

OIL ANALYSIS REPORT

**VOLVO
PENTA**

MCCULLY 23-2779 VOLVO PENTA 2006017895 - STARBOARD DIESEL ENGINE

Sample No: VPA021932

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

SAMPLE INFORMATION

Sample Number	VPA021932	VPA012262	---	---
Sample Date	06 Dec 2023	01 Aug 2018	---	---
Machine Hours	1396	655	---	---
Oil Hours	200	0	---	---
Oil Changed	Changed	Changed	---	---
Sample Status	NORMAL	NORMAL	---	---

Outstanding Marine

PO Box 274
GALENA, MD
US 21635
Contact: Ronda Bolinger
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T:
F:

OIL CONDITION

Visc @ 100°C	cSt	12.8	15.00	---	---
Base Number (BN)	mg KOH/g	8.2	---	---	---
Oxidation (PA)	%	57	76	---	---

CONTAMINATION

Water	%	NEG	NEG	---	---
Soot %	%	0.3	0.1	---	---
Nitration (PA)	%	67	68	---	---
Sulfation (PA)	%	57	61	---	---
Glycol	%	NEG	NEG	---	---
Fuel	%	<1.0	<1.0	---	---
Silicon	ppm	6	4	---	---
Sodium	ppm	33	4	---	---
Potassium	ppm	4	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 acceptable for the time in service.

WEAR METALS

Iron	ppm	18	8	---	---
Copper	ppm	14	7	---	---
Lead	ppm	4	<1	---	---
Tin	ppm	1	0	---	---
Aluminum	ppm	2	2	---	---
Chromium	ppm	2	<1	---	---
Molybdenum	ppm	29	8	---	---
Nickel	ppm	2	<1	---	---
Titanium	ppm	<1	<1	---	---
Silver	ppm	0	0	---	---
Manganese	ppm	<1	<1	---	---
Vanadium	ppm	0	0	---	---

ADDITIVES

Calcium	ppm	1689	2080	---	---
Magnesium	ppm	334	70	---	---
Zinc	ppm	982	1118	---	---
Phosphorus	ppm	826	1010	---	---
Barium	ppm	12	0	---	---
Boron	ppm	22	133	---	---

Depot: VP153685
Unique No: 10782821
Signed: Don Baldrige
Report Date: 15 Dec 2023

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GRAPHS

