



## **VOLVO PENTA 2071175619 - STARBOARD DIESEL ENGINE**

Sample No: VPA055115

**Oil Type:** VOLVO PENTA SAE 15W40

| SAMPLE INFORMAT  | TION     |                  |             |      |
|------------------|----------|------------------|-------------|------|
| Sample Number    |          | VPA055115        | VPA048474   | <br> |
| Sample Date      |          | 09 Oct 2023      | 12 Oct 2022 | <br> |
| Machine Hours    |          | 0                | 900         | <br> |
| Oil Hours        |          | 30               | 0           | <br> |
| Oil Changed      |          | Changed          | Changed     | <br> |
| Sample Status    |          | NORMAL           | NORMAL      | <br> |
| Sample Status    |          | HORIMALE         | TVOTUVIAL   |      |
| OIL CONDITION    |          |                  |             |      |
| Visc @ 100°C     | cSt      | <b>14.1</b>      | ■13.4       | <br> |
| Base Number (BN) | mg KOH/g | ■8.8             | <b>11.3</b> | <br> |
| Oxidation (PA)   | %        | 58               | 59          | <br> |
| CONTAMINATION    |          |                  |             |      |
| CONTAMINATION    |          |                  |             |      |
| Soot %           | %        | ■ 0.3            | ■ 0.4       | <br> |
| Nitration (PA)   | %        | 46               | 50          | <br> |
| Sulfation (PA)   | %        | 53               | 57          | <br> |
| Glycol           | %        | NEG              | NEG         | <br> |
| Fuel             | %        | <1.0             | <1.0        | <br> |
| Silicon          | ppm      | <b>■</b> 5       | <b>5</b>    | <br> |
| Sodium           | ppm      | <b>2</b>         | <b>-</b> <1 | <br> |
| Potassium        | ppm      | <b>4</b>         | _2          | <br> |
| WEAR METALS      |          |                  |             |      |
| Iron             | ppm      | <b>7</b>         | <b>1</b> 0  | <br> |
| Copper           | ppm      | <b>■</b> 9       | 11          | <br> |
| Lead             | ppm      | <b>3</b>         | <b>4</b>    | <br> |
| Tin              | ppm      | _<br><b>■</b> <1 | <u></u> <1  | <br> |
| Aluminum         | ppm      | <b>1</b>         | <b>2</b>    | <br> |
| Chromium         | ppm      | <b>■&lt;1</b>    | <b>-</b> <1 | <br> |
| Molybdenum       | ppm      | ■20              | <u>57</u>   | <br> |
| Nickel           | ppm      | <b>2</b>         | <b>2</b>    | <br> |
| Titanium         | ppm      | <b>■&lt;1</b>    | <b>0</b>    | <br> |
| Silver           | ppm      | <b>■&lt;1</b>    | <b>-</b> <1 | <br> |
| Manganese        | ppm      | <b></b>          | <b>-</b> <1 | <br> |
| Vanadium         | ppm      | <1               | <1          | <br> |
| ADDITIVES        |          |                  |             |      |
| Calcium          | nnm      | <b>1704</b>      | □1076       | <br> |
| Magnesium        | ppm      | <b>321</b>       | ■ 869       |      |
| Zinc             | ppm      | ■ 321<br>■ 1087  | □ 1211      | <br> |
|                  | ppm      |                  | 1000        |      |
| Phosphorus       | ppm      | <b>■</b> 931     |             |      |
| Barium           | ppm      | <b>0</b>         | <b>0</b>    | <br> |
| Boron            | ppm      | <b>126</b>       | <b>5</b>    | <br> |

## **Power Products Systems LLC**

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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:VP153550Unique No:10696489Signed:Don BaldridgeReport Date:17 Oct 2023

## **OIL ANALYSIS REPORT**



