

OIL ANALYSIS REPORT

VOLVO PENTA

ALASKA LUXURY TOURS FAGE-STBD VOLVO PENTA 2006016955 - STARBOARD DIESEL ENGINE

Sample No: VPA060118
Oil Type: KIRKLAND 15W40

SAMPLE INFORMATION

Sample Number	VPA060118	VPA036542	VPA056361	VPA055124
Sample Date	14 Sep 2023	09 Aug 2023	04 Jul 2023	07 Jun 2023
Machine Hours	2954	2739	2510	2326
Oil Hours	215	230	184	207
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	12.6	14.9	14.8	14.9
Base Number (BN)	mg KOH/g	9.8	9.2	10.1	10.0
Oxidation (PA)	%	63	61	65	65

CONTAMINATION

Soot %	%	0.6	0.6	0.5	0.4
Nitration (PA)	%	70	67	70	68
Sulfation (PA)	%	55	54	57	56
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	6	3	3	4
Sodium	ppm	5	2	<1	1
Potassium	ppm	4	<1	2	2

WEAR METALS

Iron	ppm	7	16	13	19
Copper	ppm	5	9	6	6
Lead	ppm	<1	<1	1	<1
Tin	ppm	1	<1	<1	<1
Aluminum	ppm	2	0	3	3
Chromium	ppm	<1	<1	<1	2
Molybdenum	ppm	105	62	58	60
Nickel	ppm	0	2	2	1
Titanium	ppm	2	<1	<1	0
Silver	ppm	0	0	0	0
Manganese	ppm	1	<1	<1	<1
Vanadium	ppm	<1	<1	<1	0

ADDITIVES

Calcium	ppm	1614	1185	1074	1155
Magnesium	ppm	734	1039	952	1031
Zinc	ppm	931	1332	1233	1300
Phosphorus	ppm	775	1082	966	1038
Barium	ppm	0	0	0	0
Boron	ppm	327	4	0	0

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: 10670468
Signed: Don Baldrige
Report Date: 01 Oct 2023

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GRAPHS

