WEAR CONTAMINATION FLUID CONDITION

NORMAL NORMAL NORMAL

Area

JON PAGEL [DANIEL/503101]

VOLVO PENTA A980924

Port Diesel Engine

VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (5 GAL)

| RECOMMENDATION | Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|-------------------------|----------|-------------|-----------|-------------|----------|----------|
| Resample at the next service interval to monitor. | Sample Number | | Client Info | | VPA059416 | | |
| | Sample Date | | Client Info | | 17 Jun 2024 | | |
| | Machine Age | hrs | Client Info | | 535 | | |
| | Oil Age | hrs | Client Info | | 0 | | |
| | Filter Age | hrs | Client Info | | 0 | | |
| | Oil Changed | | Client Info | | Changed | | |
| | Filter Changed | | Client Info | | Changed | | |
| | Sample Status | | | | NORMAL | | |
| WEAR | Iron | ppm | ASTM D5185m | >80 | 11 | | |
| All component wear rates are normal. | Chromium | ppm | ASTM D5185m | >6 | 1 | | |
| | Nickel | ppm | ASTM D5185m | >2 | 2 | | |
| | Titanium | ppm | ASTM D5185m | >2 | <1 | | |
| | Silver | ppm | ASTM D5185m | | <1 | | |
| | Aluminum | ppm | ASTM D5185m | >20 | 3 | | |
| | Lead | ppm | ASTM D5185m | | 2 | | |
| | Copper | ppm | ASTM D5185m | >85 | 4 | | |
| | Tin | ppm | ASTM D5185m | >9 | <1 | | |
| | Vanadium | ppm | ASTM D5185m | | <1 | | |
| | White Metal | scalar | *Visual | NONE | NONE | | |
| | Yellow Metal | scalar | *Visual | NONE | NONE | | |
| CONTAMINATION | Silicon | ppm | ASTM D5185m | >25 | 5 | | |
| SCHTAIMIVATION | Potassium | ppm | ASTM D5185m | | 3 | | |
| There is no indication of any contamination in the oil. | Fuel | pp | WC Method | >4.0 | <1.0 | | |
| | Water | | WC Method | | NEG | | |
| | Glycol | | WC Method | | NEG | | |
| | Soot % | % | *ASTM D7844 | | 0.3 | | |
| | Nitration | Abs/cm | *ASTM D7624 | >20 | 5.6 | | |
| | Sulfation | Abs/.1mm | *ASTM D7415 | | 18.9 | | |
| | Silt | scalar | *Visual | NONE | NONE | | |
| | Debris | scalar | *Visual | NONE | NONE | | |
| | Sand/Dirt | scalar | *Visual | NONE | NONE | | |
| | Appearance | scalar | *Visual | NORML | NORML | | |
| | Odor | scalar | *Visual | NORML | NORML | | |
| | Emulsified Water | scalar | *Visual | >0.1 | NEG | | |
| FLUID CONDITION | Sodium | ppm | ASTM D5185m | | 0 | | |
| TEOID CONDITION | Boron | ppm | ASTM D5185m | 2.5 | 24 | | |
| The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. | Barium | ppm | ASTM D5185m | | 1 | | |
| | Molybdenum | ppm | ASTM D5185m | | 51 | | |
| | Manganese | ppm | ASTM D5185m | | <1 | | |
| | Magnesium | ppm | ASTM D5185m | | 856 | | |
| | Calcium | ppm | ASTM D5185m | | 1141 | | |
| | Phosphorus | ppm | ASTM D5185m | | 911 | | |
| | Zinc | ppm | ASTM D5185m | | 1178 | | |
| | Sulfur | ppm | ASTM D5185m | | 3154 | | |
| | Oxidation | Abs/.1mm | *ASTM D7414 | | 13.5 | | |
| | Base Number (BN) | | ASTM D2896 | 10 | 8.6 | | |
| | Visc @ 100°C | cSt | ASTM D445 | | 13.3 | | |





Report Id: VP794951 [WUSCAR] 06219554 (Generated: 06/30/2024 15:20:01) Rev: 1

Laboratory Sample No. Unique Number : 11097751

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : VPA059416

Lab Number : 06219554

Received **Tested** Diagnosed

: 25 Jun 2024 : 26 Jun 2024

: 26 Jun 2024 - Don Baldridge

Endor Marine LLC - Coastal Marine - 152124 4300 11th Ave. NW

SEATTLE, WA US 98107 Contact: WILLOW YANARELLA

Test Package : MOB 1 (Additional Tests: TBN) Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

service@coastalmarineengine.com T: (206)784-3703 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (206)784-8823

Contact/Location: WILLOW YANARELLA - VP794951