



# CONSTRUCTION EQUIPMENT

R23536 IAA MORGANVIL VOLVO L90H 625744 - DIESEL ENGINE



**Sample No:** VCP441963  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** R23536 IAA MORGANVIL



## SAMPLE INFORMATION

|               |                    |             |             |             |
|---------------|--------------------|-------------|-------------|-------------|
| Sample Number | <b>VCP441963</b>   | VCP390277   | VCP390249   | VCP399099   |
| Sample Date   | <b>14 Nov 2023</b> | 04 Aug 2023 | 11 May 2023 | 09 Feb 2023 |
| Machine Hours | <b>5648</b>        | 5087        | 4619        | 4104        |
| Oil Hours     | <b>0</b>           | 0           | 500         | 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>13.0</b> | 13.1 | 13.2 | 13.2 |
| Base Number (BN) | mg KOH/g | <b>10.4</b> | 9.8  | 10.4 | 8.2  |
| Oxidation (PA)   | %        | <b>82</b>   | 79   | 84   | 67   |

## 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>0.2</b>     | 0.2  | 0.2  | 0.9  |
| Nitration (PA) | %   | <b>54</b>      | 49   | 53   | 84   |
| Sulfation (PA) | %   | <b>62</b>      | 58   | 62   | 55   |
| Glycol         | %   | <b>NEG</b>     | NEG  | NEG  | NEG  |
| Fuel           | %   | <b>&lt;1.0</b> | <1.0 | <1.0 | <1.0 |
| Silicon        | ppm | <b>8</b>       | 4    | 5    | 5    |
| Sodium         | ppm | <b>2</b>       | 1    | 3    | 2    |
| Potassium      | ppm | <b>2</b>       | 1    | 0    | <1   |



## WEAR METALS

|            |     |              |    |    |    |
|------------|-----|--------------|----|----|----|
| Iron       | ppm | <b>8</b>     | 5  | 6  | 8  |
| Copper     | ppm | <b>&lt;1</b> | <1 | <1 | <1 |
| Lead       | ppm | <b>0</b>     | 0  | 0  | 0  |
| Tin        | ppm | <b>0</b>     | <1 | 0  | <1 |
| Aluminum   | ppm | <b>5</b>     | 2  | <1 | 2  |
| Chromium   | ppm | <b>&lt;1</b> | <1 | <1 | <1 |
| Molybdenum | ppm | <b>57</b>    | 43 | 40 | 40 |
| Nickel     | ppm | <b>&lt;1</b> | 0  | 0  | 0  |
| Titanium   | ppm | <b>&lt;1</b> | 0  | 0  | 0  |
| Silver     | ppm | <b>0</b>     | <1 | 0  | 0  |
| Manganese  | ppm | <b>&lt;1</b> | <1 | <1 | <1 |
| Vanadium   | ppm | <b>0</b>     | 0  | 0  | 0  |



## ADDITIVES

|            |     |             |      |      |      |
|------------|-----|-------------|------|------|------|
| Calcium    | ppm | <b>2332</b> | 1713 | 1694 | 1636 |
| Magnesium  | ppm | <b>689</b>  | 504  | 503  | 485  |
| Zinc       | ppm | <b>1545</b> | 1125 | 1117 | 1091 |
| Phosphorus | ppm | <b>1283</b> | 966  | 946  | 898  |
| Barium     | ppm | <b>0</b>    | 0    | 0    | 0    |
| Boron      | ppm | <b>61</b>   | 46   | 49   | 51   |

**Depot:** HOFPISNJ  
**Unique No:** 10751252  
**Signed:** Sean Felton  
**Report Date:** 21 Nov 2023



# CONSTRUCTION EQUIPMENT



## VOLVO GRAPHS

