



CONSTRUCTION EQUIPMENT

SWA329567-10 VOLVO L220H 2824 - DIESEL ENGINE



Sample No: VCP424053
Oil Type: VOLVO VDS-4.5 Premium Motor Oil 15W40
Job No: SWA329567-10



SAMPLE INFORMATION

Sample Number	VCP424053	VCP396053	VCP405566	VCP367693
Sample Date	19 Aug 2023	16 May 2023	01 Mar 2023	15 Nov 2022
Machine Hours	12965	12185	11698	11024
Oil Hours	0	500	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ATTENTION	NORMAL	NORMAL	NORMAL



CALLANAN
 RT 32 677 FLATBUSH RD
 EAST KINGSTON, NY
 US 12401
 Contact:



OIL CONDITION

Visc @ 100°C	cSt	▲ 8.7	■ 11.8	■ 12.6	■ 13.0
Base Number (BN)	mg KOH/g	■ 9.5	■ 9.9	■ 10.0	■ 11.0
Oxidation (PA)	%	85	77	79	89

T:
F:



CONTAMINATION

Soot %	%	■ 0.4	■ 0.2	■ 0.3	■ 0.4
Nitration (PA)	%	68	56	64	71
Sulfation (PA)	%	63	60	60	67
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	■ 0.6	<1.0	<1.0	<1.0
Silicon	ppm	■ 6	■ 4	■ 3	■ 5
Sodium	ppm	■ 3	■ 2	■ 0	■ 1
Potassium	ppm	■ 0	■ 0	■ <1	■ <1

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.



WEAR METALS

Iron	ppm	■ 8	■ 4	■ 4	■ 11
Copper	ppm	■ 1	■ <1	■ 0	■ 1
Lead	ppm	■ <1	■ 0	■ 0	■ <1
Tin	ppm	■ <1	■ <1	■ 0	■ <1
Aluminum	ppm	■ 1	■ <1	■ 0	■ 2
Chromium	ppm	■ 0	■ <1	■ 0	■ <1
Molybdenum	ppm	■ 41	■ 45	■ 38	■ 42
Nickel	ppm	■ 0	■ 0	■ 0	■ 0
Titanium	ppm	0	<1	0	0
Silver	ppm	■ 0	■ 0	■ 0	■ 0
Manganese	ppm	■ <1	■ <1	■ 0	■ <1
Vanadium	ppm	■ <1	■ 0	■ 0	■ 0



ADDITIVES

Calcium	ppm	■ 1710	■ 1625	■ 1568	■ 1686
Magnesium	ppm	■ 510	■ 499	■ 436	■ 482
Zinc	ppm	■ 1104	■ 1055	■ 1029	■ 1099
Phosphorus	ppm	■ 929	■ 852	■ 867	■ 916
Barium	ppm	■ 0	■ 0	■ <1	■ 0
Boron	ppm	■ 22	■ 47	■ 30	■ 29

Depot: CALEAS
Unique No: 10617098
Signed: Doug Bogart
Report Date: 25 Aug 2023



CONSTRUCTION EQUIPMENT



GRAPHS

