



CONSTRUCTION EQUIPMENT

GFL 8-372833 VOLVO EC220E 310830 - DIESEL ENGINE



Sample No: VCP380381
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 8-372833



SAMPLE INFORMATION

Sample Number	VCP380381	VCP380937	VCP332577	VCP352418
Sample Date	21 Jul 2023	02 Jun 2023	17 Feb 2023	21 Oct 2022
Machine Hours	5524	5397	4998	4513
Oil Hours	0	400	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	ABNORMAL



OIL CONDITION

Visc @ 40°C	cSt	---	▲ 55.1	---	---
Visc @ 100°C	cSt	▲ 9.7	▲ 8.9	▲ 10.7	■ 12.5
Viscosity Index (VI)	Scale	---	■ 139	---	---
Oxidation (PA)	%	71	67	86	100



CONTAMINATION

Soot %	%	■ 0	■ 0	■ 0	■ 0.1
Nitration (PA)	%	44	46	63	80
Sulfation (PA)	%	62	59	72	71
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	■ 1	■ 0.8	■ 0.8	<1.0
Silicon	ppm	■ 5	■ 7	■ 13	▲ 23
Sodium	ppm	■ 2	■ 2	■ 2	■ 3
Potassium	ppm	■ <1	■ 0	■ <1	■ <1



WEAR METALS

Iron	ppm	■ 6	■ 8	■ 10	■ 14
Copper	ppm	■ 6	■ 7	■ 3	■ 2
Lead	ppm	■ <1	■ <1	■ <1	■ 1
Tin	ppm	■ 0	■ <1	■ <1	■ <1
Aluminum	ppm	■ 2	■ 3	■ 5	9
Chromium	ppm	■ 2	■ 2	■ 2	■ <1
Molybdenum	ppm	■ 25	■ 20	■ 30	■ 37
Nickel	ppm	■ 0	■ <1	■ <1	■ <1
Titanium	ppm	0	<1	■ <1	■ <1
Silver	ppm	■ 0	■ 0	■ 0	0
Manganese	ppm	■ <1	■ <1	■ <1	■ <1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1016	905	■ 1346	■ 1611
Magnesium	ppm	■ 313	■ 255	■ 366	■ 453
Zinc	ppm	813	752	■ 932	■ 1057
Phosphorus	ppm	■ 730	673	■ 826	■ 934
Barium	ppm	■ 0	■ 0	■ 0	■ 0
Boron	ppm	■ 23	■ 16	■ 24	■ 18



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Diagnosis

The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. No other corrective action is recommended at this time. All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected in the oil. Viscosity of sample indicates oil is within SAE 30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

Depot: SHEMIS
Unique No: 5617646
Signed: Kevin Marson
Report Date: 28 Jul 2023



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GRAPHS

