## **OIL ANALYSIS REPORT**

### VOLVO PENTA A310188 - STARBOARD DIESEL ENGINE

Sample No: VPA051942

**Oil Type:** CHEVRON DELO 400 MULTIGRADE 15W40

#### SAMPLE INFORMATION Sample Number VPA051942 15 Nov 2023 Sample Date Machine Hours 649 **Oil Hours** 0 Oil Changed Changed NORMAL Sample Status **OIL CONDITION** F: 13.5 Visc @ 100°C cSt Base Number (BN) mg KOH/g 8.5 Oxidation (PA) % 50 CONTAMINATION % NEG Water % Soot % 0.1 Nitration (PA) % 54 % Sulfation (PA) 50 Glycol % NEG Fuel % <1.0 Silicon 16 ppm Sodium **4** ppm Potassium 9 ppm WEAR METALS 16 Iron ppm **4** Copper ppm Lead ppm 0 Tin ■ <1 ppm Aluminum ppm 3 Chromium <1 ppm Molybdenum ppm 8 Nickel 0 🔲 ppm Titanium ppm **||** <1 Silver ppm 0 Manganese ppm <1 Vanadium ppm <1 **ADDITIVES** Calcium 1332 ppm Magnesium 723 ppm Zinc ppm 860 Phosphorus ppm 685 Barium 0 ppm Boron ppm **101** Depot:

VP179089 Unique No: 10755180 Signed: Jonathan Hester

**Report Date:** 27 Nov 2023



North Harbor Diesel Inc 720 30Th Street ANACORTES, WA US 98221 Contact: ROBBIN MURDOCK robbin@northharbordiesel.com T: (360)299-1904

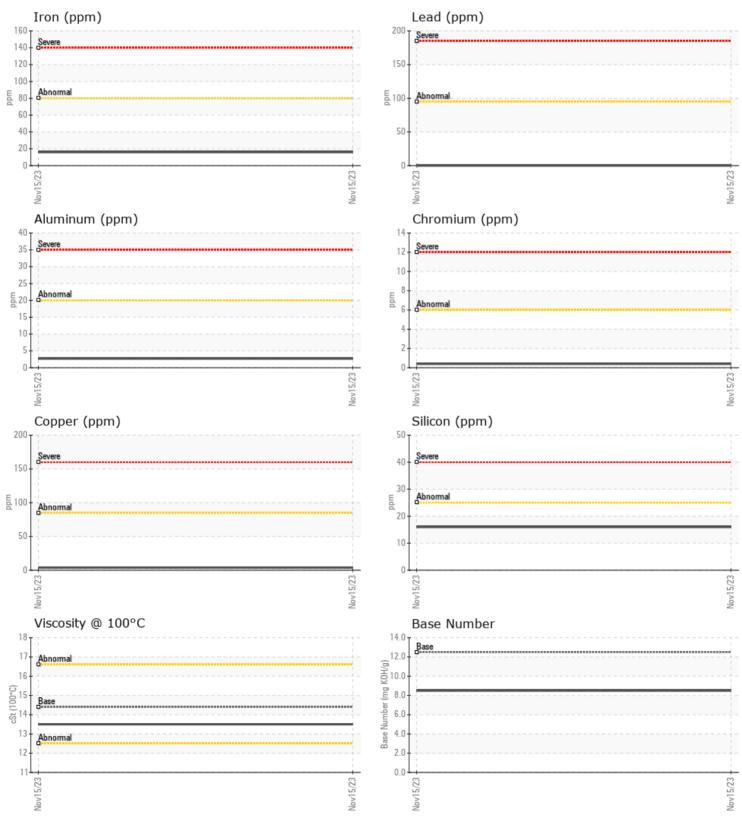
### Diagnosis

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 suitable for further service.

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#### GRAPHS



Report Id: VP179089 [WUSCAR] 06016036 (Generated: 11/27/2023 16:52:33) Rev: 1

Contact/Location: ROBBIN MURDOCK - VP179089