



KEITH WILLIAMS GB6018 VOLVO PENTA 2013976087 - STARBOARD DIESEL ENGINE

Sample No: VPA049524

Oil Type: DIESEL ENGINE OIL SAE 15W40

Report Id: VP531377 [WUSCAR] 06041916 (Generated: 12/22/2023 14:06:35) Rev: 1

| SAMPLE INFORMAT | TION | | | |
|------------------|----------|---------------|--------------|------|
| Sample Number | | VPA049524 | VPA044268 | |
| Sample Date | | 14 Dec 2023 | 21 Nov 2022 | |
| Machine Hours | | 663 | 432 | |
| Oil Hours | | 200 | 0 | |
| Oil Changed | | Changed | Changed | |
| Sample Status | | NORMAL | ATTENTION | |
| | | NORWALE | ATTENTION | |
| OIL CONDITION | | | | |
| Visc @ 100°C | cSt | 12.9 | 1 0.7 | |
| Base Number (BN) | mg KOH/g | 7.9 | ■9.8 | |
| Oxidation (PA) | % | 58 | 92 | |
| CONTAMINATION | | | | |
| Water | % | NEG | NEG | |
| Soot % | % | ■0.4 | 0.4 | |
| Nitration (PA) | % | 53 | 70 | |
| Sulfation (PA) | % | 52 | 70 | |
| Glycol | % | NEG | NEG | |
| Fuel | % | <1.0 | 1.8 | |
| Silicon | ppm | ■ 10 | □31 | |
| Sodium | ppm | 0 | 2 | |
| Potassium | ppm | ■3 | 2 5 | |
| WEAR METALS | | _ | _ | |
| MENU METAL2 | | | | |
| Iron | ppm | 10 | ■29 | |
| Copper | ppm | ■ 5 | 1 5 | |
| Lead | ppm | 1 | 3 | |
| Tin | ppm | 1 | 4 | |
| Aluminum | ppm | ■ 3 | 1 0 | |
| Chromium | ppm | ■ <1 | 1 | |
| Molybdenum | ppm | ■ 57 | ■37 | |
| Nickel | ppm | ■<1 | 0 | |
| Titanium | ppm | 0 | 0 | |
| Silver | ppm | ■ 0 | 0 | |
| Manganese | ppm | ■<1 | 2 | |
| Vanadium | ppm | 0 | 0 | |
| ADDITIVES | | | | |
| Calcium | ppm | 1142 | □1680 | |
| Magnesium | ppm | ■895 | 444 | |
| Zinc | ppm | ■ 1253 | 1088 | |
| Phosphorus | ppm | 1062 | 910 | |
| Barium | ppm | ■ 0 | □0 | |
| Boron | ppm | 6 | 4 1 | |
| 20.011 | PP111 | | | |

GRAND BANKS

450 SW SALEM RD STUART, FL US 34994 Contact: ROBERT ANTONA roberta@gbmarinegroup.com T: (609)384-5290 F:

Diagnosis

No corrective action is recommended at this time. 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:
 VP531377

 Unique No:
 10802524

 Signed:
 Sean Felton

 Report Date:
 22 Dec 2023

OIL ANALYSIS REPORT



