



CONSTRUCTION EQUIPMENT

GFL 8-393399 VOLVO EC220E 310830 - REAR LEFT FINAL DRIVE



Sample No: VCP449358
Oil Type: GEAR OIL SAE 80W90
Job No: 8-393399



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SAMPLE INFORMATION

Sample Number	VCP449358	VCP352284	VCP252198	VCP212531
Sample Date	02 Feb 2024	10 Jun 2022	24 Apr 2020	15 Feb 2019
Machine Hours	6000	3980	2002	492
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	NORMAL	NORMAL	NORMAL

OIL CONDITION

Visc @ 40°C	cSt	▲ 58.6	■ 214	■ 145	■ 182
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CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	■ 680	■ 500	■ 125	■ 26
Sodium	ppm	■ 36	■ 25	■ 9	■ 4
Potassium	ppm	■ 40	■ 30	■ 9	■ 2

WEAR METALS

PQ		■ 337	1103	370	---
Iron	ppm	▲ 3840	■ 1188	■ 633	■ 219
Copper	ppm	■ 11	■ 2	■ 1	■ <1
Lead	ppm	■ <1	■ <1	■ 0	■ <1
Tin	ppm	■ 0	■ 0	■ 0	■ 0
Aluminum	ppm	109	■ 82	■ 21	■ 4
Chromium	ppm	■ 24	■ 8	■ 8	■ 3
Molybdenum	ppm	■ <1	■ <1	■ <1	■ <1
Nickel	ppm	▲ 10	4	6	2
Titanium	ppm	7	6	2	<1
Silver	ppm	0	0	0	0
Manganese	ppm	■ 26	■ 10	■ 6	■ 3
Vanadium	ppm	0	<1	<1	0

ADDITIVES

Calcium	ppm	412	271	■ 115	■ 23
Magnesium	ppm	■ 87	■ 61	■ 21	■ 5
Zinc	ppm	■ 26	■ 4	■ 14	■ 11
Phosphorus	ppm	■ 2169	■ 473	■ 952	■ 435
Barium	ppm	■ 0	■ <1	■ 0	■ <1
Boron	ppm	■ 195	■ 9	■ 114	■ <1

Diagnosis

The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. Iron and nickel ppm levels are abnormal. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. There is no indication of any contamination in the oil. Viscosity of sample indicates oil is within SAE 80 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Depot: SHEMIS
Unique No: 5724220
Signed: Kevin Marson
Report Date: 14 Feb 2024



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VOLVO GRAPHS

