

# OIL ANALYSIS REPORT



**ROBB KENYON PATRICK/502860-5250 VOLVO PENTA D6-435D-F A348098 - PORT DIESEL ENGINE**

**Sample No:** VPA059324

**Oil Type:** VOLVO VDS-4.5 Premium Motor Oil 15W40

## SAMPLE INFORMATION

Sample Number	<b>VPA059324</b>	VPA059192	VPA043481	VPA011772
Sample Date	<b>10 May 2024</b>	20 Oct 2023	12 Oct 2022	10 Aug 2016
Machine Hours	<b>663</b>	656	0	170
Oil Hours	<b>0</b>	0	73	116
Oil Changed	<b>Changed</b>	Not Changd	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

**Endor Marine LLC - Coastal Marine - 152124**  
 4300 11th Ave. NW  
 SEATTLE, WA  
 US 98107  
 Contact: WILLOW YANARELLA  
 service@coastalmarineengine.com  
 T: (206)784-3703  
 F: (206)784-8823

## OIL CONDITION

Visc @ 100°C	cSt	<b>13.8</b>	13.9	13.7	13.8
Base Number (BN)	mg KOH/g	<b>9.1</b>	9.3	11.1	---
Oxidation (PA)	%	<b>61</b>	61	60	28

## CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.1</b>	0.1	0.3	0.1
Nitration (PA)	%	<b>48</b>	47	52	42
Sulfation (PA)	%	<b>58</b>	59	58	39
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>6</b>	6	9	10
Sodium	ppm	<b>&lt;1</b>	2	0	7
Potassium	ppm	<b>4</b>	0	0	3

## 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>17</b>	13	5	14
Copper	ppm	<b>3</b>	3	14	11
Lead	ppm	<b>&lt;1</b>	0	<1	1
Tin	ppm	<b>0</b>	0	<1	11
Aluminum	ppm	<b>4</b>	3	<1	2
Chromium	ppm	<b>&lt;1</b>	<1	<1	1
Molybdenum	ppm	<b>98</b>	94	60	43
Nickel	ppm	<b>0</b>	<1	<1	2
Titanium	ppm	<b>&lt;1</b>	0	0	<1
Silver	ppm	<b>0</b>	0	1	0
Manganese	ppm	<b>&lt;1</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	0	0	0

## ADDITIVES

Calcium	ppm	<b>1519</b>	1344	1146	1418
Magnesium	ppm	<b>781</b>	742	997	776
Zinc	ppm	<b>991</b>	914	1317	1172
Phosphorus	ppm	<b>811</b>	608	1092	1026
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>289</b>	264	4	8

**Depot:** VP794951  
**Unique No:** 11031366  
**Signed:** Angela Borella  
**Report Date:** 17 May 2024

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**VOLVO  
PENTA**

## GRAPHS

