



## UNDERDOWN VOLVO PENTA 2071181844 - PORT DIESEL ENGINE

Sample No: VPA044016

Oil Type: SHELL ROTELLA T 15W40

| SAMPLE INFORMAT  | TION     |             |      |  |
|------------------|----------|-------------|------|--|
|                  |          | VD4044046   |      |  |
| Sample Number    |          | VPA044016   | <br> |  |
| Sample Date      |          | 17 Oct 2023 | <br> |  |
| Machine Hours    |          | 0           | <br> |  |
| Oil Hours        |          | 0           | <br> |  |
| Oil Changed      |          | N/A         | <br> |  |
| Sample Status    |          | NORMAL      | <br> |  |
| OIL CONDITION    |          |             |      |  |
| Visc @ 100°C     | cSt      | <b>14.5</b> | <br> |  |
| Base Number (BN) | mg KOH/g | ■8.8        | <br> |  |
| Oxidation (PA)   | %        | 66          | <br> |  |
| ` '              |          |             |      |  |
| CONTAMINATION    |          |             |      |  |
| Soot %           | %        | <b>0.5</b>  | <br> |  |
| Nitration (PA)   | %        | 55          | <br> |  |
| Sulfation (PA)   | %        | 58          | <br> |  |
| Glycol           | %        | NEG         | <br> |  |
| Fuel             | %        | <1.0        | <br> |  |
| Silicon          |          | 1.0         |      |  |
|                  | ppm      |             |      |  |
| Sodium           | ppm      | <b>3</b>    | <br> |  |
| Potassium        | ppm      | <b>■</b> 8  | <br> |  |
| WEAR METALS      |          |             |      |  |
| Iron             | ppm      | <b>6</b>    | <br> |  |
| Copper           | ppm      | <b>21</b>   | <br> |  |
| Lead             | ppm      | <b>4</b>    | <br> |  |
| Tin              | ppm      | 1           | <br> |  |
| Aluminum         | ppm      | <b>1</b>    | <br> |  |
| Chromium         | ppm      | <br><1      | <br> |  |
| Molybdenum       |          | ■0          | <br> |  |
| Nickel           | ppm      | <b>4</b>    | <br> |  |
| Titanium         | ppm      | _           |      |  |
|                  | ppm      | <b>1</b> <1 |      |  |
| Silver           | ppm      | <b>0</b>    | <br> |  |
| Manganese        | ppm      | <b>-</b> <1 | <br> |  |
| Vanadium         | ppm      | 0           | <br> |  |
| ADDITIVES        |          |             |      |  |
| Calcium          | ppm      | <b>2381</b> | <br> |  |
| Magnesium        | ppm      | <b>25</b>   | <br> |  |
| Zinc             | ppm      | <b>1359</b> | <br> |  |
| Phosphorus       | ppm      | <b>1103</b> | <br> |  |
| Barium           | ppm      | ■0          | <br> |  |
| Boron            | ppm      | <b>187</b>  | <br> |  |
| DOTOTI           | Phili    |             |      |  |

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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 suitable for further service.

Depot:VP154879Unique No:10708779Signed:Don BaldridgeReport Date:25 Oct 2023





