



CONSTRUCTION EQUIPMENT

VOLVO L220F 6614 - DIESEL ENGINE



Sample No: VC077467
Oil Type: GULF 15W40
Job No:



SAMPLE INFORMATION

Sample Number	VC077467	VCE74441	VCE123936	VCP309083
Sample Date	19 Jul 2023	05 Jan 2023	08 Dec 2021	09 Jul 2021
Machine Hours	40330	39841	39241	0
Oil Hours	0	0	0	0
Oil Changed	N/A	N/A	N/A	N/A
Sample Status	ATTENTION	ATTENTION	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	▲ 11.3	▲ 11.0	■ 12.8	■ 13.0
Base Number (BN)	mg KOH/g	■ 6.9	■ 9.0	■ 9	---
Oxidation (PA)	%	48	63	57	55

CONTAMINATION

Soot %	%	■ 0.2	■ 0.3	■ 0.2	■ 0.4
Nitration (PA)	%	41	53	45	66
Sulfation (PA)	%	47	54	53	53
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	■ 0.7	<1.0	<1.0
Silicon	ppm	■ 3	■ 4	■ 8	■ 4
Sodium	ppm	■ 3	■ 2	■ 3	■ 3
Potassium	ppm	■ 2	■ <1	■ 1	■ 1

WEAR METALS

Iron	ppm	■ 15	■ 13	■ 12	■ 9
Copper	ppm	■ 2	■ 2	■ 2	■ 1
Lead	ppm	■ <1	■ <1	■ <1	■ <1
Tin	ppm	■ <1	■ 0	■ <1	■ <1
Aluminum	ppm	■ <1	■ <1	■ 4	■ 0
Chromium	ppm	■ 0	■ 0	■ <1	■ <1
Molybdenum	ppm	■ 49	■ 41	■ 59	■ 77
Nickel	ppm	■ 0	■ 0	■ 0	■ 0
Titanium	ppm	<1	0	<1	<1
Silver	ppm	■ 0	■ 0	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0

ADDITIVES

Calcium	ppm	■ 1032	■ 1493	■ 1648	■ 1685
Magnesium	ppm	■ 750	■ 383	■ 365	■ 316
Zinc	ppm	■ 1083	■ 965	■ 1071	■ 1069
Phosphorus	ppm	■ 896	783	■ 986	■ 969
Barium	ppm	■ 0	■ 0	■ 0	■ 0
Boron	ppm	■ 12	■ 46	■ 102	■ 54

Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. 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.

Depot: WHIBRI
Unique No: 10603850
Signed: Don Baldrige
Report Date: 15 Aug 2023



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VOLVO GRAPHS

