



# CONSTRUCTION EQUIPMENT

## VOLVO A45G 352853 - DIESEL ENGINE



**Sample No:** VCP423716  
**Oil Type:** SHELL ROTELLA T 15W40  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP423716</b>	VCP386271	VCP331711	VCP324504
Sample Date	<b>20 Jun 2023</b>	01 Mar 2023	01 Jul 2022	05 Apr 2022
Machine Hours	<b>4275</b>	3434	2868	2075
Oil Hours	<b>0</b>	0	0	0
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>MARGINAL</b>	NORMAL	NORMAL	NORMAL

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### OIL CONDITION

Visc @ 100°C	cSt	<b>▲ 12.4</b>	■ 12.7	■ 12.6	■ 12.8
Base Number (BN)	mg KOH/g	■ <b>6.5</b>	■ 9.2	■ 6.4	■ 6.4
Oxidation (PA)	%	<b>63</b>	75	64	67

### CONTAMINATION

Soot %	%	■ <b>1.2</b>	■ 0.6	■ 0.9	■ 0.8
Nitration (PA)	%	<b>83</b>	63	75	74
Sulfation (PA)	%	<b>62</b>	61	66	66
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	■ <b>1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	■ <b>6</b>	■ 5	■ 5	■ 5
Sodium	ppm	■ <b>4</b>	■ 2	■ 3	■ 1
Potassium	ppm	■ <b>2</b>	■ 2	■ 1	■ 5

### WEAR METALS

Iron	ppm	■ <b>23</b>	■ 15	■ 14	■ 13
Copper	ppm	■ <b>10</b>	■ 13	■ 36	■ 74
Lead	ppm	■ <b>3</b>	■ 1	■ 3	■ 2
Tin	ppm	■ <b>1</b>	■ <1	■ 2	■ 2
Aluminum	ppm	■ <b>5</b>	■ 3	■ 3	■ 2
Chromium	ppm	■ <b>1</b>	■ <1	■ <1	■ <1
Molybdenum	ppm	■ <b>52</b>	■ 43	■ 41	■ 15
Nickel	ppm	■ <b>6</b>	■ 0	■ <1	■ 0
Titanium	ppm	<1	0	0	0
Silver	ppm	■ <b>0</b>	■ 0	■ <1	■ 0
Manganese	ppm	■ <b>&lt;1</b>	■ <1	■ <1	■ <1
Vanadium	ppm	<1	<1	0	0

### ADDITIVES

Calcium	ppm	■ <b>1777</b>	■ 1749	■ 1899	■ 2215
Magnesium	ppm	■ <b>325</b>	■ 420	■ 302	■ 120
Zinc	ppm	■ <b>1149</b>	■ 1132	■ 1147	■ 1187
Phosphorus	ppm	■ <b>1014</b>	■ 933	■ 925	■ 943
Barium	ppm	■ <b>0</b>	■ 0	■ 0	■ 0
Boron	ppm	<b>17</b>	43	■ 66	■ 54

### Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

**Depot:** JMHMAR  
**Unique No:** 10713540  
**Signed:** Jonathan Hester  
**Report Date:** 31 Oct 2023



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## GRAPHS

