



# CONSTRUCTION EQUIPMENT

SPM621481 VOLVO L110E 61050 - DIESEL ENGINE



**Sample No:** VCP409048  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** SPM621481



## SAMPLE INFORMATION

Sample Number	<b>VCP409048</b>	VCP347853	VCP316687	VCP307303
Sample Date	<b>30 Oct 2023</b>	28 Jan 2022	13 Jul 2021	02 Jun 2021
Machine Hours	<b>22631</b>	20515	3046	19750
Oil Hours	<b>0</b>	500	0	250
Oil Changed	<b>Changed</b>	Changed	Changed	Not Changd
Sample Status	<b>ABNORMAL</b>	NORMAL	NORMAL	NORMAL

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## OIL CONDITION

Visc @ 100°C	cSt	<b>13.4</b>	13.1	12.9	12.6
Base Number (BN)	mg KOH/g	<b>9.8</b>	11.0	---	---
Oxidation (PA)	%	<b>81</b>	87	76	84

## CONTAMINATION

Soot %	%	<b>0.4</b>	0.4	0.2	0.2
Nitration (PA)	%	<b>63</b>	68	59	57
Sulfation (PA)	%	<b>65</b>	68	60	65
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>8</b>	9	4	5
Sodium	ppm	<b>&lt;1</b>	0	2	2
Potassium	ppm	<b>2</b>	<1	0	<1

## WEAR METALS

Iron	ppm	<b>14</b>	11	6	5
Copper	ppm	<b>▲ 23</b>	<1	<1	<1
Lead	ppm	<b>&lt;1</b>	<1	<1	<1
Tin	ppm	<b>&lt;1</b>	<1	<1	<1
Aluminum	ppm	<b>2</b>	2	1	1
Chromium	ppm	<b>1</b>	1	<1	<1
Molybdenum	ppm	<b>43</b>	39	34	38
Nickel	ppm	<b>&lt;1</b>	0	0	<1
Titanium	ppm	<b>&lt;1</b>	<1	<1	<1
Silver	ppm	<b>0</b>	0	0	<1
Manganese	ppm	<b>&lt;1</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	<1	0	0

## ADDITIVES

Calcium	ppm	<b>1658</b>	1737	1583	1574
Magnesium	ppm	<b>525</b>	537	507	485
Zinc	ppm	<b>1153</b>	1083	1004	1090
Phosphorus	ppm	<b>1029</b>	939	881	905
Barium	ppm	<b>5</b>	<1	0	0
Boron	ppm	<b>38</b>	49	44	110

## Diagnosis

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. 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. 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 acceptable for the time in service.

**Depot:** BLADET  
**Unique No:** 10728569  
**Signed:** Sean Felton  
**Report Date:** 08 Nov 2023



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## VOLVO GRAPHS

