



# CONSTRUCTION EQUIPMENT

## VOLVO L180HHL 1100 - DIESEL ENGINE



**Sample No:** VCP403590  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP403590</b>	VCP406245	VCP365223	VCP303013
Sample Date	<b>04 Dec 2023</b>	27 Mar 2023	10 Aug 2022	20 Feb 2021
Machine Hours	<b>17733</b>	16121	14201	8540
Oil Hours	<b>0</b>	0	500	0
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

**ALTA EQUIPMENT COMPANY**  
 1061 STEPKE COURT  
 TRAVERSE CITY, MI  
 US 49685  
 Contact: KEVIN DOHM  
 kevin.dohm@altaequipment.com  
 T: (231)943-3700  
 F: (231)943-8110



### OIL CONDITION

Visc @ 100°C	cSt	<b>13.1</b>	13.1	13.5	12.8
Base Number (BN)	mg KOH/g	<b>8.9</b>	9.9	11.2	---
Oxidation (PA)	%	<b>71</b>	84	91	80

### 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>0.3</b>	0.3	0.3	0.2
Nitration (PA)	%	<b>68</b>	75	67	61
Sulfation (PA)	%	<b>56</b>	56	66	63
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>4</b>	4	4	5
Sodium	ppm	<b>0</b>	10	3	2
Potassium	ppm	<b>2</b>	7	0	0



### WEAR METALS

Iron	ppm	<b>5</b>	5	4	5
Copper	ppm	<b>&lt;1</b>	1	<1	2
Lead	ppm	<b>&lt;1</b>	0	1	<1
Tin	ppm	<b>&lt;1</b>	<1	<1	<1
Aluminum	ppm	<b>1</b>	1	1	<1
Chromium	ppm	<b>&lt;1</b>	<1	<1	<1
Molybdenum	ppm	<b>52</b>	35	40	36
Nickel	ppm	<b>&lt;1</b>	0	0	0
Titanium	ppm	<b>&lt;1</b>	0	0	<1
Silver	ppm	<b>0</b>	0	0	2
Manganese	ppm	<b>&lt;1</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	0	0	0



### ADDITIVES

Calcium	ppm	<b>1351</b>	1376	1706	1712
Magnesium	ppm	<b>714</b>	441	516	535
Zinc	ppm	<b>1159</b>	936	1162	1084
Phosphorus	ppm	<b>930</b>	798	959	941
Barium	ppm	<b>11</b>	0	0	0
Boron	ppm	<b>19</b>	38	37	60

**Depot:** VOLVO8501  
**Unique No:** 10782833  
**Signed:** Wes Davis  
**Report Date:** 14 Dec 2023



# CONSTRUCTION EQUIPMENT



## GRAPHS

