



# CONSTRUCTION EQUIPMENT

## 23691 VOLVO L350H 1178 - DIESEL ENGINE



**Sample No:** VCP404329  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** 23691



### SAMPLE INFORMATION

Sample Number	<b>VCP404329</b>	VCP423591	VCP367563	VCP356360
Sample Date	<b>10 Jul 2023</b>	31 Mar 2023	28 Nov 2022	24 May 2022
Machine Hours	<b>4999</b>	4261	3686	1972
Oil Hours	<b>1000</b>	1000	1000	0
Oil Changed	<b>Changed</b>	Changed	Changed	N/A
Sample Status	<b>ATTENTION</b>	NORMAL	NORMAL	MARGINAL

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### OIL CONDITION

Visc @ 100°C	cSt	<b>▲ 11.4</b>	■ 12.9	■ 12.5	■ 12.7
Base Number (BN)	mg KOH/g	■ <b>10.6</b>	■ 8.6	■ 7.0	■ 8.4
Oxidation (PA)	%	<b>63</b>	90	104	86

### CONTAMINATION

Soot %	%	■ <b>0.4</b>	■ 0.8	■ 1.3	■ 0.6
Nitration (PA)	%	<b>57</b>	78	100	80
Sulfation (PA)	%	<b>57</b>	69	75	65
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	■ <b>0.3</b>	<1.0	<1.0	<1.0
Silicon	ppm	■ <b>7</b>	■ 7	■ 9	■ 8
Sodium	ppm	■ <b>1</b>	■ 3	■ 5	■ 3
Potassium	ppm	■ <b>3</b>	■ 7	■ 12	■ 6

### Diagnosis

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Tests indicate that there is no fuel present in the oil. 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.

### WEAR METALS

Iron	ppm	■ <b>7</b>	■ 21	■ 31	■ 17
Copper	ppm	■ <b>5</b>	■ 32	■ 37	▲ 55
Lead	ppm	■ <b>&lt;1</b>	■ 2	■ 4	■ 1
Tin	ppm	■ <b>&lt;1</b>	■ 2	■ 3	■ 3
Aluminum	ppm	■ <b>3</b>	■ 4	■ 5	■ 4
Chromium	ppm	■ <b>0</b>	■ <1	■ <1	■ <1
Molybdenum	ppm	■ <b>29</b>	■ 39	■ 41	■ 39
Nickel	ppm	■ <b>2</b>	■ 2	■ 2	■ 6
Titanium	ppm	<b>&lt;1</b>	0	<1	<1
Silver	ppm	■ <b>0</b>	■ 0	■ 0	<1
Manganese	ppm	■ <b>&lt;1</b>	■ <1	■ <1	<1
Vanadium	ppm	<b>&lt;1</b>	0	0	0

### ADDITIVES

Calcium	ppm	■ <b>2338</b>	■ 1565	■ 1653	■ 1582
Magnesium	ppm	■ <b>377</b>	■ 458	■ 486	■ 416
Zinc	ppm	■ <b>1185</b>	■ 1045	■ 978	■ 922
Phosphorus	ppm	■ <b>952</b>	■ 826	■ 782	736
Barium	ppm	■ <b>0</b>	■ 0	■ 0	■ 0
Boron	ppm	■ <b>45</b>	■ 24	■ 12	■ 26

**Depot:** VOLVO3387  
**Unique No:** 10562270  
**Signed:** Sean Felton  
**Report Date:** 19 Jul 2023



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## GRAPHS

