



CONSTRUCTION EQUIPMENT

9131 VOLVO A30F 12027 - DIESEL ENGINE



Sample No: VCP413944
Oil Type: CHEVRON 15W40
Job No: 9131



SAMPLE INFORMATION

Sample Number	VCP413944	VCP383737	VCP291506	VCP258046
Sample Date	25 Aug 2023	14 Nov 2022	04 Nov 2020	15 Jan 2020
Machine Hours	10080	9516	8733	8302
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	SEVERE	SEVERE	SEVERE

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OIL CONDITION

Visc @ 100°C	cSt	▲ 11.9	▲ 11.6	■ 12.4	■ 12.0
Base Number (BN)	mg KOH/g	■ 7.0	■ 7.5	---	---
Oxidation (PA)	%	66	77	56	58

Diagnosis

We advise that you check the fuel injection system. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. 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.



CONTAMINATION

Soot %	%	■ 0.1	■ 0.2	■ 0.1	■ 0.2
Nitration (PA)	%	68	96	78	78
Sulfation (PA)	%	60	66	53	54
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	▲ 4.5	▲ 3.8	<1.0	▲ 2.9
Silicon	ppm	▲ 24	■ 57	■ 55	■ 126
Sodium	ppm	■ 4	■ 2	■ 3	■ 4
Potassium	ppm	■ 0	■ 0	■ 4	■ 5



WEAR METALS

Iron	ppm	■ 59	■ 95	■ 55	■ 85
Copper	ppm	■ 2	■ 5	■ 3	■ 7
Lead	ppm	■ 1	■ 4	■ <1	■ 3
Tin	ppm	■ 1	■ 1	■ <1	■ 0
Aluminum	ppm	▲ 9	▲ 16	▲ 14	▲ 29
Chromium	ppm	■ <1	■ 3	■ 3	■ 7
Molybdenum	ppm	■ 84	■ 81	■ 26	■ 22
Nickel	ppm	■ <1	■ 0	■ 1	■ 2
Titanium	ppm	3	8	■ 16	■ 17
Silver	ppm	■ 0	■ 0	0	0
Manganese	ppm	■ <1	■ 1	■ <1	■ 2
Vanadium	ppm	<1	0	<1	0



ADDITIVES

Calcium	ppm	■ 1564	■ 1620	■ 1452	■ 1394
Magnesium	ppm	■ 438	■ 640	■ 686	■ 661
Zinc	ppm	■ 1150	■ 753	■ 772	■ 691
Phosphorus	ppm	■ 964	■ 678	■ 675	■ 612
Barium	ppm	■ 0	■ 0	■ 0	■ <1
Boron	ppm	■ 342	■ 159	■ 71	■ 48

Depot: RELMIL
Unique No: 10634936
Signed: Don Baldrige
Report Date: 09 Sep 2023



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GRAPHS

