



CONSTRUCTION EQUIPMENT

VOLVO A40D 70023 - DIESEL ENGINE



Sample No: VCP143844

Oil Type: DIESEL ENGINE OIL SAE 15W40

Job No:



SAMPLE INFORMATION

Sample Number	VCP143844	VCP218398	VCE192372	VCP179449
Sample Date	29 Sep 2023	23 Jan 2018	10 Aug 2017	19 Dec 2016
Machine Hours	9941	8409	7951	7396
Oil Hours	625	458	555	0
Oil Changed	Not Chngd	Changed	Changed	Not Chngd
Sample Status	ABNORMAL	NORMAL	ABNORMAL	NORMAL

GLOVER CONSTRUCTION CO. INC.

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PLEASANT HILL, NC

US 27866

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OIL CONDITION

Visc @ 100°C	cSt	11.9	13.09	12.5	13.85
Base Number (BN)	mg KOH/g	7.1	---	---	---
Oxidation (PA)	%	47	52	56	48

Diagnosis

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



CONTAMINATION

Soot %	%	0.9	0.1	0.6	0
Nitration (PA)	%	67	50	58	42
Sulfation (PA)	%	52	47	50	44
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	1.1	<1.0	<1.0	<1.0
Silicon	ppm	5	4	28	6
Sodium	ppm	1	2	13	6
Potassium	ppm	3	<1	22	0



WEAR METALS

Iron	ppm	26	6	60	6
Copper	ppm	439	18	22	4
Lead	ppm	1	<1	5	<1
Tin	ppm	2	1	8	2
Aluminum	ppm	4	2	5	2
Chromium	ppm	<1	<1	2	<1
Molybdenum	ppm	33	49	12	15
Nickel	ppm	<1	<1	3	<1
Titanium	ppm	<1	0	<1	<1
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	5	<1
Vanadium	ppm	<1	0	0	0



ADDITIVES

Calcium	ppm	1738	1112	2134	2195
Magnesium	ppm	403	737	159	17
Zinc	ppm	1135	952	1047	1010
Phosphorus	ppm	962	954	782	995
Barium	ppm	7	0	0	0
Boron	ppm	4	5	32	71

Depot: GLOPLE

Unique No: 10737808

Signed: Sean Felton

Report Date: 14 Nov 2023



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GRAPHS

