

OIL ANALYSIS REPORT



NADINE URUIOLI RACHAEL YOUSEFF VOLVO PENTA 5102166660A - CENTER DIESEL ENGINE

Sample No: VPA061292
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

SAMPLE INFORMATION

Sample Number	VPA061292	VPA049570	VPA042321	VPA042360
Sample Date	26 Jun 2024	14 Sep 2023	27 Sep 2022	26 Sep 2022
Machine Hours	215	185	159	0
Oil Hours	215	185	159	0
Oil Changed	Changed	Changed	Not Changd	Not Changd
Sample Status	NORMAL	NORMAL	NORMAL	ATTENTION

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	13.5	13.8	13.3	10.8
Base Number (BN)	mg KOH/g	9.5	9.1	11.1	11.3
Oxidation (PA)	%	56	63	61	56

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	39	41	46	41
Sulfation (PA)	%	50	61	56	54
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	0.4
Silicon	ppm	3	6	6	8
Sodium	ppm	2	<1	2	5
Potassium	ppm	1	<1	<1	0

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	6	5	6	4
Copper	ppm	2	1	2	3
Lead	ppm	0	<1	3	<1
Tin	ppm	0	0	<1	<1
Aluminum	ppm	2	<1	<1	<1
Chromium	ppm	<1	<1	<1	0
Molybdenum	ppm	60	122	55	58
Nickel	ppm	0	0	1	<1
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0	0	<1	<1
Manganese	ppm	0	<1	1	<1
Vanadium	ppm	0	<1	2	2

ADDITIVES

Calcium	ppm	1015	1537	994	1044
Magnesium	ppm	884	744	915	960
Zinc	ppm	1108	897	1167	1197
Phosphorus	ppm	898	730	998	1030
Barium	ppm	0	0	0	0
Boron	ppm	24	371	0	0

Depot: VP152741
Unique No: 11110443
Signed: Don Baldrige
Report Date: 05 Jul 2024

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VOLVO PENTA

GRAPHS

