



CONSTRUCTION EQUIPMENT

SW-26767-2 VOLVO EC210BLC 16849 - DIESEL ENGINE



Sample No: VCP414470
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: SW-26767-2



ARNOLD MACHINERY COMPANY
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SAMPLE INFORMATION

Sample Number	VCP414470	VCP412541	VCP406973	---
Sample Date	29 Nov 2023	29 Aug 2023	10 Aug 2023	---
Machine Hours	9460	9439	9439	---
Oil Hours	0	20	0	---
Oil Changed	Not Chngd	Not Chngd	Not Chngd	---
Sample Status	ABNORMAL	ABNORMAL	MARGINAL	---



OIL CONDITION

Visc @ 100°C	cSt	▲ 9.6	▲ 10.2	11.1	---
Base Number (BN)	mg KOH/g	■ 6.3	■ 7.0	■ 7.0	---
Oxidation (PA)	%	43	43	44	---



CONTAMINATION

Water	%	NEG	NEG	NEG	---
Soot %	%	■ 0.1	■ 0	■ 0.1	---
Nitration (PA)	%	36	35	34	---
Sulfation (PA)	%	45	46	45	---
Glycol	%	NEG	NEG	NEG	---
Fuel	%	▲ 6.4	▲ 6.1	▲ 3.2	---
Silicon	ppm	■ 17	■ 14	■ 10	---
Sodium	ppm	■ 2	■ 2	■ <1	---
Potassium	ppm	■ 0	■ 2	■ 2	---



WEAR METALS

Iron	ppm	■ 20	■ 15	■ 12	---
Copper	ppm	■ 4	■ 2	■ 2	---
Lead	ppm	■ 0	■ 0	■ <1	---
Tin	ppm	■ 0	■ <1	■ 0	---
Aluminum	ppm	■ 3	■ 3	■ 2	---
Chromium	ppm	■ 0	■ <1	■ <1	---
Molybdenum	ppm	■ 31	■ 36	■ 40	---
Nickel	ppm	■ 0	■ 0	■ <1	---
Titanium	ppm	<1	<1	<1	---
Silver	ppm	■ 0	■ 0	■ 0	---
Manganese	ppm	■ 0	■ <1	<1	---
Vanadium	ppm	<1	0	0	---



ADDITIVES

Calcium	ppm	1076	1069	■ 1018	---
Magnesium	ppm	■ 446	■ 539	■ 574	---
Zinc	ppm	■ 866	■ 915	■ 953	---
Phosphorus	ppm	■ 767	■ 785	■ 801	---
Barium	ppm	■ 0	■ 2	■ 0	---
Boron	ppm	■ 14	■ 24	■ 14	---

Diagnosis

We advise that you check the fuel injection system. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of fuel present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity.

Depot: VOLVO8770
Unique No: 10765877
Signed: Jonathan Hester
Report Date: 04 Dec 2023



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GRAPHS

