



CONSTRUCTION EQUIPMENT

GFL 8-405359 VOLVO L90H 624665 - DIESEL ENGINE



Sample No: VCP430152
Oil Type: DIESEL ENGINE OIL SAE 40
Job No: 8-405359



SAMPLE INFORMATION

Sample Number	VCP430152	VCP380057	VCP391943	VCP380936
Sample Date	22 May 2024	13 Dec 2023	29 May 2023	12 Jan 2023
Machine Hours	8510	8116	7483	7001
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ABNORMAL	ABNORMAL	SEVERE	SEVERE



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OIL CONDITION

Visc @ 100°C	cSt	13.9	15.3	14.5	15.1
Oxidation (PA)	%	97	80	95	107



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.3	0.2	0.3	0.2
Nitration (PA)	%	84	65	83	98
Sulfation (PA)	%	69	60	67	75
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	▲ 32	▲ 34	▲ 40	▲ 57
Sodium	ppm	3	2	2	3
Potassium	ppm	<1	0	<1	0



WEAR METALS

Iron	ppm	28	34	21	26
Copper	ppm	1	2	1	1
Lead	ppm	<1	<1	<1	1
Tin	ppm	0	<1	<1	<1
Aluminum	ppm	20	● 24	● 21	● 18
Chromium	ppm	4	3	2	3
Molybdenum	ppm	46	55	54	52
Nickel	ppm	4	3	2	4
Titanium	ppm	0	0	<1	<1
Silver	ppm	0	<1	0	0
Manganese	ppm	<1	0	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1872	1535	1808	1901
Magnesium	ppm	602	835	762	679
Zinc	ppm	1155	1299	1279	1288
Phosphorus	ppm	992	1047	1127	1124
Barium	ppm	0	<1	0	0
Boron	ppm	28	13	22	23

Diagnosis

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Aluminum ppm levels are noted. All other component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The oil is no longer serviceable due to the presence of contaminants.

Depot: SHEMIS
Unique No: 5787592
Signed: Kevin Marson
Report Date: 29 May 2024



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VOLVO GRAPHS

