



CONSTRUCTION EQUIPMENT

VOLVO A40G 352412 - DIESEL ENGINE



Sample No: VCP434476
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:



SAMPLE INFORMATION

Sample Number	VCP434476	VCP332031	VCP304686	VCP296176
Sample Date	01 Nov 2023	24 Nov 2021	01 Mar 2021	07 Dec 2020
Machine Hours	4381	2279	1361	1001
Oil Hours	0	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	ATTENTION	ABNORMAL	NORMAL	NORMAL

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OIL CONDITION

Visc @ 100°C	cSt	12.4	12.7	12.9	12.9
Base Number (BN)	mg KOH/g	4.8	7.1	---	---
Oxidation (PA)	%	102	92	83	86



CONTAMINATION

Soot %	%	0.5	0.3	0.2	0.2
Nitration (PA)	%	110	98	64	76
Sulfation (PA)	%	76	67	65	66
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	1.4	<1.0	<1.0	<1.0
Silicon	ppm	9	5	5	8
Sodium	ppm	▲ 185	<1	2	3
Potassium	ppm	5	<1	0	6



WEAR METALS

Iron	ppm	24	11	5	8
Copper	ppm	▲ 37	▲ 200	2	4
Lead	ppm	3	1	<1	3
Tin	ppm	2	2	1	<1
Aluminum	ppm	3	2	1	2
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	46	44	40	38
Nickel	ppm	6	3	2	3
Titanium	ppm	0	<1	<1	<1
Silver	ppm	0	<1	<1	0
Manganese	ppm	1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1644	1851	1800	1774
Magnesium	ppm	492	539	512	515
Zinc	ppm	1040	1128	1115	1060
Phosphorus	ppm	834	1015	984	913
Barium	ppm	0	0	0	0
Boron	ppm	8	13	41	23

Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The copper level has decreased, but is still abnormal. All other component wear rates are normal. Sodium and/or potassium levels are high. Fuel content negligible. Test for glycol is negative. The condition of the oil is acceptable for the time in service.

Depot: VOLVO0090
Unique No: 10737063
Signed: Doug Bogart
Report Date: 16 Nov 2023



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GRAPHS

