

OIL ANALYSIS REPORT

VOLVO PENTA

NADINE URUIOLI HARMON SHUGGE VOLVO A43455 I - CENTER DIESEL ENGINE

Sample No: VPA057134

Oil Type: VOLVO PENTA SAE 15W40

SAMPLE INFORMATION

Sample Number	VPA057134	VPA055558	VPA029668	VPA029298
Sample Date	28 May 2024	08 Jun 2023	22 Feb 2021	13 Feb 2020
Machine Hours	775	679	435	228
Oil Hours	775	679	207	71
Oil Changed	Changed	Not Changd	Not Changd	Not Changd
Sample Status	NORMAL	NORMAL	NORMAL	ATTENTION

Helmut's Marine Service

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

T: x:

F: x:

OIL CONDITION

Visc @ 100°C	cSt	13.9	13.9	13.8	13.2
Base Number (BN)	mg KOH/g	8.1	10.0	---	---
Oxidation (PA)	%	55	56	64	53

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.4	0.3	0.8	0.2
Nitration (PA)	%	61	49	69	44
Sulfation (PA)	%	50	53	60	51
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	7	16	8
Sodium	ppm	9	15	5	4
Potassium	ppm	3	3	<1	7

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal for time on oil. 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	117	94	187	94
Copper	ppm	7	7	17	10
Lead	ppm	1	4	4	<1
Tin	ppm	<1	<1	0	1
Aluminum	ppm	10	13	10	6
Chromium	ppm	9	6	12	5
Molybdenum	ppm	66	58	63	55
Nickel	ppm	1	2	5	2
Titanium	ppm	<1	0	<1	0
Silver	ppm	<1	0	<1	<1
Manganese	ppm	<1	<1	2	1
Vanadium	ppm	<1	<1	0	0

ADDITIVES

Calcium	ppm	1526	1017	1196	1000
Magnesium	ppm	487	913	1115	858
Zinc	ppm	1107	1148	1246	1023
Phosphorus	ppm	944	961	1018	944
Barium	ppm	0	0	0	0
Boron	ppm	28	12	6	2

Depot: VP152741

Unique No: 11058212

Signed: Don Baldrige

Report Date: 02 Jun 2024

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GRAPHS

