



CONSTRUCTION EQUIPMENT

VOLVO EC480 315364 - DIESEL ENGINE



Sample No: VCP430275
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:



SAMPLE INFORMATION

Sample Number	VCP430275	---	---	---
Sample Date	30 Jan 2024	---	---	---
Machine Hours	0	---	---	---
Oil Hours	0	---	---	---
Oil Changed	Changed	---	---	---
Sample Status	ABNORMAL	---	---	---

COWIN EQUIPMENT COMPANY

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OIL CONDITION

Visc @ 100°C	cSt	▲ 11.0	---	---	---
Base Number (BN)	mg KOH/g	■ 4.6	---	---	---
Oxidation (PA)	%	75	---	---	---



CONTAMINATION

Water	%	NEG	---	---	---
Soot %	%	■ 0.1	---	---	---
Nitration (PA)	%	89	---	---	---
Sulfation (PA)	%	64	---	---	---
Glycol	%	NEG	---	---	---
Fuel	%	■ 0.7	---	---	---
Silicon	ppm	▲ 26	---	---	---
Sodium	ppm	■ 4	---	---	---
Potassium	ppm	■ 3	---	---	---



WEAR METALS

Iron	ppm	■ 17	---	---	---
Copper	ppm	▲ 196	---	---	---
Lead	ppm	■ 2	---	---	---
Tin	ppm	■ 3	---	---	---
Aluminum	ppm	■ 2	---	---	---
Chromium	ppm	■ <1	---	---	---
Molybdenum	ppm	■ 83	---	---	---
Nickel	ppm	■ <1	---	---	---
Titanium	ppm	<1	---	---	---
Silver	ppm	■ 0	---	---	---
Manganese	ppm	■ 2	---	---	---
Vanadium	ppm	<1	---	---	---



ADDITIVES

Calcium	ppm	■ 1915	---	---	---
Magnesium	ppm	■ 187	---	---	---
Zinc	ppm	■ 1182	---	---	---
Phosphorus	ppm	■ 974	---	---	---
Barium	ppm	■ 2	---	---	---
Boron	ppm	■ 6	---	---	---

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). Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of seal material. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Depot: VOLV08532
Unique No: 10871878
Signed: Jonathan Hester
Report Date: 13 Feb 2024



CONSTRUCTION EQUIPMENT



GRAPHS

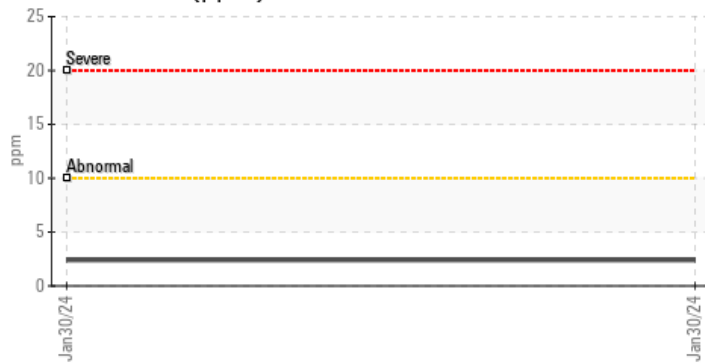
Iron (ppm)



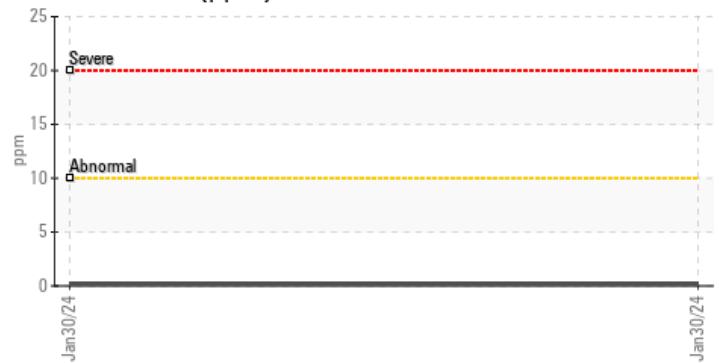
Lead (ppm)



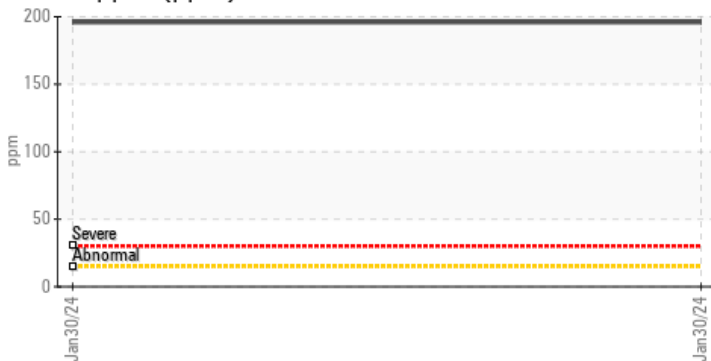
Aluminum (ppm)



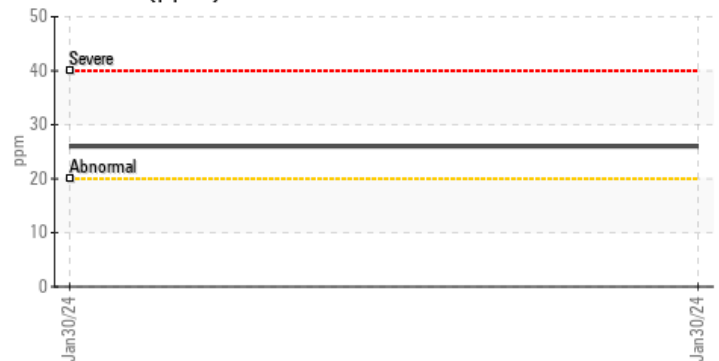
Chromium (ppm)



▲ Copper (ppm)



▲ Silicon (ppm)



▲ Viscosity @ 100°C



Base Number

