



# CONSTRUCTION EQUIPMENT

## S50402076 IAA WILMIN VOLVO L90G 617337 - DIESEL ENGINE



**Sample No:** VCP412066  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** S50402076 IAA WILMIN



### SAMPLE INFORMATION

Sample Number	<b>VCP412066</b>	VCP314900	VCP285159	VCP277747
Sample Date	<b>17 Nov 2023</b>	03 Jun 2021	16 Sep 2020	15 Apr 2020
Machine Hours	<b>17497</b>	14626	1352	13033
Oil Hours	<b>0</b>	0	500	500
Oil Changed	<b>Changed</b>	N/A	Changed	Changed
Sample Status	<b>ABNORMAL</b>	NORMAL	NORMAL	NORMAL



### VCES- VOLVO CONSTRUCTION EQUIPMENT

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### OIL CONDITION

Visc @ 100°C	cSt	<b>▲ 11.4</b>	■ 12.2	■ 13.1	■ 13.7
Base Number (BN)	mg KOH/g	<b>■ 8.6</b>	---	---	---
Oxidation (PA)	%	<b>88</b>	93	71	59



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>■ 0.4</b>	■ 0.4	■ 0.2	■ 0.2
Nitration (PA)	%	<b>69</b>	69	72	70
Sulfation (PA)	%	<b>60</b>	66	59	54
Glycol	%	<b>NEG</b>	NEG	■ 0.0	NEG
Fuel	%	<b>▲ 8.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>■ 8</b>	■ 6	■ 10	■ 5
Sodium	ppm	<b>■ 2</b>	■ 14	■ 83	■ 29
Potassium	ppm	<b>■ 3</b>	■ 12	■ 66	■ 28



### WEAR METALS

Iron	ppm	<b>■ 44</b>	■ 16	■ 14	■ 7
Copper	ppm	<b>■ 1</b>	■ <1	■ 2	■ <1
Lead	ppm	<b>■ &lt;1</b>	■ <1	■ 0	■ 0
Tin	ppm	<b>■ &lt;1</b>	■ <1	■ 0	■ 0
Aluminum	ppm	<b>▲ 12</b>	■ 5	■ 5	■ 2
Chromium	ppm	<b>■ &lt;1</b>	■ <1	■ <1	■ <1
Molybdenum	ppm	<b>■ 39</b>	■ 39	■ 21	■ 6
Nickel	ppm	<b>■ &lt;1</b>	■ <1	■ 0	■ 0
Titanium	ppm	<b>&lt;1</b>	<1	<1	<1
Silver	ppm	<b>■ 0</b>	0	0	0
Manganese	ppm	<b>■ &lt;1</b>	■ <1	■ <1	■ <1
Vanadium	ppm	<b>0</b>	<1	0	<1



### ADDITIVES

Calcium	ppm	<b>■ 1571</b>	■ 1597	■ 1590	■ 1499
Magnesium	ppm	<b>■ 466</b>	■ 464	■ 698	775
Zinc	ppm	<b>■ 1065</b>	■ 1094	■ 953	■ 806
Phosphorus	ppm	<b>■ 914</b>	■ 911	■ 846	■ 761
Barium	ppm	<b>■ 12</b>	■ 0	■ 0	■ 0
Boron	ppm	<b>■ 23</b>	■ 61	■ 39	■ 53

### Diagnosis

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. Aluminum ppm levels are abnormal. Piston wear is indicated. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

**Depot:** VOLVO4486  
**Unique No:** 10790358  
**Signed:** Wes Davis  
**Report Date:** 20 Dec 2023



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## GRAPHS

