



CONSTRUCTION EQUIPMENT

SW-18484-2 TEAR A PA VOLVO EC160 310236 - DIESEL ENGINE



Sample No: VCP400940
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: SW-18484-2 TEAR A PA



SAMPLE INFORMATION

Sample Number	VCP400940	VCP254017	VCP218656	VCP218015
Sample Date	05 May 2023	05 Oct 2020	22 Feb 2018	12 Oct 2017
Machine Hours	3451	2939	1011	532
Oil Hours	500	0	500	532
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	ABNORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	█ 12.7	█ 13.0	█ 13.26	█ 13.64
Base Number (BN)	mg KOH/g	█ 9.3	---	---	---
Oxidation (PA)	%	█ 89	█ 87	█ 44	█ 56



CONTAMINATION

Soot %	%	█ 0.4	█ 0.2	█ 0	█ 0.4
Nitration (PA)	%	█ 70	█ 66	█ 42	█ 50
Sulfation (PA)	%	█ 63	█ 64	█ 44	█ 50
Glycol	%	█ NEG	NEG	NEG	NEG
Fuel	%	█ <1.0	<1.0	<1.0	<1.0
Silicon	ppm	█ 10	█ 9	█ 13	█ 30
Sodium	ppm	█ 3	█ 4	█ 21	█ 4
Potassium	ppm	█ 2	█ <1	▲ 139	█ 10



WEAR METALS

Iron	ppm	█ 40	█ 14	█ 24	█ 51
Copper	ppm	█ 2	█ 1	█ 5	█ 10
Lead	ppm	█ 2	█ <1	█ 1	█ 0
Tin	ppm	█ 2	█ <1	█ 1	█ 0
Aluminum	ppm	▲ 26	█ 6	█ 5	█ 9
Chromium	ppm	█ 2	█ 1	█ 2	█ 3
Molybdenum	ppm	█ 44	█ 42	█ 38	█ 11
Nickel	ppm	█ 2	█ <1	█ 2	█ 7
Titanium	ppm	<1	<1	0	<1
Silver	ppm	█ 0	<1	0	0
Manganese	ppm	█ 1	█ <1	█ 1	█ 4
Vanadium	ppm	<1	0	0	0



ADDITIVES

Calcium	ppm	█ 1755	█ 1646	█ 1569	█ 2046
Magnesium	ppm	█ 565	█ 530	█ 480	█ 228
Zinc	ppm	█ 1005	█ 891	█ 823	█ 1124
Phosphorus	ppm	█ 823	█ 784	█ 751	█ 973
Barium	ppm	█ 0	█ 0	█ 0	█ <1
Boron	ppm	█ 46	█ 55	█ 23	█ 4

Diagnosis

Oil and filter change at the time of sampling has been noted. 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: VOLVO8770
Unique No: 10469390
Signed: Doug Bogart
Report Date: 15 May 2023



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GRAPHS

