



# CONSTRUCTION EQUIPMENT

## SPM646960-10 VOLVO A45G 353251 - DIESEL ENGINE



**Sample No:** VCP436270  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** SPM646960-10



### SAMPLE INFORMATION

Sample Number	<b>VCP436270</b>	VCP396607	VCP415847	---
Sample Date	<b>20 Dec 2023</b>	24 Oct 2023	20 Jul 2023	---
Machine Hours	<b>3045</b>	2633	2242	---
Oil Hours	<b>0</b>	0	0	---
Oil Changed	<b>N/A</b>	Changed	Changed	---
Sample Status	<b>ATTENTION</b>	ATTENTION	ATTENTION	---

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### OIL CONDITION

Visc @ 100°C	cSt	<b>▲ 12.3</b>	▲ 12.3	▲ 12.1	---
Base Number (BN)	mg KOH/g	<b>■ 10.0</b>	■ 9.7	■ 10.1	---
Oxidation (PA)	%	<b>78</b>	80	77	---

### Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. 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. Confirm oil type.



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Soot %	%	<b>■ 0.2</b>	■ 0.3	■ 0.2	---
Nitration (PA)	%	<b>57</b>	63	54	---
Sulfation (PA)	%	<b>59</b>	61	59	---
Glycol	%	<b>NEG</b>	NEG	NEG	---
Fuel	%	<b>&lt;1.0</b>	<1.0	■ 1.0	---
Silicon	ppm	<b>■ 4</b>	■ 5	■ 4	---
Sodium	ppm	<b>■ 2</b>	■ 3	■ 2	---
Potassium	ppm	<b>■ 2</b>	■ 2	■ 0	---



### WEAR METALS

Iron	ppm	<b>■ 3</b>	■ 8	■ 5	---
Copper	ppm	<b>■ 2</b>	■ 4	■ 5	---
Lead	ppm	<b>■ 1</b>	■ <1	■ <1	---
Tin	ppm	<b>■ &lt;1</b>	■ 1	■ <1	---
Aluminum	ppm	<b>■ 2</b>	■ 2	■ <1	---
Chromium	ppm	<b>■ 0</b>	■ <1	■ 0	---
Molybdenum	ppm	<b>■ 46</b>	■ 65	■ 69	---
Nickel	ppm	<b>■ &lt;1</b>	■ 1	■ <1	---
Titanium	ppm	<b>0</b>	<1	0	---
Silver	ppm	<b>■ 0</b>	■ 0	■ 0	---
Manganese	ppm	<b>■ &lt;1</b>	■ <1	■ <1	---
Vanadium	ppm	<b>&lt;1</b>	<1	<1	---



### ADDITIVES

Calcium	ppm	<b>■ 1565</b>	■ 1545	■ 1724	---
Magnesium	ppm	<b>■ 500</b>	■ 506	■ 519	---
Zinc	ppm	<b>■ 1103</b>	■ 1075	■ 1096	---
Phosphorus	ppm	<b>■ 956</b>	■ 966	■ 913	---
Barium	ppm	<b>■ 0</b>	■ 0	■ 0	---
Boron	ppm	<b>■ 51</b>	■ 36	■ 60	---

**Depot:** VOLVO0090  
**Unique No:** 10857553  
**Signed:** Don Baldrige  
**Report Date:** 01 Feb 2024



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## GRAPHS

