## **OIL ANALYSIS REPORT**

### VOLVO PENTA

### VOLVO PENTA A 174970 - PORT DIESEL ENGINE

Sample No: VPA058188

Oil Type: DIESEL ENGINE OIL SAE 15W40

| SAMPLE INFORMAT  | ION        |             |   |   |   |
|------------------|------------|-------------|---|---|---|
| Sample Number    |            | VPA058188   |   |   |   |
| Sample Date      |            | 02 Feb 2024 |   |   |   |
| Machine Hours    |            | 306         |   |   |   |
| Oil Hours        |            | 100         |   |   |   |
| Oil Changed      |            | Changed     |   |   |   |
| Sample Status    |            | NORMAL      |   |   |   |
| Sumple Status    |            | NORMAL      | _ | _ | _ |
| OIL CONDITION    |            |             |   |   |   |
| Visc @ 100°C     | cSt        | <b>14.1</b> |   |   |   |
| Base Number (BN) | mg KOH/g   | 8.1         |   |   |   |
| Oxidation (PA)   | %          | 60          |   |   |   |
| CONTAMINATION    |            |             |   |   |   |
| Water            | %          | NEG         |   |   |   |
| Soot %           | %          | ■ 0.1       |   |   |   |
| Nitration (PA)   | %          | 77          |   |   |   |
| Sulfation (PA)   | %          | 53          |   |   |   |
| Glycol           | %          | NEG         |   |   |   |
| Fuel             | %          | <1.0        |   |   |   |
| Silicon          |            | < 1.0<br>6  |   |   |   |
| Sodium           | ppm<br>ppm | 2           |   |   |   |
| Potassium        | ppm        | 4           |   |   |   |
|                  | ppin       | •••         |   |   |   |
| WEAR METALS      |            |             |   |   |   |
| Iron             | ppm        | <b>11</b>   |   |   |   |
| Copper           | ppm        | 5           |   |   |   |
| Lead             | ppm        | <b>1</b>    |   |   |   |
| Tin              | ppm        | <b>□</b> <1 |   |   |   |
| Aluminum         | ppm        | 2           |   |   |   |
| Chromium         | ppm        | <b>■</b> <1 |   |   |   |
| Molybdenum       | ppm        | 12          |   |   |   |
| Nickel           | ppm        | <b>1</b>    |   |   |   |
| Titanium         | ppm        | <b>■</b> <1 |   |   |   |
| Silver           | ppm        | 0           |   |   |   |
| Manganese        | ppm        | 0           |   |   |   |
| Vanadium         | ppm        | <1          |   |   |   |
| ADDITIVES        |            |             |   |   |   |
| Calcium          | ppm        | <b>1140</b> |   |   |   |
| Magnesium        | ppm        | 692         |   |   |   |
| Zinc             | ppm        | 833         |   |   |   |
| Phosphorus       | ppm        | 647         |   |   |   |
| Barium           | ppm        | <b>1</b> 0  |   |   |   |
| Boron            | ppm        | 77          |   |   |   |
|                  |            |             |   |   |   |

#### North Harbor Diesel Inc

720 30Th Street ANACORTES, WA US 98221 Contact: ROBBIN MURDOCK robbin@northharbordiesel.com T: (360)299-1904 F:

#### Diagnosis

Resample at the next service interval to monitor.Metal levels are typical for a new component breaking in. 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:
 VP179089

 Unique No:
 10882779

 Signed:
 Sean Felton

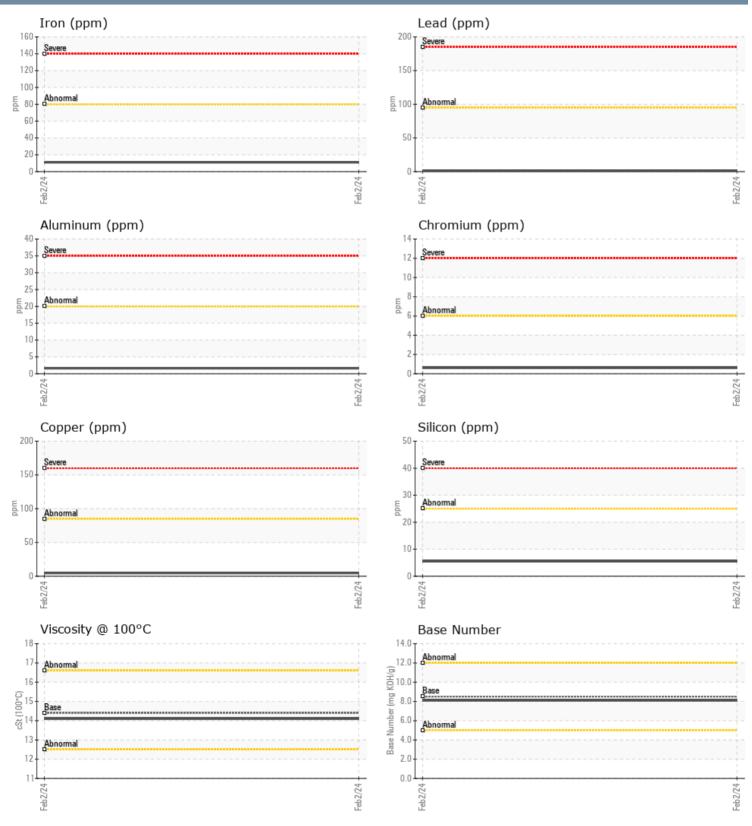
 Report Date:
 16 Feb 2024

Contact/Location: ROBBIN MURDOCK - VP179089

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#### GRAPHS



Report Id: VP179089 [WUSCAR] 06089926 (Generated: 02/16/2024 15:20:23) Rev: 1

Contact/Location: ROBBIN MURDOCK - VP179089