



CONSTRUCTION EQUIPMENT

9832 VOLVO EC380E 314576 - DIESEL ENGINE



Sample No: VCP423107
Oil Type: CHEVRON 15W40
Job No: 9832



SAMPLE INFORMATION

Sample Number	VCP423107	VCP418877	VCP399933	VCP365964
Sample Date	23 Oct 2023	19 Jun 2023	17 Jan 2023	05 Oct 2022
Machine Hours	2092	1623	1004	560
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ATTENTION	ABNORMAL	NORMAL	ABNORMAL

GAINES & CO
 112 WESTMINISTER RD
 REISTERSTOWN, MD
 US 21136
 Contact: MICHAEL GLADFELTER

OIL CONDITION

Visc @ 100°C	cSt	▲ 12.3	▲ 12.3	■ 12.4	▲ 12.4
Base Number (BN)	mg KOH/g	■ 6.4	■ 6.0	■ 7.4	■ 6.8
Oxidation (PA)	%	63	74	65	65

T: (410)833-9833
 F: (410)833-9822

CONTAMINATION

Soot %	%	■ 0.1	■ 0.1	■ 0.1	■ 0.1
Nitration (PA)	%	61	71	65	70
Sulfation (PA)	%	60	66	62	62
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	■ 0.6
Silicon	ppm	■ 5	■ 5	■ 6	■ 15
Sodium	ppm	■ <1	■ 1	■ 0	■ 1
Potassium	ppm	■ <1	■ 0	■ 0	■ 4

Diagnosis

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. 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.

WEAR METALS

Iron	ppm	■ 2	■ 6	■ 3	■ 5
Copper	ppm	■ 5	▲ 19	■ 11	▲ 53
Lead	ppm	■ <1	■ <1	■ 0	■ 2
Tin	ppm	■ <1	■ <1	■ 0	■ 2
Aluminum	ppm	■ 2	■ 2	■ 1	■ <1
Chromium	ppm	■ 0	■ <1	■ 0	■ 0
Molybdenum	ppm	■ 87	■ 93	■ 90	■ 18
Nickel	ppm	■ 0	■ 0	■ 0	■ 0
Titanium	ppm	1	1	0	0
Silver	ppm	■ 0	■ 0	■ 0	0
Manganese	ppm	■ <1	■ <1	■ <1	■ 2
Vanadium	ppm	0	0	0	0

ADDITIVES

Calcium	ppm	■ 1366	■ 1526	■ 1458	■ 2126
Magnesium	ppm	■ 408	■ 504	■ 433	■ 166
Zinc	ppm	■ 1271	■ 1221	■ 1007	■ 1063
Phosphorus	ppm	■ 1050	■ 987	■ 849	■ 908
Barium	ppm	■ 0	■ 0	■ 0	■ <1
Boron	ppm	■ 316	■ 254	■ 368	■ 13

Depot: GAICOC
Unique No: 10714693
Signed: Don Baldrige
Report Date: 31 Oct 2023



CONSTRUCTION EQUIPMENT



GRAPHS

