

# OIL ANALYSIS REPORT



## ALEX USLONTSEV 1610044 VOLVO PENTA A606831 - CENTER DIESEL ENGINE

**Sample No:** VPA050671  
**Oil Type:** VOLVO VDS-4.5 Premium Motor Oil 15W40

### SAMPLE INFORMATION

Sample Number	<b>VPA050671</b>	VPA034188	VPA026132	VPA027264
Sample Date	<b>18 Mar 2024</b>	10 Aug 2022	30 Jun 2021	27 Sep 2019
Machine Hours	<b>568</b>	446	323	229
Oil Hours	<b>0</b>	123	0	229
Oil Changed	<b>N/A</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.3</b>	13.3	13.4	13.5
Base Number (BN)	mg KOH/g	<b>9.1</b>	8.0	---	---
Oxidation (PA)	%	<b>63</b>	61	62	56

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.1</b>	0.6	0.1	0.2
Nitration (PA)	%	<b>57</b>	85	57	59
Sulfation (PA)	%	<b>55</b>	58	57	53
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>8</b>	10	10	19
Sodium	ppm	<b>1</b>	2	3	3
Potassium	ppm	<b>3</b>	5	8	12

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.

### WEAR METALS

Iron	ppm	<b>21</b>	25	32	44
Copper	ppm	<b>28</b>	25	31	59
Lead	ppm	<b>2</b>	3	3	5
Tin	ppm	<b>&lt;1</b>	2	2	3
Aluminum	ppm	<b>14</b>	7	13	28
Chromium	ppm	<b>1</b>	2	2	3
Molybdenum	ppm	<b>61</b>	54	60	52
Nickel	ppm	<b>4</b>	3	2	4
Titanium	ppm	<b>0</b>	0	<1	0
Silver	ppm	<b>&lt;1</b>	<1	<1	<1
Manganese	ppm	<b>&lt;1</b>	<1	<1	2
Vanadium	ppm	<b>&lt;1</b>	0	0	0

### Diagnosis

### ADDITIVES

Calcium	ppm	<b>1156</b>	939	1037	981
Magnesium	ppm	<b>1001</b>	858	943	898
Zinc	ppm	<b>1283</b>	1092	1203	1067
Phosphorus	ppm	<b>1028</b>	886	965	910
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>16</b>	20	16	7

**Depot:** VP99031103  
**Unique No:** 10956226  
**Signed:** Jonathan Hester  
**Report Date:** 04 Apr 2024

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**VOLVO  
PENTA**

## GRAPHS

