



CONSTRUCTION EQUIPMENT

GFL 8-385301 VOLVO EC220E 310830 - DIESEL ENGINE



Sample No: VCP221741
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: 8-385301



SAMPLE INFORMATION

Sample Number	VCP221741	VCP380381	VCP380937	VCP332577
Sample Date	15 Nov 2023	21 Jul 2023	02 Jun 2023	17 Feb 2023
Machine Hours	5815	5524	5397	4998
Oil Hours	290	0	400	0
Oil Changed	Not Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	ABNORMAL	ABNORMAL	ABNORMAL



OIL CONDITION

Visc @ 40°C	cSt	---	---	▲ 55.1	---
Visc @ 100°C	cSt	▲ 9.8	▲ 9.7	▲ 8.9	▲ 10.7
Viscosity Index (VI)	Scale	---	---	■ 139	---
Oxidation (PA)	%	81	71	67	86



CONTAMINATION

Soot %	%	■ 0	■ 0	■ 0	■ 0
Nitration (PA)	%	49	44	46	63
Sulfation (PA)	%	69	62	59	72
Glycol	%	■ 0.0	NEG	NEG	NEG
Fuel	%	■ 1.1	■ 1	■ 0.8	■ 0.8
Silicon	ppm	■ 8	■ 5	■ 7	■ 13
Sodium	ppm	■ 2	■ 2	■ 2	■ 2
Potassium	ppm	■ <1	■ <1	■ 0	■ <1



WEAR METALS

Iron	ppm	■ 9	■ 6	■ 8	■ 10
Copper	ppm	■ 4	■ 6	■ 7	■ 3
Lead	ppm	■ <1	■ <1	■ <1	■ <1
Tin	ppm	■ 0	■ 0	■ <1	■ <1
Aluminum	ppm	■ 4	■ 2	■ 3	■ 5
Chromium	ppm	■ 1	■ 2	■ 2	■ 2
Molybdenum	ppm	■ 23	■ 25	■ 20	■ 30
Nickel	ppm	■ <1	■ 0	■ <1	■ <1
Titanium	ppm	0	0	<1	■ <1
Silver	ppm	■ <1	■ 0	■ 0	■ 0
Manganese	ppm	■ 0	■ <1	■ <1	■ <1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	971	1016	905	■ 1346
Magnesium	ppm	■ 281	■ 313	■ 255	■ 366
Zinc	ppm	805	813	752	■ 932
Phosphorus	ppm	663	■ 730	673	■ 826
Barium	ppm	■ <1	■ 0	■ 0	■ 0
Boron	ppm	■ 17	■ 23	■ 16	■ 24



STRONGCO EQUIPMENT INC.

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Diagnosis

No corrective action is recommended at this time. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. 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: 5681866
Signed: Kevin Marson
Report Date: 17 Nov 2023



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GRAPHS

