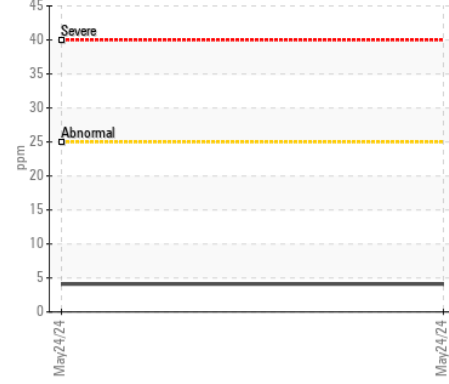
Lead (ppm)



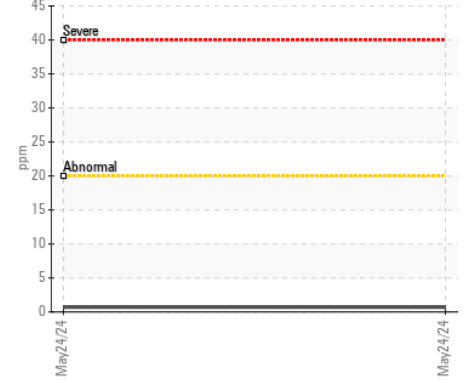
▲ Silicon (ppm)



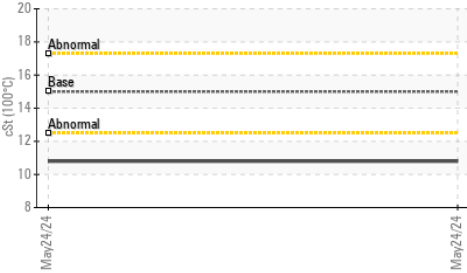
Aluminum (ppm)



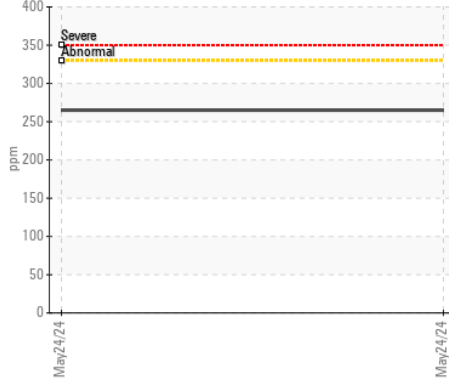
Chromium (ppm)



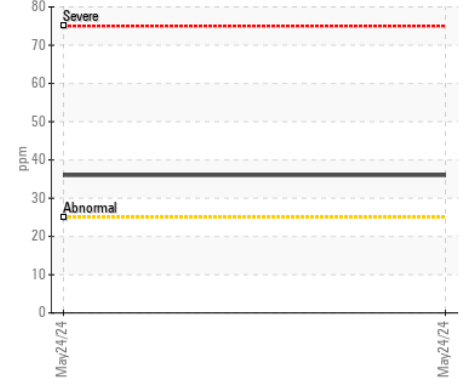
● Viscosity @ 100°C



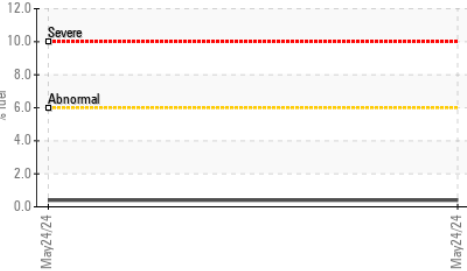
Copper (ppm)



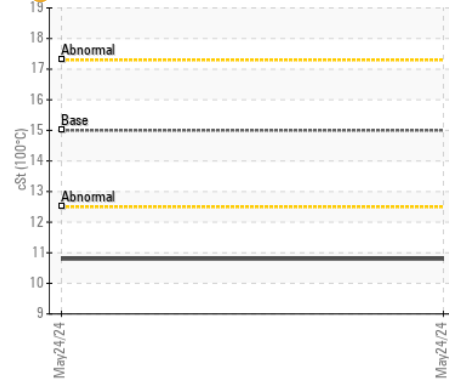
▲ Silicon (ppm)



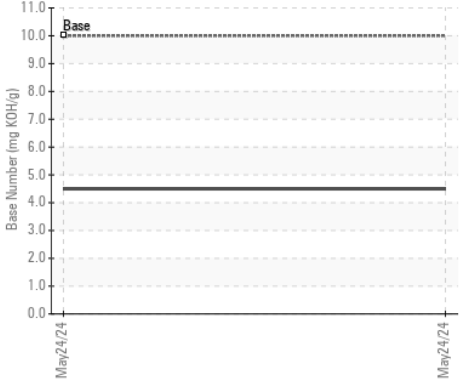
Fuel Dilution



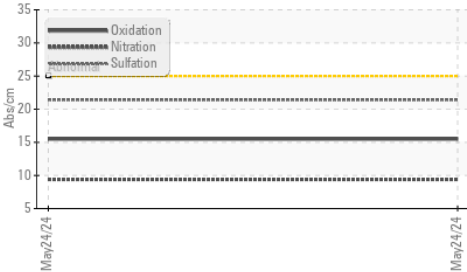
● Viscosity @ 100°C



Base Number



FT-IR (Direct Trend)



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VCP450598 **Received** : 03 Jun 2024  
**Lab Number** : 06197402 **Tested** : 05 Jun 2024  
**Unique Number** : 11059525 **Diagnosed** : 05 Jun 2024 - Sean Felton  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, TBN )

**ALTA EQUIPMENT COMPANY**  
 5151 DR MARTIN LUTHER KING BLVD  
 FORT MYERS, FL  
 US 33905  
 Contact: TODD LARK  
 tlark@altaequipfl.com

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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