

# OIL ANALYSIS REPORT



## DISCOVERY VOLVO PENTA 70112014586 - STARBOARD DIESEL ENGINE

**Sample No:** VPA057376  
**Oil Type:** DIESEL ENGINE OIL SAE 15W40

### SAMPLE INFORMATION

Sample Number	VPA057376	VPA039432	---	---
Sample Date	13 Jun 2024	18 Jan 2022	---	---
Machine Hours	0	0	---	---
Oil Hours	0	0	---	---
Oil Changed	Changed	N/A	---	---
Sample Status	ABNORMAL	ABNORMAL	---	---

**Outstanding Marine**  
 PO Box 274  
 GALENA, MD  
 US 21635  
 Contact: Ronda Bolinger  
 rlwb@verizon.net  
 T:  
 F:

### OIL CONDITION

Visc @ 100°C	cSt	▲ 11.3	11.4	---	---
Base Number (BN)	mg KOH/g	■ 9.4	■ 10.4	---	---
Oxidation (PA)	%	53	57	---	---

### CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	■ 0.2	■ 0.1	---	---
Nitration (PA)	%	47	48	---	---
Sulfation (PA)	%	50	53	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	▲ 5.5	▲ 2.3	---	---
Silicon	ppm	■ 8	▲ 31	---	---
Sodium	ppm	■ <1	■ 3	---	---
Potassium	ppm	■ 1	■ 3	---	---

### Diagnosis

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

### WEAR METALS

Iron	ppm	■ 4	■ 8	---	---
Copper	ppm	■ 14	■ 20	---	---
Lead	ppm	■ 0	■ 1	---	---
Tin	ppm	■ <1	■ 2	---	---
Aluminum	ppm	■ 1	■ 2	---	---
Chromium	ppm	■ 0	■ <1	---	---
Molybdenum	ppm	■ 54	■ 52	---	---
Nickel	ppm	■ <1	■ <1	---	---
Titanium	ppm	■ 0	■ 0	---	---
Silver	ppm	■ 0	■ <1	---	---
Manganese	ppm	■ <1	2	---	---
Vanadium	ppm	0	0	---	---

### ADDITIVES

Calcium	ppm	■ 994	■ 1074	---	---
Magnesium	ppm	■ 952	■ 945	---	---
Zinc	ppm	■ 1201	■ 1089	---	---
Phosphorus	ppm	■ 1011	■ 1028	---	---
Barium	ppm	■ 0	■ 0	---	---
Boron	ppm	■ 6	■ 15	---	---

**Depot:** VP153685  
**Unique No:** 11111718  
**Signed:** Don Baldrige  
**Report Date:** 09 Jul 2024

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**VOLVO  
PENTA**

## GRAPHS

