

# OIL ANALYSIS REPORT

# VOLVO PENTA

## KEN SHARPLES VOLVO PENTA 7008447908 - STARBOARD DIESEL ENGINE

Sample No: VPA050583

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

### SAMPLE INFORMATION

Sample Number	VPA050583	---	---	---
Sample Date	17 Jun 2023	---	---	---
Machine Hours	557	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Not Changd	---	---	---
Sample Status	SEVERE	---	---	---

### OIL CONDITION

Visc @ 100°C	cSt	▲ 38.9	---	---	---
Base Number (BN)	mg KOH/g	■ 9.8	---	---	---
Oxidation (PA)	%	■ 90	---	---	---

### CONTAMINATION

Soot %	%	■ 0.8	---	---	---
Nitration (PA)	%	■ 91	---	---	---
Sulfation (PA)	%	■ 27	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	< 1.0	---	---	---
Silicon	ppm	◆ 541	---	---	---
Sodium	ppm	■ 15	---	---	---
Potassium	ppm	■ 2	---	---	---

### WEAR METALS

Iron	ppm	■ 54	---	---	---
Copper	ppm	◆ 3273	---	---	---
Lead	ppm	■ 2	---	---	---
Tin	ppm	■ 2	---	---	---
Aluminum	ppm	▲ 419	---	---	---
Chromium	ppm	■ 2	---	---	---
Molybdenum	ppm	■ 50	---	---	---
Nickel	ppm	◆ 20	---	---	---
Titanium	ppm	■ 2	---	---	---
Silver	ppm	■ <1	---	---	---
Manganese	ppm	■ 4	---	---	---
Vanadium	ppm	< 1	---	---	---

### ADDITIVES

Calcium	ppm	■ 1074	---	---	---
Magnesium	ppm	■ 1009	---	---	---
Zinc	ppm	■ 100	---	---	---
Phosphorus	ppm	■ 729	---	---	---
Barium	ppm	■ 0	---	---	---
Boron	ppm	■ 8	---	---	---

**Cogswell Marine & Motorsports, Inc**  
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### Diagnosis

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Recommend drain oil if not already done and flush with cleaner before refilling with oil. We recommend an early resample to monitor this condition. Please note that the oil was too thick to perform some of the normal laboratory tests. Copper and nickel ppm levels are severe. Aluminum ppm levels are noted. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Moderate concentration of visible dirt/debris present in the oil. High amount of sludge present. The oil viscosity is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

Depot: VP152133  
Unique No: 10536527  
Signed: Doug Bogart  
Report Date: 29 Jun 2023

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## GRAPHS

