



## MURRMAN AK 502485 VOLVO PENTA 70112004595 - STARBOARD DIESEL ENGINE

Sample No: VPA059184

Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

| SAMPLE INFORMAT  | TION     |                |       |   |
|------------------|----------|----------------|-------|---|
|                  |          | VD4050104      |       |   |
| Sample Number    |          | VPA059184      | <br>  |   |
| Sample Date      |          | 24 Oct 2023    | <br>  |   |
| Machine Hours    |          | 195            | <br>  |   |
| Oil Hours        |          | 0              | <br>  |   |
| Oil Changed      |          | N/A            | <br>  |   |
| Sample Status    |          | NORMAL         | <br>  |   |
| OIL CONDITION    |          |                |       |   |
| Visc @ 100°C     | cSt      | <b>13.2</b>    | <br>  |   |
| Base Number (BN) | mg KOH/g | <b>6.9</b>     | <br>  |   |
| Oxidation (PA)   | %        | 47             | <br>  |   |
| CONTAMINATION    |          |                |       |   |
| CONTAMINATION    |          |                |       |   |
| Soot %           | %        | ■ 0.2          | <br>  |   |
| Nitration (PA)   | %        | 58             | <br>  |   |
| Sulfation (PA)   | %        | 47             | <br>  |   |
| Glycol           | %        | NEG            | <br>  |   |
| Fuel             | %        | <1.0           | <br>  |   |
| Silicon          | ppm      | <b>■7</b>      | <br>  |   |
| Sodium           | ppm      | <b>4</b>       | <br>  |   |
| Potassium        | ppm      | <b>4</b>       | <br>  |   |
|                  |          |                |       |   |
| WEAR METALS      |          |                |       |   |
| Iron             | ppm      | <b>■4</b>      | <br>  |   |
| Copper           | ppm      | <b>11</b>      | <br>  |   |
| Lead             | ppm      | <b>■</b> 0     | <br>  |   |
| Tin              | ppm      | <b>■&lt;1</b>  | <br>  |   |
| Aluminum         | ppm      | <b>2</b>       | <br>  |   |
| Chromium         | ppm      | <b>■&lt;1</b>  | <br>  |   |
| Molybdenum       | ppm      | <b>16</b>      | <br>  |   |
| Nickel           | ppm      | <b>■</b> <1    | <br>  |   |
| Titanium         | ppm      | <b>■ &lt;1</b> | <br>  |   |
| Silver           | ppm      | 0              | <br>  |   |
| Manganese        | ppm      | ■0             | <br>  |   |
| Vanadium         | ppm      | <1             | <br>  |   |
|                  | ррш      | NI NI          | <br>_ | _ |
| ADDITIVES        |          |                |       |   |
| Calcium          | ppm      | <b>1152</b>    | <br>  |   |
| Magnesium        | ppm      | <b>765</b>     | <br>  |   |
| Zinc             | ppm      | ■864           | <br>  |   |
| Phosphorus       | ppm      | <b>739</b>     | <br>  |   |
| Barium           | ppm      | <b>■</b> <1    | <br>  |   |
| Boron            | ppm      | <b>95</b>      | <br>  |   |
| •                |          |                |       |   |

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## 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 acceptable for the time in service.

 Depot:
 VP794951

 Unique No:
 10723692

 Signed:
 Don Baldridge

 Report Date:
 02 Nov 2023

## **OIL ANALYSIS REPORT**



