



# CONSTRUCTION EQUIPMENT

## VOLVO L110H 631235 - DIESEL ENGINE



**Sample No:** VCP429373D  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP429373D</b>	VCP420252	VCP393538	VCP385820
Sample Date	<b>17 Jan 2024</b>	05 May 2023	03 Jan 2023	23 Sep 2022
Machine Hours	<b>11636</b>	10451	9673	9140
Oil Hours	<b>0</b>	500	500	500
Oil Changed	<b>N/A</b>	Changed	Changed	Changed
Sample Status	<b>ABNORMAL</b>	NORMAL	NORMAL	NORMAL

### RIPA AND ASSOCIATES

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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.6</b>	13.2	13.33	13.7
Base Number (BN)	mg KOH/g	<b>7.2</b>	10.0	8.0	11.3
Oxidation (PA)	%	<b>69</b>	86	58	96

### Diagnosis

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor. Cylinder, crank, or cam shaft wear is indicated. 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 condition of the oil is acceptable for the time in service.



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.5</b>	0.5	0.2	0.7
Nitration (PA)	%	<b>85</b>	86	74	97
Sulfation (PA)	%	<b>57</b>	61	51	68
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>▲ 27</b>	6	5	10
Sodium	ppm	<b>0</b>	3	2	3
Potassium	ppm	<b>3</b>	2	<1	1



### WEAR METALS

Iron	ppm	<b>▲ 132</b>	15	10	30
Copper	ppm	<b>6</b>	<1	<1	3
Lead	ppm	<b>0</b>	<1	<1	1
Tin	ppm	<b>&lt;1</b>	1	<1	2
Aluminum	ppm	<b>▲ 6</b>	5	3	8
Chromium	ppm	<b>3</b>	<1	<1	1
Molybdenum	ppm	<b>63</b>	49	79	42
Nickel	ppm	<b>&lt;1</b>	<1	0	1
Titanium	ppm	<b>&lt;1</b>	0	1	<1
Silver	ppm	<b>0</b>	0	0	<1
Manganese	ppm	<b>0</b>	<1	<1	1
Vanadium	ppm	<b>0</b>	<1	0	1



### ADDITIVES

Calcium	ppm	<b>1929</b>	1717	1935	1737
Magnesium	ppm	<b>234</b>	582	281	560
Zinc	ppm	<b>1196</b>	1255	1218	1180
Phosphorus	ppm	<b>949</b>	998	1006	978
Barium	ppm	<b>5</b>	0	0	0
Boron	ppm	<b>28</b>	18	38	8

**Depot:** RIPTAM  
**Unique No:** 10863256  
**Signed:** Don Baldrige  
**Report Date:** 07 Feb 2024



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## VOLVO GRAPHS

