

OIL ANALYSIS REPORT

**VOLVO
PENTA**

NADINE URCIUOLI SANDRA WILSON VOLVO 7011361910 - STARBOARD DIESEL ENGINE

Sample No: VPA059960

Oil Type: VOLVO PENTA SAE 15W40

SAMPLE INFORMATION

Sample Number	VPA059960	VPA037623	VPA023597	---
Sample Date	21 Dec 2023	26 Jul 2021	25 Jun 2019	---
Machine Hours	678	0	536	---
Oil Hours	678	0	0	---
Oil Changed	Changed	Changed	Not Changd	---
Sample Status	NORMAL	NORMAL	NORMAL	---

Helmuts 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	13.3	13.2	13.2	---
Base Number (BN)	mg KOH/g	9.6	---	---	---
Oxidation (PA)	%	61	60	53	---

CONTAMINATION

Water	%	NEG	NEG	NEG	---
Soot %	%	0.1	0.1	0.2	---
Nitration (PA)	%	43	43	48	---
Sulfation (PA)	%	60	55	50	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	5	4	9	---
Sodium	ppm	<1	<1	3	---
Potassium	ppm	<1	0	<1	---

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. 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	3	3	6	---
Copper	ppm	2	5	21	---
Lead	ppm	<1	<1	<1	---
Tin	ppm	1	<1	<1	---
Aluminum	ppm	3	0	2	---
Chromium	ppm	0	<1	<1	---
Molybdenum	ppm	95	60	57	---
Nickel	ppm	0	0	<1	---
Titanium	ppm	<1	0	0	---
Silver	ppm	<1	<1	0	---
Manganese	ppm	<1	<1	<1	---
Vanadium	ppm	0	0	0	---

ADDITIVES

Calcium	ppm	1381	1060	1060	---
Magnesium	ppm	714	927	896	---
Zinc	ppm	880	1112	1087	---
Phosphorus	ppm	757	1039	985	---
Barium	ppm	1	0	0	---
Boron	ppm	259	3	6	---

Depot: VP152741

Unique No: 10808088

Signed: Sean Felton

Report Date: 02 Jan 2024

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GRAPHS

