

# OIL ANALYSIS REPORT



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

**Sample No:** VPA036476  
**Oil Type:** 15W40 CK-4

### SAMPLE INFORMATION

Sample Number	<b>VPA036476</b>	VPA050953	VPA060143	VPA060123
Sample Date	<b>30 Jun 2024</b>	28 May 2024	23 Sep 2023	25 Aug 2023
Machine Hours	<b>1449</b>	1200	956	787
Oil Hours	<b>249</b>	205	169	190
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	ABNORMAL	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>14.3</b>	14.5	12.6	14.3
Base Number (BN)	mg KOH/g	<b>9.8</b>	9.8	10.0	10.1
Oxidation (PA)	%	<b>57</b>	55	55	55

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.4</b>	0.2	0.4	0.4
Nitration (PA)	%	<b>53</b>	48	48	50
Sulfation (PA)	%	<b>53</b>	51	51	52
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>3</b>	5	8	3
Sodium	ppm	<b>2</b>	2	11	0
Potassium	ppm	<b>&lt;1</b>	2	3	<1

### Diagnosis

No corrective action is recommended at this time. 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>20</b>	25	21	16
Copper	ppm	<b>6</b>	6	14	7
Lead	ppm	<b>2</b>	2	3	2
Tin	ppm	<b>0</b>	1	2	1
Aluminum	ppm	<b>8</b>	▲ 36	3	<1
Chromium	ppm	<b>1</b>	3	<1	<1
Molybdenum	ppm	<b>63</b>	64	52	56
Nickel	ppm	<b>2</b>	3	<1	3
Titanium	ppm	<b>0</b>	<1	<1	0
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>&lt;1</b>	<1	2	<1
Vanadium	ppm	<b>0</b>	0	0	0

### ADDITIVES

Calcium	ppm	<b>1232</b>	1138	1219	985
Magnesium	ppm	<b>1071</b>	1037	780	868
Zinc	ppm	<b>1414</b>	1268	896	1133
Phosphorus	ppm	<b>1190</b>	979	715	965
Barium	ppm	<b>0</b>	0	0	<1
Boron	ppm	<b>1</b>	1	23	0

**Depot:** VP154394  
**Unique No:** 11114467  
**Signed:** Sean Felton  
**Report Date:** 10 Jul 2024

# OIL ANALYSIS REPORT

# VOLVO PENTA

## GRAPHS

