



# CONSTRUCTION EQUIPMENT

SWO-064854 VOLVO A45G 352702 - DIESEL ENGINE



Sample No: VCP427490

Oil Type: DIESEL ENGINE OIL SAE 15W40

Job No: SWO-064854



## SAMPLE INFORMATION

|               |                    |             |             |             |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | <b>VCP427490</b>   | VCP410135   | VCP393810   | VCP390944   |
| Sample Date   | <b>15 Aug 2023</b> | 18 May 2023 | 20 Dec 2022 | 23 Sep 2022 |
| Machine Hours | <b>3389</b>        | 2923        | 2406        | 1971        |
| Oil Hours     | <b>0</b>           | 0           | 0           | 0           |
| Oil Changed   | <b>Changed</b>     | Changed     | Changed     | Changed     |
| Sample Status | <b>NORMAL</b>      | NORMAL      | NORMAL      | ABNORMAL    |



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## OIL CONDITION

|                  |          |             |      |      |        |
|------------------|----------|-------------|------|------|--------|
| Visc @ 100°C     | cSt      | <b>12.7</b> | 12.6 | 12.7 | ▲ 12.3 |
| Base Number (BN) | mg KOH/g | <b>10.2</b> | 9.9  | 11.4 | 7.8    |
| Oxidation (PA)   | %        | <b>80</b>   | 78   | 83   | 69     |



## CONTAMINATION

|                |     |                |      |      |      |
|----------------|-----|----------------|------|------|------|
| Soot %         | %   | <b>0.4</b>     | 0.2  | 0.2  | 0.3  |
| Nitration (PA) | %   | <b>60</b>      | 65   | 61   | 83   |
| Sulfation (PA) | %   | <b>62</b>      | 62   | 66   | 59   |
| Glycol         | %   | <b>NEG</b>     | NEG  | NEG  | NEG  |
| Fuel           | %   | <b>&lt;1.0</b> | <1.0 | <1.0 | <1.0 |
| Silicon        | ppm | <b>6</b>       | 5    | 6    | 9    |
| Sodium         | ppm | <b>3</b>       | 3    | 3    | 6    |
| Potassium      | ppm | <b>0</b>       | 3    | <1   | <1   |



## WEAR METALS

|            |     |              |    |    |       |
|------------|-----|--------------|----|----|-------|
| Iron       | ppm | <b>9</b>     | 9  | 6  | 11    |
| Copper     | ppm | <b>3</b>     | 11 | 82 | ▲ 355 |
| Lead       | ppm | <b>&lt;1</b> | 2  | <1 | 22    |
| Tin        | ppm | <b>&lt;1</b> | 1  | <1 | 2     |
| Aluminum   | ppm | <b>2</b>     | <1 | <1 | <1    |
| Chromium   | ppm | <b>0</b>     | 0  | <1 | <1    |
| Molybdenum | ppm | <b>41</b>    | 47 | 41 | 31    |
| Nickel     | ppm | <b>&lt;1</b> | 2  | 2  | 2     |
| Titanium   | ppm | <b>0</b>     | <1 | 0  | <1    |
| Silver     | ppm | <b>0</b>     | 0  | 0  | 0     |
| Manganese  | ppm | <b>&lt;1</b> | <1 | <1 | <1    |
| Vanadium   | ppm | <b>&lt;1</b> | 0  | 0  | <1    |



## ADDITIVES

|            |     |             |      |      |      |
|------------|-----|-------------|------|------|------|
| Calcium    | ppm | <b>1761</b> | 2130 | 1697 | 1368 |
| Magnesium  | ppm | <b>507</b>  | 637  | 533  | 603  |
| Zinc       | ppm | <b>1107</b> | 1493 | 1117 | 854  |
| Phosphorus | ppm | <b>934</b>  | 1048 | 923  | 833  |
| Barium     | ppm | <b>0</b>    | 0    | 0    | 0    |
| Boron      | ppm | <b>40</b>   | 60   | 53   | 47   |

## Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: SAIBIR

Unique No: 10617094

Signed: Don Baldrige

Report Date: 24 Aug 2023



# CONSTRUCTION EQUIPMENT



## GRAPHS

