

OIL ANALYSIS REPORT

VOLVO PENTA

RUSSELL 312 VOLVO PENTA 2013657573 - STARBOARD DIESEL ENGINE

Sample No: VPA044723

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

SAMPLE INFORMATION

Sample Number	VPA044723	VPA017795	VPA016730	---
Sample Date	07 Jul 2023	05 Jul 2019	03 Aug 2018	---
Machine Hours	686	256	92	---
Oil Hours	104	164	92	---
Oil Changed	Changed	Changed	Changed	---
Sample Status	NORMAL	NORMAL	NORMAL	---

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OIL CONDITION

Visc @ 100°C	cSt	12.7	12.2	12.83	---
Base Number (BN)	mg KOH/g	9.3	---	---	---
Oxidation (PA)	%	61	63	72	---

CONTAMINATION

Soot %	%	0.3	0.4	0.2	---
Nitration (PA)	%	48	56	45	---
Sulfation (PA)	%	54	57	60	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	3	15	46	---
Sodium	ppm	1	2	5	---
Potassium	ppm	0	0	11	---

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 suitable for further service.

WEAR METALS

Iron	ppm	3	14	15	---
Copper	ppm	1	4	9	---
Lead	ppm	0	2	<1	---
Tin	ppm	<1	0	<1	---
Aluminum	ppm	<1	4	5	---
Chromium	ppm	<1	<1	<1	---
Molybdenum	ppm	59	71	42	---
Nickel	ppm	0	<1	0	---
Titanium	ppm	<1	<1	0	---
Silver	ppm	0	<1	0	---
Manganese	ppm	0	<1	2	---
Vanadium	ppm	0	<1	0	---

ADDITIVES

Calcium	ppm	1039	1697	3038	---
Magnesium	ppm	971	416	172	---
Zinc	ppm	1227	1130	1066	---
Phosphorus	ppm	1004	901	855	---
Barium	ppm	0	0	0	---
Boron	ppm	0	291	331	---

Depot: VP648685
Unique No: 10549109
Signed: Don Baldrige
Report Date: 11 Jul 2023

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GRAPHS

