

# OIL ANALYSIS REPORT

# VOLVO PENTA

## CRAIG MALY MATTHEW DOW VOLVO PENTA A396683 - STARBOARD DIESEL ENGINE

Sample No: VPA048850

Oil Type: VALVOLINE PREMIUM BLUE

### SAMPLE INFORMATION

Sample Number	<b>VPA048850</b>	VPA043338	VPA036088	VPA027053
Sample Date	<b>25 Sep 2023</b>	06 Oct 2022	05 Oct 2021	25 Sep 2019
Machine Hours	<b>282</b>	260	243	203
Oil Hours	<b>22</b>	17	40	29
Oil Changed	<b>Not Changd</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

**Mobile Marine Services Inc**  
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EAST JORDAN, MI  
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T: Phone  
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### OIL CONDITION

Visc @ 100°C	cSt	<b>14.2</b>	14.6	14.3	14.6
Base Number (BN)	mg KOH/g	<b>9.2</b>	10.7	10.6	---
Oxidation (PA)	%	<b>69</b>	73	67	61

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.1</b>	0.1	0.1	0.1
Nitration (PA)	%	<b>58</b>	63	58	52
Sulfation (PA)	%	<b>56</b>	59	55	52
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>4</b>	5	4	4
Sodium	ppm	<b>2</b>	3	6	6
Potassium	ppm	<b>0</b>	0	<1	3

### 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	<b>2</b>	7	6	5
Copper	ppm	<b>&lt;1</b>	1	2	1
Lead	ppm	<b>0</b>	<1	<1	0
Tin	ppm	<b>0</b>	<1	0	0
Aluminum	ppm	<b>1</b>	<1	0	1
Chromium	ppm	<b>0</b>	<1	<1	0
Molybdenum	ppm	<b>41</b>	45	46	46
Nickel	ppm	<b>0</b>	0	0	0
Titanium	ppm	<b>0</b>	0	<1	2
Silver	ppm	<b>0</b>	<1	0	0
Manganese	ppm	<b>&lt;1</b>	<1	<1	1
Vanadium	ppm	<b>0</b>	0	0	0

### ADDITIVES

Calcium	ppm	<b>1085</b>	1192	1612	1549
Magnesium	ppm	<b>788</b>	760	612	652
Zinc	ppm	<b>821</b>	878	1106	1158
Phosphorus	ppm	<b>629</b>	734	1020	966
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>45</b>	59	68	59

**Depot:** VP443016  
**Unique No:** 10742656  
**Signed:** Sean Felton  
**Report Date:** 16 Nov 2023

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## GRAPHS

