



# CONSTRUCTION EQUIPMENT

## SW-23753-2 CASTLE VA VOLVO L110H 631019 - DIESEL ENGINE



**Sample No:** VCP412188  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** SW-23753-2 CASTLE VA



### SAMPLE INFORMATION

Sample Number	<b>VCP412188</b>	VCP406785	VCP383481	VCP359804
Sample Date	<b>07 Sep 2023</b>	24 Apr 2023	05 Jan 2023	12 Oct 2022
Machine Hours	<b>10094</b>	9485	8988	8414
Oil Hours	<b>600</b>	500	550	577
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.4</b>	13.6	13.9	13.3
Base Number (BN)	mg KOH/g	<b>9.0</b>	8.1	10.1	11.1
Oxidation (PA)	%	<b>63</b>	58	68	76



### CONTAMINATION

Soot %	%	<b>0.2</b>	0.2	0.2	0.4
Nitration (PA)	%	<b>63</b>	57	59	73
Sulfation (PA)	%	<b>54</b>	48	55	61
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>3</b>	2	3	4
Sodium	ppm	<b>2</b>	2	2	2
Potassium	ppm	<b>0</b>	0	0	1



### WEAR METALS

Iron	ppm	<b>7</b>	8	8	12
Copper	ppm	<b>1</b>	1	<1	1
Lead	ppm	<b>0</b>	0	<1	0
Tin	ppm	<b>&lt;1</b>	0	<1	<1
Aluminum	ppm	<b>4</b>	3	2	6
Chromium	ppm	<b>0</b>	<1	<1	<1
Molybdenum	ppm	<b>58</b>	62	54	54
Nickel	ppm	<b>0</b>	0	0	0
Titanium	ppm	<b>&lt;1</b>	0	0	0
Silver	ppm	<b>0</b>	0	0	<1
Manganese	ppm	<b>&lt;1</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	0	0	<1



### ADDITIVES

Calcium	ppm	<b>1071</b>	1122	1394	1344
Magnesium	ppm	<b>890</b>	957	830	745
Zinc	ppm	<b>1125</b>	1242	1204	1203
Phosphorus	ppm	<b>971</b>	1024	960	998
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>7</b>	13	19	20

### Diagnosis

Resample at the next service interval to monitor. All 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:** VOLVO8770  
**Unique No:** 10648374  
**Signed:** Sean Felton  
**Report Date:** 19 Sep 2023



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## GRAPHS

