

OIL ANALYSIS REPORT



ALASKA LUXURY TOURS OPUS-STBD VOLVO PENTA A120Z077 - STARBOARD DIESEL ENGINE

Sample No: VPA060143
Oil Type: KIRKLAND 15W40

SAMPLE INFORMATION

Sample Number	VPA060143	VPA060123	VPA056349	VPA056366
Sample Date	23 Sep 2023	25 Aug 2023	29 Jul 2023	02 Jul 2023
Machine Hours	956	787	597	393
Oil Hours	169	190	200	211
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	12.6	14.3	14.4	14.2
Base Number (BN)	mg KOH/g	10.0	10.1	9.7	10.4
Oxidation (PA)	%	55	55	54	58

CONTAMINATION

Soot %	%	0.4	0.4	0.4	0.4
Nitration (PA)	%	48	50	49	52
Sulfation (PA)	%	51	52	50	53
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	3	4	6
Sodium	ppm	11	0	2	1
Potassium	ppm	3	<1	<1	3

WEAR METALS

Iron	ppm	21	16	18	18
Copper	ppm	14	7	8	9
Lead	ppm	3	2	2	3
Tin	ppm	2	1	2	2
Aluminum	ppm	3	<1	<1	4
Chromium	ppm	<1	<1	1	1
Molybdenum	ppm	52	56	61	58
Nickel	ppm	<1	3	2	3
Titanium	ppm	<1	0	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	2	<1	<1	<1
Vanadium	ppm	0	0	<1	<1

ADDITIVES

Calcium	ppm	1219	985	1139	1100
Magnesium	ppm	780	868	1016	945
Zinc	ppm	896	1133	1271	1241
Phosphorus	ppm	715	965	1058	984
Barium	ppm	0	<1	0	0
Boron	ppm	23	0	2	<1

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.

Depot: VP154394
Unique No: 10670473
Signed: Don Baldrige
Report Date: 01 Oct 2023

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VOLVO PENTA

GRAPHS

