## OIL ANALYSSS REPORT

## vouvo PBETHA

## PHIL MARCARIO ONANH180392318-GENSET

Sample No: VPA036403<br>Oil Type: SHELL ROTELLA T 15W40

| SAMPLE WFORMATION |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Sample Number |  | VPA036403 | VPA043614 | --- | --- |
| Sample Date |  | 06 Dec 2023 | 09 Nov 2021 | --- | --- |
| Machine Hours |  | 134 | 86 | --- | --- |
| Oil Hours |  | 134 | 86 | --- | --- |
| Oil Changed |  | Not Changd | Changed | --- | --- |
| Sample Status |  | NORMAL | NORMAL | --- | --- |
| OLL CONDITIOS |  |  |  |  |  |
| Visc @ $100^{\circ} \mathrm{C}$ | cSt | $\square 14.1$ | $\square 14.0$ | --- | --- |
| Base Number (BN) | $\mathrm{mg} \mathrm{KOH} / \mathrm{g}$ | $\square 8.7$ | --- | --- | --- |
| Oxidation (PA) | \% | 65 | 67 | --- | --- |
| CONIAMNATION |  |  |  |  |  |
| Water | \% | NEG | NEG | --- | --- |
| Soot \% | \% | $\square 0.1$ | $\square 0.1$ | --- | --- |
| Nitration (PA) | \% | 44 | 50 | --- | --- |
| Sulfation (PA) | \% | 56 | 57 | --- | --- |
| Glycol | \% | NEG | NEG | --- | --- |
| Fuel | \% | <1.0 | <1.0 | --- | --- |
| Silicon | ppm | $\square 4$ | $\square 7$ | --- | --- |
| Sodium | ppm | $\square<1$ | $\square 2$ | --- | --- |
| Potassium | ppm | $\square 6$ | $\square 6$ | --- | --- |

## WEAR METALS

| Iron | ppm | $\square 0$ | $\square 5$ | - | --- |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Copper | ppm | $\square<1$ | $\square 4$ | - | --- |
| Lead | ppm | $\square 0$ | $\square<1$ | - | --- |
| Tin | ppm | $\square 0$ | $\square<1$ | --- | --- |
| Aluminum | ppm | $\square<1$ | $\square 0$ | --- | - |
| Chromium | ppm | $\square 0$ | $\square<1$ | --- | --- |
| Molybdenum | ppm | $\square 0$ | $\square 13$ | --- | --- |
| Nickel | ppm | $\square 0$ | $\square 0$ | --- | - |
| Titanium | ppm | 0 | <1 | - | - |
| Silver | ppm | $\square 0$ | <1 | - | - |
| Manganese | ppm | $\square<1$ | $\square<1$ | --- | --- |
| Vanadium | ppm | 0 | 0 | - | - |
| ADIIIVES |  |  |  |  |  |
| Calcium | ppm | $\square 2090$ | $\square 2176$ | --- | - |
| Magnesium | ppm | $\square 18$ | 122 | - | - |
| Zinc | ppm | $\square 1163$ | $\square 1090$ | --- | - |
| Phosphorus | ppm | $\square 938$ | $\square 990$ | --- | --- |
| Barium | ppm | $\square 0$ | $\square 1$ | --- | --- |
| Boron | ppm | $\square 199$ | $\square 169$ | --- | --- |


| Depot: | VP610438 |
| :--- | :--- |
| Unique No: | 10792800 |
| Signed: | Don Baldridge |
| Report Date: | 20 Dec 2023 |

## OIL ANAIYSIS REPORT

## 6RAPHS




Chromium (ppm)


Silicon (ppm)


## Base Number



