

OIL ANALYSIS REPORT



NADINE URUIOLI MICHAEL PAPAY VOLVO PENTA A1114658 - STARBOARD DIESEL ENGINE

Sample No: VPA059557
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

SAMPLE INFORMATION

Sample Number	VPA059557	VPA040890	---	---
Sample Date	13 Dec 2023	11 Apr 2022	---	---
Machine Hours	373	189	---	---
Oil Hours	373	189	---	---
Oil Changed	Changed	Not Changd	---	---
Sample Status	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	█ 12.9	█ 12.8	---	---
Base Number (BN)	mg KOH/g	█ 10.1	█ 11.3	---	---
Oxidation (PA)	%	55	64	---	---

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.

CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	█ 0.1	█ 0.1	---	---
Nitration (PA)	%	43	47	---	---
Sulfation (PA)	%	52	58	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	█ 8	█ 23	---	---
Sodium	ppm	█ 1	█ 2	---	---
Potassium	ppm	█ 1	█ <1	---	---

WEAR METALS

Iron	ppm	█ 19	█ 15	---	---
Copper	ppm	█ 5	█ 13	---	---
Lead	ppm	█ 3	█ 9	---	---
Tin	ppm	█ 1	█ 3	---	---
Aluminum	ppm	█ 7	█ 13	---	---
Chromium	ppm	█ 2	█ 2	---	---
Molybdenum	ppm	█ 59	█ 59	---	---
Nickel	ppm	█ 3	█ 2	---	---
Titanium	ppm	█ 0	█ 0	---	---
Silver	ppm	█ 0	█ <1	---	---
Manganese	ppm	█ <1	█ <1	---	---
Vanadium	ppm	0	0	---	---

ADDITIVES

Calcium	ppm	█ 1042	█ 1242	---	---
Magnesium	ppm	█ 930	958	---	---
Zinc	ppm	█ 1257	█ 1239	---	---
Phosphorus	ppm	█ 1033	█ 1123	---	---
Barium	ppm	█ 0	█ 0	---	---
Boron	ppm	█ 4	█ 9	---	---

Depot: VP152741
Unique No: 10795640
Signed: Don Baldrige
Report Date: 21 Dec 2023

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GRAPHS

