## OLL ANALYSSS REPORT

NADINE UCLUOLI LUKAS SIMMONS VOLVO PENTA 3101028500 - INBOARD - CENTER GEARBOK

Sample No: VPA051580<br>Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

SAMPIE INFORMATON

| Sample Number | VPA051580 | --- | --- | --- |
| :---: | :---: | :---: | :---: | :---: |
| Sample Date | 05 Feb 2024 | --- | --- | --- |
| Machine Hours | 917 | --- | --- | --- |
| Oil Hours | 917 | --- | --- | --- |
| Oil Changed | Changed | --- | --- | --- |
| Sample Status | SEVERE | --- | --- | --- |



| COSITAMNATION |  |  |
| :--- | :--- | :--- |
| Water | $\%$ | NEG |
| Silicon | ppm | $\square \mathbf{1 4}$ |
| Sodium | ppm | $\square \mathbf{1 4}$ |
| Potassium | ppm | $\square \mathbf{7}$ |


| WEAR METALS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| PQ |  | $\square 242$ | --- | - | --- |
| Iron | ppm | $\triangle 222$ | --- | --- | --- |
| Copper | ppm | - 1022 | --- | --- | --- |
| Lead | ppm | $\square 11$ | --- | --- | --- |
| Tin | ppm | $\square 2$ | --- | --- | --- |
| Aluminum | ppm | - 96 | --- | --- | --- |
| Chromium | ppm | $\square<1$ | --- | --- | --- |
| Molybdenum | ppm | $\square 2$ | --- | --- | --- |
| Nickel | ppm | $\square 0$ | --- | --- | --- |
| Titanium | ppm | 1 | --- | --- | --- |
| Silver | ppm | <1 | --- | --- | --- |
| Manganese | ppm | $\square 8$ | --- | --- | --- |
| Vanadium | ppm | 0 | --- | --- | --- |
| ADITIITES |  |  |  |  |  |
| Calcium | ppm | $\square 2288$ | --- | --- | --- |
| Magnesium | ppm | $\square 10$ | --- | --- | --- |
| Zinc | ppm | $\square 971$ | --- | --- | --- |
| Phosphorus | ppm | $\square 1068$ | --- | --- | --- |
| Barium | ppm | $\square 9$ | --- | --- | --- |
| Boron | ppm | $\square 53$ | --- | --- | --- |

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SERVICE@HELMUTSMARINE.COM
T: x:
F: $x$ :

## Diagnosis

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. The copper level is severe. Gear wear is indicated. Clutch disc wear or oil cooler leaching indicated. There is no indication of any contamination in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

| Depot: | VP152741 |
| :--- | :--- |
| Unique No: | 10875174 |
| Signed: | Jonathan Hester |
| Report Date: | 15 Feb 2024 |

## OIL ANAIYSIS REPORT

## 6RAPHS




Chromium (ppm)


Silicon (ppm)



