## OIL ANALYSSS REPORT

# BRUCE RANNEY CUMMNSSONAN A160501324-GENSET 

Sample No: VPA059817<br>Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

## SAMPLE IN:ORMATION

| Sample Number | VPA059817 | VPA044504 | --- |
| :--- | :--- | :--- | :--- |
| Sample Date | $\mathbf{2 9}$ Oct 2023 | 28 Oct 2022 | --- |
| Machine Hours | $\mathbf{0}$ | 565 | --- |
| Oil Hours | $\mathbf{0}$ | 0 | --- |
| Oil Changed | N/A | Changed | --- |
| Sample Status | NORMAL | NORMAL | --- |


| OLL CONIIIIION |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Visc @ $100^{\circ} \mathrm{C}$ | cSt | $\square \mathbf{1 2 . 9}$ | $\square 12.6$ | --- |
| Base Number (BN) | $\mathrm{mg} \mathrm{KOH} / \mathrm{g}$ | $\square \mathbf{7 . 6}$ | $\square 10.9$ | --- |
| Oxidation (PA) | $\%$ | $\mathbf{6 0}$ | 61 | --- |

## COUTAMNATION

| Soot \% | \% | $\square 0.1$ | $\square 0.1$ | --- | --- |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Nitration (PA) | \% | 48 | 50 | --- | --- |
| Sulfation (PA) | \% | 52 | 55 | --- | --- |
| Glycol | \% | NEG | NEG | --- | --- |
| Fuel | \% | <1.0 | <1.0 | --- | --- |
| Silicon | ppm | $\square 6$ | $\square 5$ | --- | --- |
| Sodium | ppm | $\square 2$ | $\square 1$ | --- | --- |
| Potassium | ppm | $\square 6$ | $\square 1$ | --- | --- |

WEAR METAS

| Iron | ppm | $\square 2$ | $\square 3$ | --- | --- |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Copper | ppm | $\square 0$ | $\square<1$ | --- | --- |
| Lead | ppm | $\square 0$ | $\square<1$ | --- | --- |
| Tin | ppm | $\square 0$ | $\square<1$ | --- | --- |
| Aluminum | ppm | $\square<1$ | $\square<1$ | -- | --- |
| Chromium | ppm | $\square 0$ | $\square<1$ | --- | --- |
| Molybdenum | ppm | $\square 7$ | $\square 44$ | --- | --- |
| Nickel | ppm | $\square 0$ | $\square 0$ | -- | --- |
| Titanium | ppm | 0 | $\square 0$ | --- | --- |
| Silver | ppm | $\square 0$ | 0 | -- | --- |
| Manganese | ppm | $\square<1$ | $\square<1$ | --- | --- |
| Vanadium | ppm | 0 | 0 | --- | --- |
| ADIITHES |  |  |  |  |  |
| Calcium | ppm | $\square 1711$ | $\square 1245$ | --- | --- |
| Magnesium | ppm | $\square 187$ | $\square 707$ | --- | --- |
| Zinc | ppm | $\square 1052$ | $\square 1172$ | --- | --- |
| Phosphorus | ppm | $\square 970$ | $\square 925$ | --- | --- |
| Barium | ppm | $\square 4$ | $\square 0$ | --- | --- |
| Boron | ppm | 157 | $\square 41$ | --- | --- |

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F:

## 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.

## OIL ANAIVSIS REPORT

## 6RAPHS




Aluminum (ppm)


Copper (ppm)


Viscosity @ $100^{\circ} \mathrm{C}$


