

OIL ANALYSIS REPORT



DBD PROPERTIES LLC VOLVO PENTA 2013478488 - STARBOARD DIESEL ENGINE

Sample No: VPA060938
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

SAMPLE INFORMATION

Sample Number	VPA060938	VPA014688	VPA010770	VPA010749
Sample Date	03 Jan 2024	18 May 2022	01 Jun 2020	04 Jun 2019
Machine Hours	1869	1565	1144	900
Oil Hours	0	0	200	150
Oil Changed	Not Changd	Not Changd	Changed	Not Changd
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

FDDA FT PIERCE - POWER CENTER

FORT PIERCE, FL
 US
 Contact: KYLE GRASER
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 T:
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OIL CONDITION

Visc @ 100°C	cSt	13.05	14.0	13.2	13.4
Base Number (BN)	mg KOH/g	8.9	9.3	---	---
Oxidation (PA)	%	57	67	57	53

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.4	0.2	0.4	0.2
Nitration (PA)	%	53	57	48	46
Sulfation (PA)	%	53	59	55	50
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	3	3	4	4
Sodium	ppm	0	<1	2	2
Potassium	ppm	2	5	2	2

Diagnosis

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	10	5	5	6
Copper	ppm	1	1	2	1
Lead	ppm	<1	<1	<1	<1
Tin	ppm	<1	<1	0	<1
Aluminum	ppm	1	1	1	1
Chromium	ppm	<1	<1	<1	0
Molybdenum	ppm	54	14	56	59
Nickel	ppm	<1	<1	<1	0
Titanium	ppm	<1	<1	0	0
Silver	ppm	0	2	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	0

ADDITIVES

Calcium	ppm	1128	1896	990	995
Magnesium	ppm	740	234	887	964
Zinc	ppm	1104	1199	1050	1107
Phosphorus	ppm	976	985	985	977
Barium	ppm	10	0	0	0
Boron	ppm	14	166	3	4

Depot: VP208659
Unique No: 10818312
Signed: Doug Bogart
Report Date: 05 Jan 2024

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**VOLVO
PENTA**

GRAPHS

