

# OIL ANALYSIS REPORT



## ALASKA LUXURY TOURS OPUS-STBD VOLVO PENTA A1202077 - STARBOARD DIESEL ENGINE

**Sample No:** VPA056349  
**Oil Type:** VOLVO VDS-4.5 Premium Motor Oil 15W40

### SAMPLE INFORMATION

Sample Number	<b>VPA056349</b>	VPA056366	VPA055295	---
Sample Date	<b>29 Jul 2023</b>	02 Jul 2023	03 Jun 2023	---
Machine Hours	<b>597</b>	393	182	---
Oil Hours	<b>200</b>	211	182	---
Oil Changed	<b>Changed</b>	Changed	Changed	---
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	---

**Sundance Mfg Inc**  
 570 N.E. Tomahawk Isl. Dr.  
 Portland, OR  
 US 97217  
 Contact: CLARK HOLMES  
 clark@sundanceyachts.com  
 T:  
 F:

### OIL CONDITION

Visc @ 100°C	cSt	<b>14.4</b>	14.2	14.1	---
Base Number (BN)	mg KOH/g	<b>9.7</b>	10.4	10.2	---
Oxidation (PA)	%	<b>54</b>	58	58	---

### CONTAMINATION

Soot %	%	<b>0.4</b>	0.4	0.2	---
Nitration (PA)	%	<b>49</b>	52	49	---
Sulfation (PA)	%	<b>50</b>	53	53	---
Glycol	%	<b>NEG</b>	NEG	NEG	---
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	---
Silicon	ppm	<b>4</b>	6	16	---
Sodium	ppm	<b>2</b>	1	3	---
Potassium	ppm	<b>&lt;1</b>	3	4	---

### Diagnosis

Resample at the next service interval to monitor. Metal levels are typical for a new component breaking in. 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	<b>18</b>	18	17	---
Copper	ppm	<b>8</b>	9	12	---
Lead	ppm	<b>2</b>	3	3	---
Tin	ppm	<b>2</b>	2	3	---
Aluminum	ppm	<b>&lt;1</b>	4	4	---
Chromium	ppm	<b>1</b>	1	2	---
Molybdenum	ppm	<b>61</b>	58	58	---
Nickel	ppm	<b>2</b>	3	2	---
Titanium	ppm	<b>&lt;1</b>	<1	0	---
Silver	ppm	<b>0</b>	0	0	---
Manganese	ppm	<b>&lt;1</b>	<1	<1	---
Vanadium	ppm	<b>&lt;1</b>	<1	0	---

### ADDITIVES

Calcium	ppm	<b>1139</b>	1100	1253	---
Magnesium	ppm	<b>1016</b>	945	939	---
Zinc	ppm	<b>1271</b>	1241	1288	---
Phosphorus	ppm	<b>1058</b>	984	1043	---
Barium	ppm	<b>0</b>	0	0	---
Boron	ppm	<b>2</b>	<1	9	---

**Depot:** VP154394  
**Unique No:** 10609108  
**Signed:** Sean Felton  
**Report Date:** 22 Aug 2023

# OIL ANALYSIS REPORT



## GRAPHS

