



CONSTRUCTION EQUIPMENT

RYAN GOLF VOLVO EC480EL 314822 - DIESEL ENGINE



Sample No: VCP430171
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: RYAN GOLF



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SAMPLE INFORMATION

Sample Number	VCP430171	VCP424527	VCP409288	VCP367283
Sample Date	15 Nov 2023	17 Jul 2023	11 Feb 2023	05 Nov 2022
Machine Hours	3115	2382	1668	1035
Oil Hours	0	500	500	1035
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ATTENTION	ABNORMAL	ABNORMAL	ABNORMAL



OIL CONDITION

Visc @ 100°C	cSt	▲ 12.4	▲ 12.3	▲ 12.0	▲ 10.3
Base Number (BN)	mg KOH/g	■ 7.5	■ 8.1	■ 8.1	■ 5.2
Oxidation (PA)	%	77	75	80	84



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	■ 0.6	■ 0.1	■ 0.1	■ 0.1
Nitration (PA)	%	83	69	71	103
Sulfation (PA)	%	60	58	62	71
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	■ 0.8
Silicon	ppm	■ 12	■ 13	■ 10	▲ 27
Sodium	ppm	■ 0	■ 1	■ 2	■ 3
Potassium	ppm	■ 1	■ 0	■ 0	■ <1



WEAR METALS

Iron	ppm	■ 9	■ 8	■ 7	■ 15
Copper	ppm	■ 8	▲ 22	▲ 40	▲ 146
Lead	ppm	■ 1	■ 0	■ 2	■ 4
Tin	ppm	■ 1	■ <1	■ 1	■ 4
Aluminum	ppm	■ 1	■ 1	■ <1	■ 2
Chromium	ppm	■ <1	■ <1	■ <1	■ <1
Molybdenum	ppm	■ 51	■ 55	■ 51	■ 81
Nickel	ppm	■ 1	■ 2	■ <1	■ <1
Titanium	ppm	<1	0	0	0
Silver	ppm	■ 0	■ 0	■ 0	■ 0
Manganese	ppm	■ <1	■ <1	■ <1	■ 3
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	■ 1629	■ 1868	■ 1665	■ 2129
Magnesium	ppm	■ 491	■ 541	■ 459	110
Zinc	ppm	■ 1130	■ 1276	■ 1136	■ 1214
Phosphorus	ppm	■ 961	■ 1021	■ 890	■ 915
Barium	ppm	■ <1	■ <1	■ 0	■ 0
Boron	ppm	■ 6	■ 8	■ 8	■ 2

Diagnosis

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. 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.

Depot: VOLVO0093
Unique No: 10870775
Signed: Don Baldrige
Report Date: 09 Feb 2024



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GRAPHS

