



# VOLVO

## OIL ANALYSIS REPORT

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



Area

[729036]

Machine Id

**VOLVO A40G 342177**

Component

**Hydraulic System**

Fluid

**VOLVO SUPER HYDRAULIC OIL 46 (--- GAL)**

### RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

| Test           | UOM | Method      | Limit/Abn | Current     | History1    | History2    |
|----------------|-----|-------------|-----------|-------------|-------------|-------------|
| Sample Number  |     | Client Info |           | VCP443573   | VCP424436   | VCP358183   |
| Sample Date    |     | Client Info |           | 06 Jun 2024 | 29 Jun 2023 | 12 Sep 2022 |
| Machine Age    | hrs | Client Info |           | 11658       | 10619       | 9334        |
| Oil Age        | hrs | Client Info |           | 3000        | 2000        | 500         |
| Filter Age     | hrs | Client Info |           | 0           | 0           | 0           |
| Oil Changed    |     | Client Info |           | Not Changed | Not Changed | Not Changed |
| Filter Changed |     | Client Info |           | Not Changed | Changed     | Changed     |
| Sample Status  |     |             |           | ABNORMAL    | ABNORMAL    | ATTENTION   |

### WEAR

All component wear rates are normal.

|              |        |             |      |      |      |      |
|--------------|--------|-------------|------|------|------|------|
| Iron         | ppm    | ASTM D5185m | >50  | 15   | 18   | 18   |
| Chromium     | ppm    | ASTM D5185m | >20  | <1   | <1   | <1   |
| Nickel       | ppm    | ASTM D5185m | >10  | 0    | 0    | 1    |
| Titanium     | ppm    | ASTM D5185m |      | 0    | <1   | <1   |
| Silver       | ppm    | ASTM D5185m |      | 0    | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | 1    | 2    | 2    |
| Lead         | ppm    | ASTM D5185m | >20  | 2    | 3    | <1   |
| Copper       | ppm    | ASTM D5185m | >150 | 5    | 6    | 62   |
| Tin          | ppm    | ASTM D5185m | >20  | 0    | <1   | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | 0    | 0    | 0    |
| White Metal  | scalar | *Visual     | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | NONE | NONE | NONE |

### CONTAMINATION

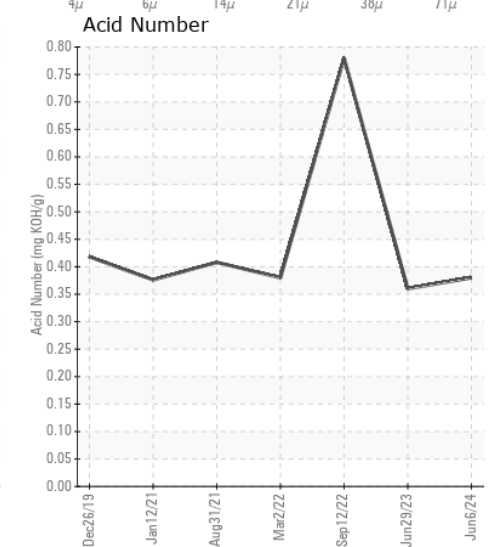
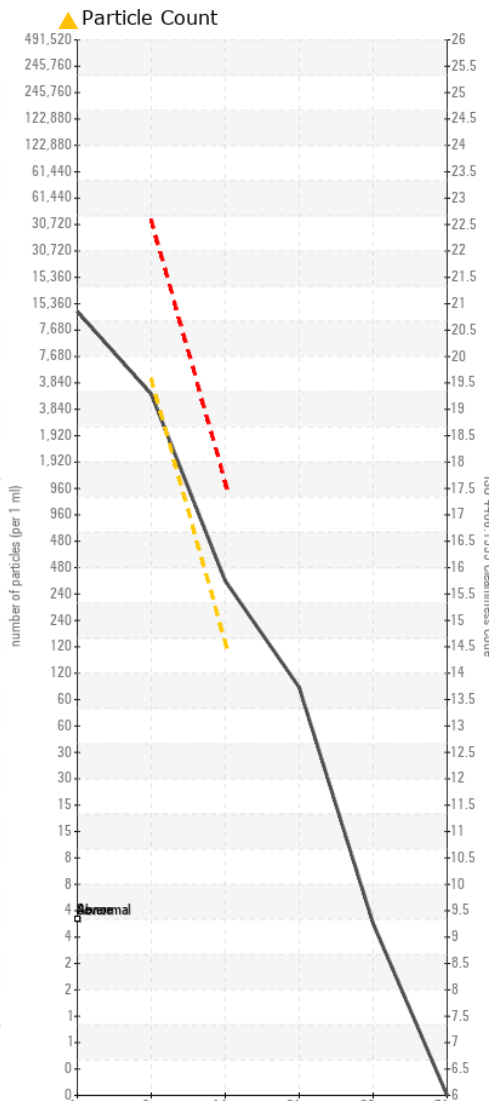
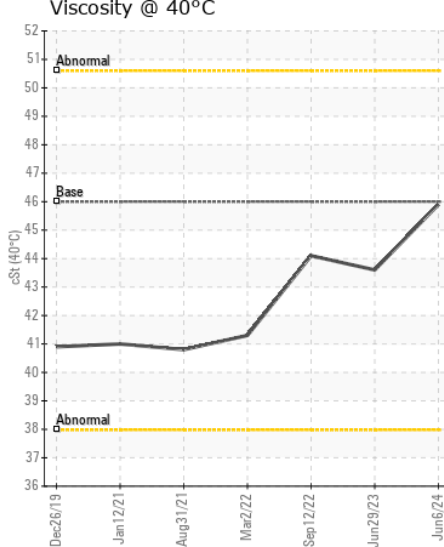
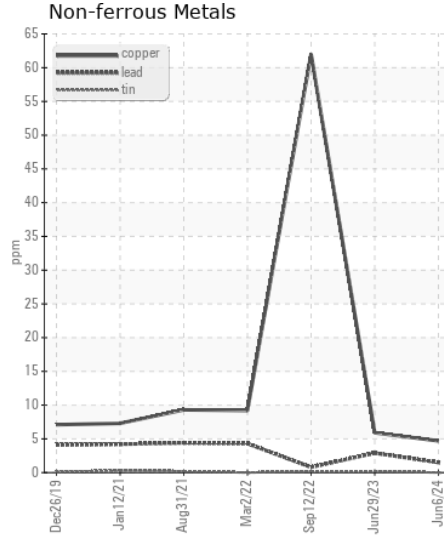
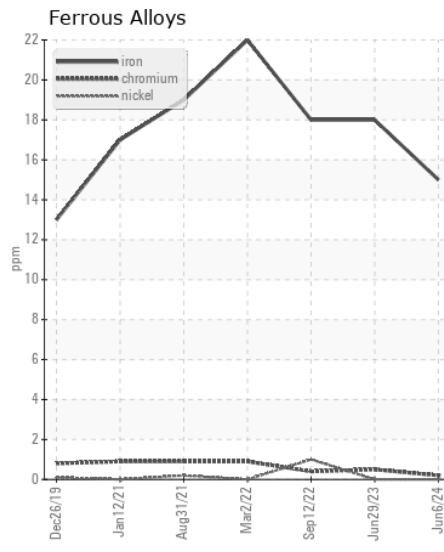
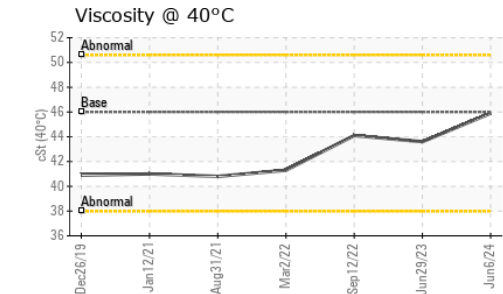
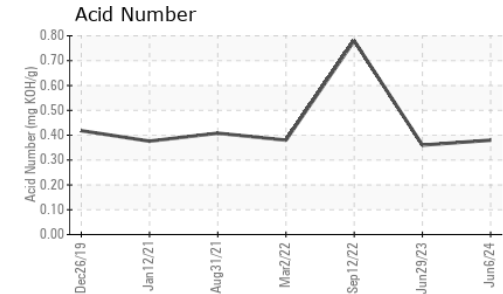
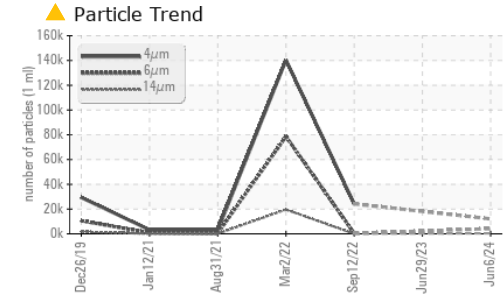
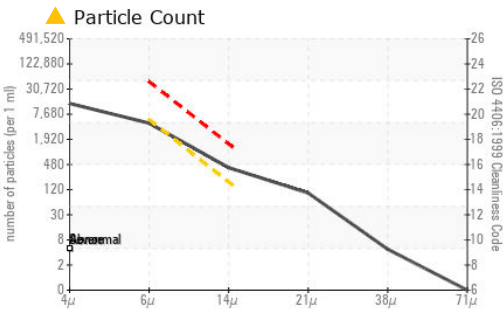
There is a moderate amount of particulates (2 to 100 microns in size) present in the oil.

|                  |        |              |          |            |         |          |
|------------------|--------|--------------|----------|------------|---------|----------|
| Silicon          | ppm    | ASTM D5185m  | >20      | 5          | 5       | 15       |
| Potassium        | ppm    | ASTM D5185m  | >20      | 0          | <1      | 0        |
| Water            |        | WC Method    | >0.1     | NEG        | NEG     | NEG      |
| Particles >4µm   |        | ASTM D7647   |          | 12062      | ---     | 24150    |
| Particles >6µm   |        | ASTM D7647   | >5000    | 4087       | ---     | 329      |
| Particles >14µm  |        | ASTM D7647   | >160     | ▲ 355      | ---     | 8        |
| Particles >21µm  |        | ASTM D7647   | >40      | ▲ 88       | ---     | 0        |
| Particles >38µm  |        | ASTM D7647   | >10      | 4          | ---     | 1        |
| Particles >71µm  |        | ASTM D7647   | >3       | 0          | ---     | 1        |
| Oil Cleanliness  |        | ISO 4406 (c) | >-/19/14 | ▲ 21/19/16 | ---     | 22/16/10 |
| Silt             | scalar | *Visual      | NONE     | NONE       | NONE    | NONE     |
| Debris           | scalar | *Visual      | NONE     | NONE       | ▲ HEAVY | NONE     |
| Sand/Dirt        | scalar | *Visual      | NONE     | NONE       | NONE    | NONE     |
| Appearance       | scalar | *Visual      | NORML    | NORML      | NORML   | NORML    |
| Odor             | scalar | *Visual      | NORML    | NORML      | NORML   | NORML    |
| Emulsified Water | scalar | *Visual      | >0.1     | NEG        | NEG     | NEG      |

### FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

|                  |          |             |      |      |      |        |
|------------------|----------|-------------|------|------|------|--------|
| Sodium           | ppm      | ASTM D5185m |      | 3    | 0    | 2      |
| Boron            | ppm      | ASTM D5185m | 14   | 0    | 0    | ● 127  |
| Barium           | ppm      | ASTM D5185m | 0.0  | 0    | 1    | 0      |
| Molybdenum       | ppm      | ASTM D5185m | 0.0  | 0    | <1   | <1     |
| Manganese        | ppm      | ASTM D5185m | 0.0  | 0    | 0    | <1     |
| Magnesium        | ppm      | ASTM D5185m | 2.6  | 8    | 7    | 11     |
| Calcium          | ppm      | ASTM D5185m | 49   | 76   | 93   | ● 3951 |
| Phosphorus       | ppm      | ASTM D5185m | 354  | 341  | 346  | ● 1225 |
| Zinc             | ppm      | ASTM D5185m | 419  | 408  | 461  | ● 1470 |
| Sulfur           | ppm      | ASTM D5185m | 3719 | 3452 | 4222 | 4394   |
| Acid Number (AN) | mg KOH/g | ASTM D8045  |      | 0.38 | 0.36 | 0.78   |
| Visc @ 40°C      | cSt      | ASTM D445   | 46   | 45.9 | 43.6 | 44.1   |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VCP443573 **Received** : 16 Jul 2024  
**Lab Number** : 06237697 **Tested** : 17 Jul 2024  
**Unique Number** : 11126531 **Diagnosed** : 17 Jul 2024 - Wes Davis  
**Test Package** : MOB 2

**RIPA AND ASSOCIATES**  
 10149 FISHER AVENUE  
 TAMPA, FL  
 US 33619

Contact: PM Services  
 PMServices@ripaconstruction.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)

T:  
F: