

OIL ANALYSIS REPORT

VOLVO PENTA

DENNIS GROUL CUMMINS 73707553 - STARBOARD DIESEL ENGINE

Sample No: VPA055779
Oil Type: VALVOLINE 15W40

SAMPLE INFORMATION

Sample Number	VPA055779	VPA037672	VPA031275	---
Sample Date	02 Oct 2023	12 Jan 2022	26 May 2021	---
Machine Hours	904	861	762	---
Oil Hours	0	0	0	---
Oil Changed	N/A	Changed	N/A	---
Sample Status	ABNORMAL	NORMAL	NORMAL	---

OIL CONDITION

Visc @ 100°C	cSt	13.6	14.8	14.4	---
Base Number (BN)	mg KOH/g	---	10.7	---	---
Oxidation (PA)	%	239	81	71	---

CONTAMINATION

Soot %	%	0.1	0.7	0.1	---
Nitration (PA)	%	43	88	61	---
Sulfation (PA)	%	102	65	57	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	<1.0	<1.0	<1.0	---
Silicon	ppm	5	7	2	---
Sodium	ppm	7	2	3	---
Potassium	ppm	4	0	0	---

WEAR METALS

Iron	ppm	43	18	4	---
Copper	ppm	36	80	8	---
Lead	ppm	0	<1	0	---
Tin	ppm	<1	<1	<1	---
Aluminum	ppm	58	4	0	---
Chromium	ppm	2	<1	<1	---
Molybdenum	ppm	16	54	44	---
Nickel	ppm	3	2	<1	---
Titanium	ppm	<1	<1	<1	---
Silver	ppm	<1	<1	0	---
Manganese	ppm	<1	<1	<1	---
Vanadium	ppm	<1	0	0	---

ADDITIVES

Calcium	ppm	2101	1483	1385	---
Magnesium	ppm	133	617	553	---
Zinc	ppm	1265	1229	1045	---
Phosphorus	ppm	1015	966	912	---
Barium	ppm	0	0	0	---
Boron	ppm	158	34	57	---

COASTAL CAROLINA YACHT SALES
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Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. The aluminum level is abnormal. All other component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot: VP568144
Unique No: 10675991
Signed: Doug Bogart
Report Date: 04 Oct 2023

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GRAPHS

