



CONSTRUCTION EQUIPMENT

688222 TOEBE VOLVO A40G 353374 - DIESEL ENGINE



Sample No: VCP436401
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 688222 TOEBE



SAMPLE INFORMATION

Sample Number	VCP436401	VCP412579	---	---
Sample Date	04 Apr 2024	04 Aug 2023	---	---
Machine Hours	1118	485	---	---
Oil Hours	500	485	---	---
Oil Changed	Changed	Changed	---	---
Sample Status	ATTENTION	ABNORMAL	---	---

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OIL CONDITION

Visc @ 100°C	cSt	● 12.0	● 10.9	---	---
Base Number (BN)	mg KOH/g	■ 6.6	■ 5.7	---	---
Oxidation (PA)	%	■ 60	■ 56	---	---

Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The copper level has decreased, but is still abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). 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	---	---
Soot %	%	■ 0.3	■ 0.2	---	---
Nitration (PA)	%	■ 77	■ 82	---	---
Sulfation (PA)	%	■ 57	■ 53	---	---
Glycol	%	■ NEG	■ NEG	---	---
Fuel	%	■ <1.0	■ 1.0	---	---
Silicon	ppm	■ 8	■ 27	---	---
Sodium	ppm	■ 2	■ 5	---	---
Potassium	ppm	■ 0	■ 4	---	---



WEAR METALS

Iron	ppm	■ 22	■ 20	---	---
Copper	ppm	▲ 184	▲ 305	---	---
Lead	ppm	■ 2	■ 4	---	---
Tin	ppm	■ <1	■ 3	---	---
Aluminum	ppm	■ 1	■ 3	---	---
Chromium	ppm	■ <1	■ 0	---	---
Molybdenum	ppm	■ 52	■ 84	---	---
Nickel	ppm	■ 7	■ 1	---	---
Titanium	ppm	■ 0	■ 0	---	---
Silver	ppm	■ 0	■ 0	---	---
Manganese	ppm	■ 1	■ 3	---	---
Vanadium	ppm	■ <1	■ <1	---	---



ADDITIVES

Calcium	ppm	■ 1144	■ 2229	---	---
Magnesium	ppm	■ 761	■ 42	---	---
Zinc	ppm	■ 1060	■ 1217	---	---
Phosphorus	ppm	■ 951	■ 1014	---	---
Barium	ppm	■ 0	■ 0	---	---
Boron	ppm	■ 2	■ 50	---	---

Depot: VOLVO2990
Unique No: 10968716
Signed: Jonathan Hester
Report Date: 11 Apr 2024



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GRAPHS

