

# OIL ANALYSIS REPORT

**VOLVO  
PENTA**

**SWEET HOPE 23-2793 VOLVO PENTA A726952 - STARBOARD DIESEL ENGINE**

**Sample No:** VPA057047  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

**SAMPLE INFORMATION**

Sample Number	<b>VPA057047</b>	VPA042819	---	---
Sample Date	<b>14 Dec 2023</b>	06 Mar 2023	---	---
Machine Hours	<b>274</b>	257	---	---
Oil Hours	<b>20</b>	0	---	---
Oil Changed	<b>Changed</b>	Changed	---	---
Sample Status	<b>NORMAL</b>	NORMAL	---	---

**Outstanding Marine**  
PO Box 274  
GALENA, MD  
US 21635  
Contact: Ronda Bolinger  
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T:  
F:

**OIL CONDITION**

Visc @ 100°C	cSt	<b>13.4</b>	13.4	---	---
Base Number (BN)	mg KOH/g	<b>9.9</b>	10.2	---	---
Oxidation (PA)	%	<b>53</b>	53	---	---

**CONTAMINATION**

Water	%	<b>NEG</b>	NEG	---	---
Soot %	%	<b>0.1</b>	0.1	---	---
Nitration (PA)	%	<b>38</b>	46	---	---
Sulfation (PA)	%	<b>50</b>	51	---	---
Glycol	%	<b>NEG</b>	NEG	---	---
Fuel	%	<b>&lt;1.0</b>	<1.0	---	---
Silicon	ppm	<b>4</b>	7	---	---
Sodium	ppm	<b>0</b>	2	---	---
Potassium	ppm	<b>&lt;1</b>	0	---	---

**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 acceptable for the time in service.

**WEAR METALS**

Iron	ppm	<b>8</b>	13	---	---
Copper	ppm	<b>1</b>	2	---	---
Lead	ppm	<b>0</b>	0	---	---
Tin	ppm	<b>0</b>	<1	---	---
Aluminum	ppm	<b>&lt;1</b>	2	---	---
Chromium	ppm	<b>0</b>	<1	---	---
Molybdenum	ppm	<b>55</b>	47	---	---
Nickel	ppm	<b>0</b>	<1	---	---
Titanium	ppm	<b>0</b>	0	---	---
Silver	ppm	<b>0</b>	0	---	---
Manganese	ppm	<b>&lt;1</b>	<1	---	---
Vanadium	ppm	<b>0</b>	0	---	---

**ADDITIVES**

Calcium	ppm	<b>995</b>	1058	---	---
Magnesium	ppm	<b>952</b>	865	---	---
Zinc	ppm	<b>1251</b>	1091	---	---
Phosphorus	ppm	<b>961</b>	885	---	---
Barium	ppm	<b>0</b>	0	---	---
Boron	ppm	<b>3</b>	19	---	---

**Depot:** VP153685  
**Unique No:** 10792804  
**Signed:** Don Baldrige  
**Report Date:** 20 Dec 2023

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## GRAPHS

