

OIL ANALYSIS REPORT



ALASKA LUXURY TOURS OPUS VOLVO PENTA A1202077 - STARBOARD DIESEL ENGINE

Sample No: VPA050953
Oil Type: KIRKLAND 15W40

SAMPLE INFORMATION

Sample Number	VPA050953	VPA060143	VPA060123	VPA056349
Sample Date	28 May 2024	23 Sep 2023	25 Aug 2023	29 Jul 2023
Machine Hours	1200	956	787	597
Oil Hours	205	169	190	200
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	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	14.5	12.6	14.3	14.4
Base Number (BN)	mg KOH/g	9.8	10.0	10.1	9.7
Oxidation (PA)	%	55	55	55	54

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.2	0.4	0.4	0.4
Nitration (PA)	%	48	48	50	49
Sulfation (PA)	%	51	51	52	50
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	5	8	3	4
Sodium	ppm	2	11	0	2
Potassium	ppm	2	3	<1	<1

WEAR METALS

Iron	ppm	25	21	16	18
Copper	ppm	6	14	7	8
Lead	ppm	2	3	2	2
Tin	ppm	1	2	1	2
Aluminum	ppm	▲ 36	3	<1	<1
Chromium	ppm	3	<1	<1	1
Molybdenum	ppm	64	52	56	61
Nickel	ppm	3	<1	3	2
Titanium	ppm	<1	<1	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	2	<1	<1
Vanadium	ppm	0	0	0	<1

ADDITIVES

Calcium	ppm	1138	1219	985	1139
Magnesium	ppm	1037	780	868	1016
Zinc	ppm	1268	896	1133	1271
Phosphorus	ppm	979	715	965	1058
Barium	ppm	0	0	<1	0
Boron	ppm	1	23	0	2

Diagnosis

Oil and filter change at the time of sampling has been noted. 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: VP154394
Unique No: 11071181
Signed: Sean Felton
Report Date: 12 Jun 2024

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VOLVO PENTA

GRAPHS

