



# CONSTRUCTION EQUIPMENT

## VOLVO L110H 10650 - DIESEL ENGINE



**Sample No:** VCP402981  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP402981</b>	VCE63278	---	---
Sample Date	<b>29 Mar 2023</b>	22 Jan 2018	---	---
Machine Hours	<b>8978</b>	500	---	---
Oil Hours	<b>500</b>	0	---	---
Oil Changed	<b>Changed</b>	Changed	---	---
Sample Status	<b>SEVERE</b>	ABNORMAL	---	---

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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.0</b>	11.38	---	---
Base Number (BN)	mg KOH/g	<b>9.5</b>	---	---	---
Oxidation (PA)	%	<b>90</b>	56	---	---



### CONTAMINATION

Soot %	%	<b>0.4</b>	0	---	---
Nitration (PA)	%	<b>81</b>	58	---	---
Sulfation (PA)	%	<b>65</b>	50	---	---
Glycol	%	<b>NEG</b>	NEG	---	---
Fuel	%	<b>&lt;1.0</b>	<1.0	---	---
Silicon	ppm	<b>44</b>	35	---	---
Sodium	ppm	<b>3</b>	7	---	---
Potassium	ppm	<b>&lt;1</b>	4	---	---



### WEAR METALS

Iron	ppm	<b>27</b>	47	---	---
Copper	ppm	<b>2</b>	10	---	---
Lead	ppm	<b>3</b>	3	---	---
Tin	ppm	<b>1</b>	3	---	---
Aluminum	ppm	<b>24</b>	82	---	---
Chromium	ppm	<b>1</b>	7	---	---
Molybdenum	ppm	<b>49</b>	44	---	---
Nickel	ppm	<b>&lt;1</b>	<1	---	---
Titanium	ppm	<b>&lt;1</b>	<1	---	---
Silver	ppm	<b>0</b>	1	---	---
Manganese	ppm	<b>&lt;1</b>	3	---	---
Vanadium	ppm	<b>0</b>	0	---	---



### ADDITIVES

Calcium	ppm	<b>1868</b>	1165	---	---
Magnesium	ppm	<b>575</b>	917	---	---
Zinc	ppm	<b>1272</b>	1047	---	---
Phosphorus	ppm	<b>1075</b>	922	---	---
Barium	ppm	<b>0</b>	<1	---	---
Boron	ppm	<b>30</b>	45	---	---

### Diagnosis

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

**Depot:** VOLVO4596  
**Unique No:** 10404926  
**Signed:** Don Baldrige  
**Report Date:** 03 Apr 2023



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## GRAPHS

