

OIL ANALYSIS REPORT

VOLVO PENTA

NADINE URUIOLI 2300552 SILVER SEAS VOLVO PENTA D6-435D-F A971451 - STARBOARD DIESEL ENGINE

Sample No: VPA055959

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

SAMPLE INFORMATION

Sample Number	VPA055959	VPA023930	VPA027130	---
Sample Date	01 Nov 2023	26 Jul 2021	20 Sep 2019	---
Machine Hours	886	0	408	---
Oil Hours	886	0	0	---
Oil Changed	Changed	Changed	Not Changd	---
Sample Status	NORMAL	NORMAL	NORMAL	---

Helmut's Marine Service

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

T: x:

F: x:

OIL CONDITION

Visc @ 100°C	cSt	14.0	14.2	13.9	---
Base Number (BN)	mg KOH/g	7.6	---	---	---
Oxidation (PA)	%	55	70	52	---

CONTAMINATION

Soot %	%	0.1	0.5	0.8	---
Nitration (PA)	%	56	78	77	---
Sulfation (PA)	%	53	62	52	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	5	7	21	---
Sodium	ppm	2	3	9	---
Potassium	ppm	2	<1	4	---

Diagnosis

Oil and filter change at the time of sampling has been noted. 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	10	27	52	---
Copper	ppm	2	11	21	---
Lead	ppm	0	3	4	---
Tin	ppm	0	1	0	---
Aluminum	ppm	3	14	56	---
Chromium	ppm	<1	2	6	---
Molybdenum	ppm	48	60	45	---
Nickel	ppm	<1	3	3	---
Titanium	ppm	0	<1	<1	---
Silver	ppm	0	<1	0	---
Manganese	ppm	0	<1	1	---
Vanadium	ppm	0	0	0	---

ADDITIVES

Calcium	ppm	1241	1082	1062	---
Magnesium	ppm	692	923	1039	---
Zinc	ppm	809	1143	1252	---
Phosphorus	ppm	720	1032	1072	---
Barium	ppm	5	0	0	---
Boron	ppm	186	3	2	---

Depot: VP152741

Unique No: 10729258

Signed: Doug Bogart

Report Date: 08 Nov 2023

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GRAPHS

