WEAR CONTAMINATION FLUID CONDITION

NORMAL NORMAL NORMAL

SURVEY-CANNON [SURVEY-CANNON]

VOLVO PENTA 7011481278

Starboard Diesel Engine

| RECOMMENDATION | Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|------------------------|------------|---------------|-----------|-------------|----------|----------|
| No corrective action is recommended at this time. Resample at the next service interval to monitor. | Sample Number | | Client Info | | VPA058247 | | |
| | Sample Date | | Client Info | | 25 Jun 2024 | | |
| | Machine Age | hrs | Client Info | | 379 | | |
| | Oil Age | hrs | Client Info | | 0 | | |
| | Filter Age | hrs | Client Info | | 0 | | |
| | Oil Changed | | Client Info | | Not Changd | | |
| | Filter Changed | | Client Info | | Not Changd | | |
| | Sample Status | | | | NORMAL | | |
| NEAD | Local | | AOTM DEADE | | | | |
| WEAR | Iron | ppm | ASTM D5185m | | 2 | | |
| All component wear rates are normal. | Chromium | ppm | ASTM D5185m | | 0 | | |
| | Nickel | ppm | ASTM D5185m | | 0 | | |
| | Titanium | ppm | ASTM D5185m | | <1 | | |
| | Silver | ppm | ASTM D5185m | | 0 | | |
| | Aluminum | ppm | ASTM D5185m | | 2 | | |
| | Lead | ppm | ASTM D5185m | | <1 | | |
| | Copper | ppm | ASTM D5185m | | 5 | | |
| | Tin | ppm | ASTM D5185m | >9 | 0 | | |
| | Vanadium | ppm | ASTM D5185m | NONE | 0 | | |
| | White Metal | scalar | *Visual | NONE | NONE | | |
| | Yellow Metal | scalar | *Visual | NONE | NONE | | |
| CONTAMINATION | Silicon | ppm | ASTM D5185m | >25 | 6 | | |
| There is no indication of any contamination in the oil. | Potassium | ppm | ASTM D5185m | >20 | 1 | | |
| | Fuel | | WC Method | >4.0 | <1.0 | | |
| | Water | | WC Method | >0.1 | NEG | | |
| | Glycol | | WC Method | | NEG | | |
| | Soot % | % | *ASTM D7844 | | 0.2 | | |
| | Nitration | Abs/cm | *ASTM D7624 | >20 | 6.8 | | |
| | Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 17.5 | | |
| | 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 | | |
| ELLUD CONDITION | Sodium | nnm | ASTM D5185m | . 150 | <1 | | |
| FLUID CONDITION | Boron | ppm | ASTM D5185m | | 144 | | |
| 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 | | 0 | | |
| | Molybdenum | | ASTM D5185m | | 88 | | |
| | , | ppm | ASTM D5185m | 100 | | | |
| | Manganese Magnesium | ppm | ASTM D5185m | 450 | <1 114 | | |
| | Calcium | ppm | ASTM D5165III | | 2102 | | |
| | Phosphorus | ppm | ASTM D5185m | | 938 | | |
| | Zinc | | ASTM D5185m | | 1256 | | |
| | Sulfur | ppm ppm | ASTM D5185m | | 4453 | | |
| | Oxidation | Abs/.1mm | *ASTM D7414 | | 12.6 | | |
| | Base Number (BN) | | | | 7.6 | | |
| | Dasc Hullibel (DIV) | my Kony | | 14.4 | 13.4 | | |







Certificate L2367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : VPA058247 Lab Number : 06222104

Unique Number : 11100301 Test Package : MOB 1 (Additional Tests: TBN)

Received : 27 Jun 2024 **Tested**

: 28 Jun 2024 Diagnosed

: 28 Jun 2024 - Doug Bogart

To discuss this sample report, contact Customer Service at 1-800-237-1369.

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US 34677

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)