

# OIL ANALYSIS REPORT

# VOLVO PENTA

## NADINE URCIUOLI CLINT THOMPSON VOLVO PENTA D6-330 A645 182 - PORT DIESEL ENGINE

Sample No: VPA045767

Oil Type: VOLVO PENTA SAE 15W40

### SAMPLE INFORMATION

Sample Number	<b>VPA045767</b>	VPA038837	VPA034695	VPA034659
Sample Date	<b>22 Nov 2023</b>	20 Feb 2023	05 Oct 2020	22 Jun 2020
Machine Hours	<b>2642</b>	2638	2346	1444
Oil Hours	<b>2642</b>	0	403	472
Oil Changed	<b>Changed</b>	N/A	Not Changd	Not Changd
Sample Status	<b>ABNORMAL</b>	NORMAL	NORMAL	NORMAL

### Helmut's Marine Service

619 Canal Street  
SAN RAFAEL, CA  
US 94901-3545  
Contact: NADINE URCIUOLI  
SERVICE@HELMUTSMARINE.COM

T: x:

F: x:

### OIL CONDITION

Visc @ 100°C	cSt	<b>13.7</b>	13.7	13.3	14.0
Base Number (BN)	mg KOH/g	<b>7.8</b>	8.5	---	---
Oxidation (PA)	%	<b>50</b>	49	59	52

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.1</b>	0.1	0.1	0.1
Nitration (PA)	%	<b>62</b>	61	49	63
Sulfation (PA)	%	<b>48</b>	49	55	52
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>4</b>	4	4	4
Sodium	ppm	<b>2</b>	2	2	3
Potassium	ppm	<b>2</b>	5	0	0

### WEAR METALS

Iron	ppm	<b>10</b>	9	4	4
Copper	ppm	<b>2</b>	1	1	<1
Lead	ppm	<b>&lt;1</b>	1	<1	0
Tin	ppm	<b>0</b>	<1	0	0
Aluminum	ppm	<b>▲ 27</b>	21	1	<1
Chromium	ppm	<b>1</b>	2	<1	<1
Molybdenum	ppm	<b>4</b>	4	54	4
Nickel	ppm	<b>0</b>	<1	<1	<1
Titanium	ppm	<b>0</b>	<1	<1	<1
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>0</b>	1	<1	<1
Vanadium	ppm	<b>0</b>	0	0	0

### ADDITIVES

Calcium	ppm	<b>1348</b>	1394	1144	1404
Magnesium	ppm	<b>728</b>	742	1034	798
Zinc	ppm	<b>934</b>	883	1167	806
Phosphorus	ppm	<b>783</b>	705	1071	744
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>81</b>	86	10	94

### Diagnosis

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. The aluminum level is abnormal. All other 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.

Depot: VP152741

Unique No: 10767915

Signed: Sean Felton

Report Date: 05 Dec 2023

# OIL ANALYSIS REPORT

# VOLVO PENTA

## GRAPHS

