



# CONSTRUCTION EQUIPMENT

## VOLVO L110H 631231 - DIESEL ENGINE



**Sample No:** VCP432119  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP432119</b>	VCP392684	VCP399674	VCP389332
Sample Date	<b>08 Nov 2023</b>	28 Apr 2023	03 Jan 2023	15 Sep 2022
Machine Hours	<b>12029</b>	10851	10292	9792
Oil Hours	<b>0</b>	600	500	500
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

### RIPA AND ASSOCIATES

10149 FISHER AVENUE  
 TAMPA, FL  
 US 33619  
 Contact: PM Services  
 PMServices@ripaconstruction.com  
 T:  
 F:



### OIL CONDITION

Visc @ 100°C	cSt	<b>13.4</b>	13.0	13.6	13.6
Base Number (BN)	mg KOH/g	<b>7.1</b>	10.3	10.4	11.8
Oxidation (PA)	%	<b>63</b>	79	82	92

### 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 suitable for further service.



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.2</b>	0.3	0.9	0.4
Nitration (PA)	%	<b>77</b>	65	85	79
Sulfation (PA)	%	<b>53</b>	59	61	68
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>4</b>	5	10	7
Sodium	ppm	<b>0</b>	2	4	6
Potassium	ppm	<b>3</b>	2	1	7



### WEAR METALS

Iron	ppm	<b>8</b>	10	29	14
Copper	ppm	<b>1</b>	<1	2	2
Lead	ppm	<b>0</b>	<1	<1	1
Tin	ppm	<b>0</b>	1	2	1
Aluminum	ppm	<b>2</b>	4	6	6
Chromium	ppm	<b>&lt;1</b>	<1	2	<1
Molybdenum	ppm	<b>55</b>	47	46	41
Nickel	ppm	<b>0</b>	<1	<1	<1
Titanium	ppm	<b>0</b>	0	8	<1
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>0</b>	<1	<1	1
Vanadium	ppm	<b>0</b>	<1	<1	1



### ADDITIVES

Calcium	ppm	<b>2043</b>	1610	1666	1721
Magnesium	ppm	<b>145</b>	587	644	517
Zinc	ppm	<b>1146</b>	1216	1189	1143
Phosphorus	ppm	<b>942</b>	981	978	957
Barium	ppm	<b>2</b>	0	0	0
Boron	ppm	<b>60</b>	28	25	31

**Depot:** RIPTAM  
**Unique No:** 10776024  
**Signed:** Wes Davis  
**Report Date:** 07 Dec 2023



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## GRAPHS

