

# OIL ANALYSIS REPORT

# VOLVO PENTA

**19228 VOLVO 2013765144 - PORT DIESEL ENGINE**

**Sample No:** VPA041251

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

## SAMPLE INFORMATION

Sample Number	<b>VPA041251</b>	VPA039461	VPA030942	---
Sample Date	<b>25 Aug 2023</b>	31 Aug 2022	13 Nov 2020	---
Machine Hours	<b>0</b>	417	164	---
Oil Hours	<b>0</b>	0	0	---
Oil Changed	<b>N/A</b>	N/A	N/A	---
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	---

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## OIL CONDITION

Visc @ 100°C	cSt	<b>13.4</b>	14.2	12.9	---
Oxidation (PA)	%	<b>66</b>	130	41	---

## CONTAMINATION

Soot %	%	<b>0</b>	0	0.2	---
Nitration (PA)	%	<b>48</b>	50	46	---
Sulfation (PA)	%	<b>62</b>	90	45	---
Glycol	%	<b>NEG</b>	NEG	0.0	---
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	---
Silicon	ppm	<b>5</b>	9	28	---
Sodium	ppm	<b>1</b>	2	2	---
Potassium	ppm	<b>&lt;1</b>	2	21	---

## Diagnosis

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

## WEAR METALS

Iron	ppm	<b>3</b>	4	16	---
Copper	ppm	<b>1</b>	2	41	---
Lead	ppm	<b>0</b>	<1	3	---
Tin	ppm	<b>&lt;1</b>	<1	2	---
Aluminum	ppm	<b>&lt;1</b>	3	7	---
Chromium	ppm	<b>0</b>	0	<1	---
Molybdenum	ppm	<b>66</b>	108	48	---
Nickel	ppm	<b>0</b>	0	<1	---
Titanium	ppm	<b>0</b>	<1	0	---
Silver	ppm	<b>0</b>	0	<1	---
Manganese	ppm	<b>0</b>	<1	2	---
Vanadium	ppm	<b>0</b>	0	0	---

## ADDITIVES

Calcium	ppm	<b>1124</b>	1412	1058	---
Magnesium	ppm	<b>939</b>	518	1005	---
Zinc	ppm	<b>1184</b>	953	1401	---
Phosphorus	ppm	<b>1086</b>	909	1148	---
Barium	ppm	<b>0</b>	0	<1	---
Boron	ppm	<b>39</b>	328	2	---

**Depot:** VP154139  
**Unique No:** 5632613  
**Signed:** Kevin Marson  
**Report Date:** 01 Sep 2023

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PENTA**

## GRAPHS

