



CONSTRUCTION EQUIPMENT

SW-26674-2 GRANT MAC VOLVO EC480E 3 14608 - DIESEL ENGINE



Sample No: VCP434549
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: SW-26674-2 GRANT MAC



SAMPLE INFORMATION

Sample Number	VCP434549	VCP404706	VCP399601	VCP346317
Sample Date	20 Nov 2023	25 May 2023	10 Feb 2023	24 Oct 2022
Machine Hours	4022	3080	2501	2062
Oil Hours	490	500	440	500
Oil Changed	Changed	Changed	Not Changd	Changed
Sample Status	ATTENTION	ABNORMAL	ATTENTION	ABNORMAL

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OIL CONDITION

Visc @ 100°C	cSt	▲ 12.4	▲ 12.2	▲ 12.2	▲ 12.2
Base Number (BN)	mg KOH/g	■ 6.0	■ 5.7	■ 7.9	■ 9.4
Oxidation (PA)	%	61	65	64	95

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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	■ 0.1	■ 0.1	■ 0.1	■ 0.1
Nitration (PA)	%	79	83	65	78
Sulfation (PA)	%	57	58	55	68
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	■ 7	■ 5	■ 4	■ 5
Sodium	ppm	■ 3	■ 2	■ 3	■ 2
Potassium	ppm	■ <1	■ 2	■ 0	■ 1



WEAR METALS

Iron	ppm	■ 2	■ 5	■ 6	■ 7
Copper	ppm	■ 6	▲ 30	■ 18	▲ 70
Lead	ppm	■ <1	■ 0	■ 1	■ <1
Tin	ppm	■ <1	■ <1	■ <1	■ 1
Aluminum	ppm	■ 1	■ 2	■ 0	■ 2
Chromium	ppm	■ 0	■ <1	■ <1	■ <1
Molybdenum	ppm	■ 84	■ 83	■ 58	■ 43
Nickel	ppm	■ 0	■ 0	■ <1	■ 0
Titanium	ppm	0	0	0	0
Silver	ppm	■ 0	■ 0	■ 0	0
Manganese	ppm	■ <1	■ <1	■ <1	■ <1
Vanadium	ppm	0	0	0	<1



ADDITIVES

Calcium	ppm	■ 2113	■ 1944	■ 1203	■ 1694
Magnesium	ppm	■ 153	106	■ 853	■ 494
Zinc	ppm	■ 1259	■ 971	■ 1136	■ 1092
Phosphorus	ppm	■ 931	■ 803	■ 886	■ 883
Barium	ppm	■ 0	■ 6	■ 0	■ 2
Boron	ppm	■ 69	■ 27	■ 6	■ 27

Depot: VOLVO8770
Unique No: 10762489
Signed: Don Baldrige
Report Date: 29 Nov 2023



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GRAPHS

