



# CONSTRUCTION EQUIPMENT

## 660149 VOLVO L110H 631695 - DIESEL ENGINE



**Sample No:** VCP449095  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** 660149



### SAMPLE INFORMATION

Sample Number	<b>VCP449095</b>	VCP414224	VCP407841	VCP386202
Sample Date	<b>15 Jan 2024</b>	11 Jul 2023	26 May 2023	07 Nov 2022
Machine Hours	<b>19534</b>	19050	18421	17370
Oil Hours	<b>1000</b>	0	1000	500
Oil Changed	<b>Changed</b>	N/A	Changed	Changed
Sample Status	<b>ABNORMAL</b>	ATTENTION	ABNORMAL	ABNORMAL

**COVANTA**  
 350 FLAKENBURG ROAD  
 TAMPA, FL  
 US 33619  
 Contact: SERVICE MANAGER

### OIL CONDITION

Visc @ 100°C	cSt	<b>▲ 11.3</b>	▲ 12.2	■ 13.1	■ 13.7
Base Number (BN)	mg KOH/g	<b>■ 8.3</b>	■ 9.8	■ 9.0	■ 10.4
Oxidation (PA)	%	<b>78</b>	84	92	103

T: (813)684-5688  
 F:

### Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. The aluminum level is abnormal. All other component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>■ 0.5</b>	■ 0.6	■ 0.6	■ 0.6
Nitration (PA)	%	<b>68</b>	78	86	103
Sulfation (PA)	%	<b>60</b>	62	64	71
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>■ 2.0</b>	▲ 4.8	<1.0	<1.0
Silicon	ppm	<b>■ 17</b>	■ 19	▲ 28	▲ 34
Sodium	ppm	<b>■ 2</b>	■ 2	■ 3	■ 2
Potassium	ppm	<b>■ 0</b>	■ 1	■ <1	■ 1

### WEAR METALS

Iron	ppm	<b>■ 16</b>	■ 14	■ 26	■ 34
Copper	ppm	<b>■ 4</b>	■ <1	■ 2	■ 3
Lead	ppm	<b>■ &lt;1</b>	■ <1	■ 1	■ 2
Tin	ppm	<b>■ &lt;1</b>	■ <1	■ <1	■ <1
Aluminum	ppm	<b>▲ 24</b>	▲ 15	▲ 25	▲ 17
Chromium	ppm	<b>■ 1</b>	■ 1	■ 1	■ 2
Molybdenum	ppm	<b>■ 38</b>	■ 45	■ 80	■ 48
Nickel	ppm	<b>■ &lt;1</b>	■ <1	■ <1	■ 0
Titanium	ppm	<b>&lt;1</b>	0	0	0
Silver	ppm	<b>■ 0</b>	■ 0	■ 0	■ 0
Manganese	ppm	<b>■ 0</b>	■ <1	■ <1	■ <1
Vanadium	ppm	<b>&lt;1</b>	0	0	0

### ADDITIVES

Calcium	ppm	<b>■ 1459</b>	■ 1661	■ 1636	■ 1828
Magnesium	ppm	<b>■ 466</b>	■ 531	■ 598	■ 580
Zinc	ppm	<b>■ 1040</b>	■ 1173	■ 1118	■ 1230
Phosphorus	ppm	<b>■ 855</b>	■ 950	■ 933	■ 1010
Barium	ppm	<b>■ 0</b>	■ 0	■ 0	■ 0
Boron	ppm	<b>■ 27</b>	■ 23	■ 50	■ 19

**Depot:** COVTAM  
**Unique No:** 10886299  
**Signed:** Jonathan Hester  
**Report Date:** 22 Feb 2024



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## VOLVO GRAPHS

