



# CONSTRUCTION EQUIPMENT

## VOLVO A60H 3500Z2 - DIESEL ENGINE



**Sample No:** VCP405829  
**Oil Type:** DIESEL ENGINE OIL SAE 40  
**Job No:**



### SAMPLE INFORMATION

|               |                    |             |             |             |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | <b>VCP405829</b>   | VCP402630   | VCP369330   | VCP354197   |
| Sample Date   | <b>27 Sep 2023</b> | 01 May 2023 | 29 Nov 2022 | 19 Aug 2022 |
| Machine Hours | <b>7399</b>        | 6905        | 6420        | 5883        |
| Oil Hours     | <b>0</b>           | 0           | 0           | 0           |
| Oil Changed   | <b>Changed</b>     | Changed     | Changed     | Changed     |
| Sample Status | <b>NORMAL</b>      | NORMAL      | NORMAL      | NORMAL      |

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### OIL CONDITION

|                  |          |             |      |      |      |
|------------------|----------|-------------|------|------|------|
| Visc @ 100°C     | cSt      | <b>12.7</b> | 12.8 | 12.8 | 12.9 |
| Base Number (BN) | mg KOH/g | <b>10.1</b> | 8.9  | 11.1 | 11.2 |
| Oxidation (PA)   | %        | <b>80</b>   | 76   | 85   | 84   |



### CONTAMINATION

|                |     |                |      |      |      |
|----------------|-----|----------------|------|------|------|
| Soot %         | %   | <b>0.3</b>     | 0.2  | 0.3  | 0.3  |
| Nitration (PA) | %   | <b>56</b>      | 55   | 66   | 67   |
| Sulfation (PA) | %   | <b>61</b>      | 55   | 65   | 65   |
| Glycol         | %   | <b>NEG</b>     | NEG  | NEG  | NEG  |
| Fuel           | %   | <b>&lt;1.0</b> | <1.0 | <1.0 | <1.0 |
| Silicon        | ppm | <b>4</b>       | 5    | 6    | 5    |
| Sodium         | ppm | <b>4</b>       | 1    | 2    | 0    |
| Potassium      | ppm | <b>1</b>       | 0    | 0    | 1    |



### WEAR METALS

|            |     |              |    |    |    |
|------------|-----|--------------|----|----|----|
| Iron       | ppm | <b>5</b>     | 6  | 7  | 8  |
| Copper     | ppm | <b>2</b>     | <1 | <1 | 1  |
| Lead       | ppm | <b>&lt;1</b> | 0  | 1  | <1 |
| Tin        | ppm | <b>&lt;1</b> | <1 | <1 | <1 |
| Aluminum   | ppm | <b>2</b>     | 1  | 2  | 3  |
| Chromium   | ppm | <b>0</b>     | <1 | <1 | 0  |
| Molybdenum | ppm | <b>42</b>    | 44 | 40 | 42 |
| Nickel     | ppm | <b>&lt;1</b> | <1 | 1  | 0  |
| Titanium   | ppm | <b>0</b>     | <1 | <1 | 0  |
| Silver     | ppm | <b>0</b>     | 0  | 0  | <1 |
| Manganese  | ppm | <b>&lt;1</b> | <1 | <1 | <1 |
| Vanadium   | ppm | <b>&lt;1</b> | 0  | <1 | 0  |



### ADDITIVES

|            |     |             |      |      |      |
|------------|-----|-------------|------|------|------|
| Calcium    | ppm | <b>1848</b> | 1793 | 1619 | 1603 |
| Magnesium  | ppm | <b>525</b>  | 537  | 496  | 465  |
| Zinc       | ppm | <b>1216</b> | 1086 | 1052 | 1084 |
| Phosphorus | ppm | <b>988</b>  | 950  | 874  | 922  |
| Barium     | ppm | <b>0</b>    | 0    | 0    | 0    |
| Boron      | ppm | <b>50</b>   | 52   | 43   | 36   |

### 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:** 10675070  
**Signed:** Doug Bogart  
**Report Date:** 04 Oct 2023



# CONSTRUCTION EQUIPMENT



## GRAPHS

