



# CONSTRUCTION EQUIPMENT

621866 MADOR VOLVO L70H 622474 - DIESEL ENGINE



**Sample No:** VCP431433  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** 621866 MADOR



## SAMPLE INFORMATION

|               |                    |             |             |             |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | <b>VCP431433</b>   | VCP414279   | VCP397018   | VCP332900   |
| Sample Date   | <b>28 Nov 2023</b> | 20 Jun 2023 | 30 Nov 2022 | 29 Mar 2022 |
| Machine Hours | <b>9721</b>        | 9127        | 8495        | 7530        |
| Oil Hours     | <b>500</b>         | 500         | 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>14.5</b> | 14.0 | 13.6 | 14.1 |
| Base Number (BN) | mg KOH/g | <b>8.2</b>  | 8.3  | 8.2  | 9.2  |
| Oxidation (PA)   | %        | <b>61</b>   | 76   | 81   | 77   |

## 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.



## CONTAMINATION

|                |     |                |      |      |      |
|----------------|-----|----------------|------|------|------|
| Water          | %   | <b>NEG</b>     | NEG  | NEG  | NEG  |
| Soot %         | %   | <b>0.4</b>     | 0.6  | 0.6  | 0.4  |
| Nitration (PA) | %   | <b>71</b>      | 88   | 102  | 94   |
| Sulfation (PA) | %   | <b>52</b>      | 59   | 63   | 60   |
| Glycol         | %   | <b>NEG</b>     | NEG  | NEG  | NEG  |
| Fuel           | %   | <b>&lt;1.0</b> | <1.0 | <1.0 | <1.0 |
| Silicon        | ppm | <b>3</b>       | 3    | 9    | 3    |
| Sodium         | ppm | <b>0</b>       | 1    | 1    | 1    |
| Potassium      | ppm | <b>2</b>       | 2    | 9    | 0    |



## WEAR METALS

|            |     |              |    |    |    |
|------------|-----|--------------|----|----|----|
| Iron       | ppm | <b>9</b>     | 14 | 48 | 11 |
| Copper     | ppm | <b>&lt;1</b> | 2  | 9  | 2  |
| Lead       | ppm | <b>0</b>     | 0  | 4  | <1 |
| Tin        | ppm | <b>0</b>     | <1 | 3  | <1 |
| Aluminum   | ppm | <b>2</b>     | 3  | 6  | 5  |
| Chromium   | ppm | <b>&lt;1</b> | <1 | 1  | 1  |
| Molybdenum | ppm | <b>58</b>    | 62 | 62 | 58 |
| Nickel     | ppm | <b>0</b>     | 0  | 0  | 0  |
| Titanium   | ppm | <b>0</b>     | <1 | <1 | <1 |
| Silver     | ppm | <b>0</b>     | 0  | <1 | <1 |
| Manganese  | ppm | <b>0</b>     | <1 | 1  | <1 |
| Vanadium   | ppm | <b>0</b>     | 0  | <1 | 0  |



## ADDITIVES

|            |     |             |      |      |      |
|------------|-----|-------------|------|------|------|
| Calcium    | ppm | <b>1098</b> | 1248 | 1258 | 1283 |
| Magnesium  | ppm | <b>773</b>  | 1001 | 1043 | 896  |
| Zinc       | ppm | <b>1124</b> | 1381 | 1365 | 1219 |
| Phosphorus | ppm | <b>955</b>  | 1081 | 995  | 1054 |
| Barium     | ppm | <b>4</b>    | 14   | 0    | 0    |
| Boron      | ppm | <b>5</b>    | 0    | 2    | 8    |

**Depot:** VOLVO2990  
**Unique No:** 10778846  
**Signed:** Don Baldrige  
**Report Date:** 11 Dec 2023



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## GRAPHS

