



CONSTRUCTION EQUIPMENT

SPM646635-10 VOLVO EC350EL 314018 - DIESEL ENGINE



Sample No: VCP421051
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: SPM646635-10



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SAMPLE INFORMATION

Sample Number	VCP421051	VCP324182	VCP309318	VCP295897
Sample Date	10 Feb 2024	30 Jun 2021	04 Mar 2021	20 Jan 2021
Machine Hours	4219	1857	1626	1299
Oil Hours	0	0	0	0
Oil Changed	N/A	Changed	Changed	Changed
Sample Status	ATTENTION	ABNORMAL	ATTENTION	ABNORMAL



OIL CONDITION

Visc @ 100°C	cSt	▲ 11.8	▲ 12.4	▲ 12.4	▲ 12.3
Base Number (BN)	mg KOH/g	■ 8.0	---	---	---
Oxidation (PA)	%	77	86	79	60



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	■ 0.1	■ 0.1	■ 0.1	■ 0.1
Nitration (PA)	%	74	71	51	78
Sulfation (PA)	%	58	67	64	59
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	■ 0.9	<1.0	<1.0	■ 0.7
Silicon	ppm	■ 5	■ 5	■ 7	■ 6
Sodium	ppm	■ 1	■ 2	■ 3	■ 0
Potassium	ppm	■ 0	■ <1	■ 10	■ 3



WEAR METALS

Iron	ppm	■ 6	■ 6	■ 4	■ 6
Copper	ppm	■ 2	▲ 51	■ 15	▲ 347
Lead	ppm	■ 0	■ <1	■ 0	■ <1
Tin	ppm	■ <1	■ 1	■ 0	■ 1
Aluminum	ppm	■ 1	■ 0	■ 1	■ 0
Chromium	ppm	■ 0	■ <1	■ <1	■ <1
Molybdenum	ppm	■ 43	■ 40	■ 45	■ 6
Nickel	ppm	■ 1	■ <1	■ <1	■ 0
Titanium	ppm	0	<1	<1	<1
Silver	ppm	■ 0	0	<1	0
Manganese	ppm	■ <1	■ <1	■ <1	■ <1
Vanadium	ppm	0	0	<1	0



ADDITIVES

Calcium	ppm	■ 1574	■ 1544	■ 1770	■ 1474
Magnesium	ppm	■ 572	■ 470	■ 542	■ 637
Zinc	ppm	■ 1069	■ 996	■ 1081	■ 809
Phosphorus	ppm	■ 911	■ 854	■ 978	■ 753
Barium	ppm	■ 0	■ 0	■ 0	■ 0
Boron	ppm	■ 25	■ 48	■ 54	■ 31

Diagnosis

The 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: VOLVO0093
Unique No: 10875367
Signed: Doug Bogart
Report Date: 15 Feb 2024



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GRAPHS

