

OIL ANALYSIS REPORT



VOLVO PENTA 1013543748 - CENTER DIESEL ENGINE

Sample No: VPA020811

Oil Type: CHEVRON DELO 400 LE 15W40

SAMPLE INFORMATION

Sample Number	VPA020811	VPA020710	VPA022613	VPA020423
Sample Date	31 Jan 2024	13 Nov 2023	22 Aug 2023	17 May 2023
Machine Hours	6951	6476	6000	5490
Oil Hours	477	444	500	483
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	ABNORMAL

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OIL CONDITION

Visc @ 100°C	cSt	13.4	13.4	13.4	13.1
Base Number (BN)	mg KOH/g	6.5	7.7	6.5	7.2
Oxidation (PA)	%	65	65	61	70

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	1.6	0.8	0.9	0.6
Nitration (PA)	%	72	68	71	70
Sulfation (PA)	%	70	64	61	66
Glycol	%	NEG	NEG	0.0	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	8	5	6	6
Sodium	ppm	7	17	95	735
Potassium	ppm	5	<1	5	31

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 suitable for further service.

WEAR METALS

Iron	ppm	48	17	25	24
Copper	ppm	3	1	7	33
Lead	ppm	3	2	3	5
Tin	ppm	<1	<1	1	2
Aluminum	ppm	4	3	4	4
Chromium	ppm	2	<1	<1	<1
Molybdenum	ppm	114	98	89	122
Nickel	ppm	2	<1	0	1
Titanium	ppm	<1	0	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0

ADDITIVES

Calcium	ppm	1455	1427	1405	1369
Magnesium	ppm	529	540	471	685
Zinc	ppm	1493	1115	1258	851
Phosphorus	ppm	1000	910	990	646
Barium	ppm	0	0	0	0
Boron	ppm	315	209	189	222

Depot: VPCHACHA
Unique No: 10860862
Signed: Don Baldrige
Report Date: 06 Feb 2024

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GRAPHS

