



CONSTRUCTION EQUIPMENT

3988HO VOLVO EC380E VCP 435203 (S/N NOT GIVEN) - DIESEL ENGINE



Sample No: VCP435203
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 3988HO



SAMPLE INFORMATION

Sample Number	VCP435203	---	---	---
Sample Date	06 Jul 2023	---	---	---
Machine Hours	985	---	---	---
Oil Hours	500	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

PENNSY SUPPLY

200 BURKHOLDER DRIVE
 EPHRATA, PA
 US 17522
 Contact: TYLER MADENFORD



OIL CONDITION

Visc @ 100°C	cSt	▲ 12.1	---	---	---
Base Number (BN)	mg KOH/g	■ 8.6	---	---	---
Oxidation (PA)	%	82	---	---	---

T: (717)859-2132
 F:

Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other 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.



CONTAMINATION

Soot %	%	■ 0.1	---	---	---
Nitration (PA)	%	68	---	---	---
Sulfation (PA)	%	62	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	■ 0.4	---	---	---
Silicon	ppm	■ 10	---	---	---
Sodium	ppm	■ 2	---	---	---
Potassium	ppm	■ <1	---	---	---



WEAR METALS

Iron	ppm	■ 6	---	---	---
Copper	ppm	▲ 102	---	---	---
Lead	ppm	■ <1	---	---	---
Tin	ppm	■ 1	---	---	---
Aluminum	ppm	■ 1	---	---	---
Chromium	ppm	■ <1	---	---	---
Molybdenum	ppm	■ 49	---	---	---
Nickel	ppm	■ 0	---	---	---
Titanium	ppm	0	---	---	---
Silver	ppm	■ 0	---	---	---
Manganese	ppm	■ 1	---	---	---
Vanadium	ppm	0	---	---	---



ADDITIVES

Calcium	ppm	■ 1840	---	---	---
Magnesium	ppm	■ 521	---	---	---
Zinc	ppm	■ 1212	---	---	---
Phosphorus	ppm	■ 976	---	---	---
Barium	ppm	■ 0	---	---	---
Boron	ppm	■ 31	---	---	---

Depot: PENEPH
Unique No: 10559749
Signed: Don Baldrige
Report Date: 17 Jul 2023



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GRAPHS

