OIL ANALYSIS REPORT

NADINE URCIUOLI DICK ROBINSON VOLVO PENTA A 1089615 - CENTER DIESEL ENGINE

Sample No: VPA053289

Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

SAMPLE INFORMATION VPA053289 Sample Number **Helmuts Marine Service** Sample Date 20 May 2024 619 Canal Street Machine Hours 148 **Oil Hours** 148 Oil Changed Changed ABNORMAL Sample Status T: x: **OIL CONDITION** F: x: Visc @ 100°C cSt 13.5 Base Number (BN) mg KOH/g 9.2 Oxidation (PA) % 60 CONTAMINATION % NEG Water % Soot % 0.6 Nitration (PA) % 62 Sulfation (PA) % 56 Glycol % NEG Fuel % <1.0 Silicon 45 ppm Sodium 8 ppm Potassium 25 ppm WEAR METALS Iron **358** ppm 48 Copper ppm Lead ppm 8 Tin 4 ppm Aluminum 🔺 78 ppm Chromium ppm Molybdenum 85 ppm **^** 7 Nickel ppm Titanium ppm **||** <1 Silver ■ <1 ppm Manganese 4 ppm Vanadium ppm <1 **ADDITIVES** Calcium 1432 ppm Magnesium 1326 ppm Zinc ppm 1718 Phosphorus ppm 1542 Barium 2 ppm Boron ppm 6 Depot: Unique No: Signed:

31 May 2024

Report Id: VP152741 [WUSCAR] 06194939 (Generated: 06/01/2024 12:08:21) Rev: 1

SAN RAFAEL. CA US 94901-3545 Contact: NADINE URCIUOLI SERVICE@HEI MUTSMARINE COM

Diagnosis

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.Cylinder, crank, or cam shaft wear is indicated. Piston and ring wear is indicated. Component wear metal level(s) high for break in. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil.

Contact/Location: NADINE URCIUOLI - VP152741

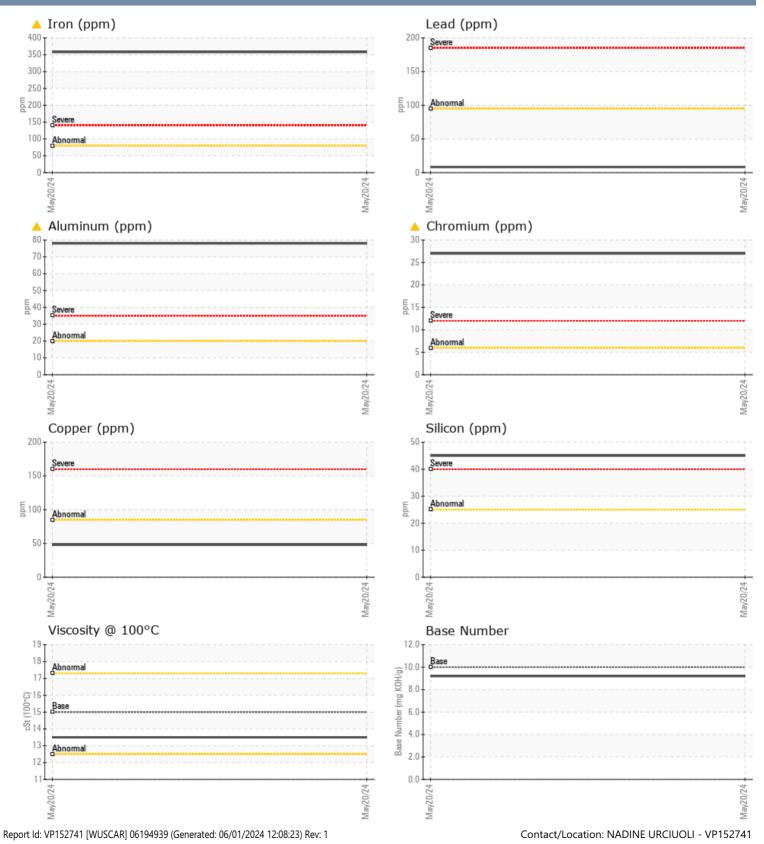
Report Date:



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GRAPHS



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