



# CONSTRUCTION EQUIPMENT

## - DIESEL ENGINE



**Sample No:** VCP437594  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP437594</b>	VCP396271	VCP358457	---
Sample Date	<b>06 Jun 2024</b>	25 Feb 2023	22 Jun 2022	---
Machine Hours	<b>4000</b>	2203	1320	---
Oil Hours	<b>0</b>	500	0	---
Oil Changed	<b>Changed</b>	Changed	Changed	---
Sample Status	<b>NORMAL</b>	ABNORMAL	ATTENTION	---

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### OIL CONDITION

Visc @ 100°C	cSt	<span style="color: green;">■</span> <b>12.4</b>	<span style="color: green;">■</span> 12.6	<span style="color: orange;">●</span> 12.4	---
Base Number (BN)	mg KOH/g	<span style="color: green;">■</span> <b>8.8</b>	<span style="color: green;">■</span> 9.1	<span style="color: green;">■</span> 9.2	---
Oxidation (PA)	%	<b>73</b>	56	63	---

### Diagnosis

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	---
Soot %	%	<span style="color: green;">■</span> <b>0.2</b>	<span style="color: green;">■</span> 0.1	<span style="color: green;">■</span> 0.2	---
Nitration (PA)	%	<b>63</b>	56	69	---
Sulfation (PA)	%	<b>58</b>	52	56	---
Glycol	%	<b>NEG</b>	NEG	NEG	---
Fuel	%	<b>&lt;1.0</b>	<1.0	<span style="color: green;">■</span> 1.8	---
Silicon	ppm	<span style="color: green;">■</span> <b>6</b>	<span style="color: green;">■</span> 2	<span style="color: green;">■</span> 3	---
Sodium	ppm	<span style="color: green;">■</span> <b>1</b>	<span style="color: green;">■</span> 0	<span style="color: green;">■</span> 2	---
Potassium	ppm	<span style="color: green;">■</span> <b>1</b>	<span style="color: green;">■</span> 2	<span style="color: green;">■</span> 0	---



### WEAR METALS

Iron	ppm	<span style="color: green;">■</span> <b>8</b>	<span style="color: green;">■</span> 8	<span style="color: green;">■</span> 6	---
Copper	ppm	<span style="color: green;">■</span> <b>4</b>	<span style="color: orange;">▲</span> 24	<span style="color: green;">■</span> 10	---
Lead	ppm	<span style="color: green;">■</span> <b>&lt;1</b>	<span style="color: green;">■</span> <1	<span style="color: green;">■</span> <1	---
Tin	ppm	<span style="color: green;">■</span> <b>1</b>	<span style="color: green;">■</span> <1	<span style="color: green;">■</span> <1	---
Aluminum	ppm	<span style="color: green;">■</span> <b>4</b>	<span style="color: green;">■</span> 3	<span style="color: green;">■</span> 3	---
Chromium	ppm	<span style="color: green;">■</span> <b>&lt;1</b>	<span style="color: green;">■</span> <1	<span style="color: green;">■</span> <1	---
Molybdenum	ppm	<span style="color: green;">■</span> <b>54</b>	<span style="color: green;">■</span> 58	<span style="color: green;">■</span> 57	---
Nickel	ppm	<span style="color: green;">■</span> <b>2</b>	<span style="color: green;">■</span> 2	<span style="color: green;">■</span> 0	---
Titanium	ppm	<b>&lt;1</b>	0	0	---
Silver	ppm	<span style="color: green;">■</span> <b>0</b>	<span style="color: green;">■</span> 0	<1	---
Manganese	ppm	<span style="color: green;">■</span> <b>&lt;1</b>	<span style="color: green;">■</span> <1	<span style="color: green;">■</span> <1	---
Vanadium	ppm	<b>&lt;1</b>	<1	0	---



### ADDITIVES

Calcium	ppm	<span style="color: green;">■</span> <b>1663</b>	<span style="color: green;">■</span> 1089	<span style="color: green;">■</span> 1127	---
Magnesium	ppm	<b>685</b>	<span style="color: green;">■</span> 887	<span style="color: green;">■</span> 889	---
Zinc	ppm	<span style="color: green;">■</span> <b>1267</b>	<span style="color: green;">■</span> 1182	<span style="color: green;">■</span> 1174	---
Phosphorus	ppm	<span style="color: green;">■</span> <b>1036</b>	<span style="color: green;">■</span> 993	<span style="color: green;">■</span> 987	---
Barium	ppm	<span style="color: green;">■</span> <b>0</b>	<span style="color: green;">■</span> 2	<span style="color: green;">■</span> 0	---
Boron	ppm	<span style="color: green;">■</span> <b>28</b>	<span style="color: green;">■</span> <1	<span style="color: green;">■</span> 4	---

**Depot:** VOLVO0090  
**Unique No:** 11073566  
**Signed:** Wes Davis  
**Report Date:** 12 Jun 2024



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## GRAPHS

