



# CONSTRUCTION EQUIPMENT

X59203 VOLVO L90H 624610 - DIESEL ENGINE



**Sample No:** VCP442710  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** X59203



## SAMPLE INFORMATION

|               |                    |             |             |             |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | <b>VCP442710</b>   | VCP406837   | VCP413464   | VCP384787   |
| Sample Date   | <b>07 Feb 2024</b> | 26 Oct 2023 | 03 Aug 2023 | 07 Nov 2022 |
| Machine Hours | <b>8015</b>        | 7516        | 7068        | 5858        |
| Oil Hours     | <b>0</b>           | 0           | 0           | 0           |
| Oil Changed   | <b>Changed</b>     | N/A         | Changed     | Changed     |
| Sample Status | <b>NORMAL</b>      | NORMAL      | NORMAL      | NORMAL      |

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## OIL CONDITION

|                  |          |             |      |      |      |
|------------------|----------|-------------|------|------|------|
| Visc @ 100°C     | cSt      | <b>12.9</b> | 13.3 | 14.1 | 14.1 |
| Base Number (BN) | mg KOH/g | <b>10.2</b> | 10.5 | 9.1  | 11.8 |
| Oxidation (PA)   | %        | <b>80</b>   | 81   | 68   | 91   |

## CONTAMINATION

|                |     |                |      |      |      |
|----------------|-----|----------------|------|------|------|
| Water          | %   | <b>NEG</b>     | NEG  | NEG  | NEG  |
| Soot %         | %   | <b>0.4</b>     | 0.5  | 0.5  | 0.9  |
| Nitration (PA) | %   | <b>57</b>      | 58   | 63   | 80   |
| Sulfation (PA) | %   | <b>61</b>      | 61   | 56   | 70   |
| 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    | 6    |
| Sodium         | ppm | <b>2</b>       | 0    | 3    | 3    |
| Potassium      | ppm | <b>0</b>       | 2    | 1    | <1   |

## WEAR METALS

|            |     |              |    |    |    |
|------------|-----|--------------|----|----|----|
| Iron       | ppm | <b>3</b>     | 6  | 14 | 13 |
| Copper     | ppm | <b>0</b>     | <1 | 2  | <1 |
| Lead       | ppm | <b>0</b>     | 0  | <1 | <1 |
| Tin        | ppm | <b>0</b>     | 0  | <1 | <1 |
| Aluminum   | ppm | <b>3</b>     | 2  | 6  | 5  |
| Chromium   | ppm | <b>&lt;1</b> | <1 | 1  | <1 |
| Molybdenum | ppm | <b>40</b>    | 42 | 43 | 42 |
| Nickel     | ppm | <b>0</b>     | 0  | <1 | 0  |
| Titanium   | ppm | <b>0</b>     | 0  | <1 | 0  |
| Silver     | ppm | <b>0</b>     | 0  | <1 | 0  |
| Manganese  | ppm | <b>&lt;1</b> | 0  | <1 | <1 |
| Vanadium   | ppm | <b>0</b>     | 0  | <1 | 0  |

## ADDITIVES

|            |     |             |      |      |      |
|------------|-----|-------------|------|------|------|
| Calcium    | ppm | <b>1656</b> | 1622 | 1906 | 1895 |
| Magnesium  | ppm | <b>518</b>  | 504  | 551  | 530  |
| Zinc       | ppm | <b>1117</b> | 1143 | 1231 | 1139 |
| Phosphorus | ppm | <b>970</b>  | 864  | 992  | 957  |
| Barium     | ppm | <b>0</b>    | 0    | 0    | 0    |
| Boron      | ppm | <b>51</b>   | 35   | 20   | 25   |

## 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:** SCOSAI  
**Unique No:** 10873257  
**Signed:** Wes Davis  
**Report Date:** 13 Feb 2024



# CONSTRUCTION EQUIPMENT



## GRAPHS

