



CONSTRUCTION EQUIPMENT

RA42 VOLVO L180H 5363 - DIESEL ENGINE



Sample No: VCP380823
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: RA42



SAMPLE INFORMATION

Sample Number	VCP380823	VCP410532	VCP406907	VCP380819
Sample Date	09 Nov 2023	17 Aug 2023	01 Jun 2023	08 Mar 2023
Machine Hours	4530	4010	3537	3023
Oil Hours	500	500	500	500
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ATTENTION	NORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	▲ 9.1	■ 12.3	■ 12.8	■ 12.8
Base Number (BN)	mg KOH/g	■ 10.6	■ 9.3	■ 10.6	■ 10.6
Oxidation (PA)	%	78	77	83	79



CONTAMINATION

Soot %	%	■ 0.1	■ 0.1	■ 0.1	■ 0.1
Nitration (PA)	%	63	51	53	48
Sulfation (PA)	%	57	58	63	60
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	■ 0.5	■ 0.4	<1.0	<1.0
Silicon	ppm	■ 4	■ 4	■ 3	■ 4
Sodium	ppm	■ 14	■ 2	■ 2	■ 0
Potassium	ppm	■ <1	■ 0	■ <1	■ 1



WEAR METALS

Iron	ppm	■ 2	■ 4	■ 4	■ 4
Copper	ppm	■ <1	■ <1	■ <1	■ <1
Lead	ppm	■ <1	■ 0	■ 0	■ 0
Tin	ppm	■ 0	■ <1	■ 0	■ <1
Aluminum	ppm	■ <1	■ <1	■ <1	■ 2
Chromium	ppm	■ 0	■ 0	■ 0	■ 0
Molybdenum	ppm	■ 57	■ 40	■ 41	■ 42
Nickel	ppm	■ 0	■ 0	■ 0	■ <1
Titanium	ppm	0	<1	0	0
Silver	ppm	■ 0	■ 0	■ 0	■ 0
Manganese	ppm	■ 0	■ <1	■ 0	■ <1
Vanadium	ppm	0	<1	0	0



ADDITIVES

Calcium	ppm	■ 1595	■ 1723	■ 1770	■ 1643
Magnesium	ppm	■ 559	■ 489	■ 502	■ 471
Zinc	ppm	■ 1068	■ 967	■ 1015	■ 943
Phosphorus	ppm	■ 884	■ 792	■ 817	■ 783
Barium	ppm	■ 0	■ 0	■ 0	■ 0
Boron	ppm	■ 57	■ 47	■ 53	■ 58

Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Depot: VOLVO0080
Unique No: 10741871
Signed: Don Baldrige
Report Date: 17 Nov 2023

VOLVO GRAPHS

