



# CONSTRUCTION EQUIPMENT

## VLS VOLVO EC200EL 314325 - DIESEL ENGINE



**Sample No:** VCP395153  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** VLS



### SAMPLE INFORMATION

Sample Number	<b>VCP395153</b>	VCP382678	VCP370329	VCP366260
Sample Date	<b>24 Apr 2023</b>	31 Jan 2023	08 Nov 2022	15 Aug 2022
Machine Hours	<b>4515</b>	3974	3465	2973
Oil Hours	<b>500</b>	500	500	0
Oil Changed	<b>Changed</b>	Changed	Changed	Not Changd
Sample Status	<b>SEVERE</b>	SEVERE	SEVERE	ABNORMAL

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### OIL CONDITION

Visc @ 100°C	cSt	<b>12.8</b>	12.9	12.3	13.1
Base Number (BN)	mg KOH/g	<b>8.7</b>	9.6	8.8	11.9
Oxidation (PA)	%	<b>83</b>	86	105	82



### CONTAMINATION

Soot %	%	<b>0.3</b>	0.3	0.8	0.1
Nitration (PA)	%	<b>70</b>	70	87	49
Sulfation (PA)	%	<b>57</b>	62	73	65
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	2.7	<1.0
Silicon	ppm	<b>34</b>	33	64	22
Sodium	ppm	<b>5</b>	1	1	2
Potassium	ppm	<b>&lt;1</b>	2	2	<1



### WEAR METALS

Iron	ppm	<b>25</b>	37	69	8
Copper	ppm	<b>2</b>	3	5	<1
Lead	ppm	<b>0</b>	<1	<1	<1
Tin	ppm	<b>43</b>	35	67	17
Aluminum	ppm	<b>10</b>	19	49	22
Chromium	ppm	<b>4</b>	4	7	2
Molybdenum	ppm	<b>45</b>	47	44	41
Nickel	ppm	<b>3</b>	2	3	1
Titanium	ppm	<b>0</b>	<1	<1	<1
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>1</b>	1	2	<1
Vanadium	ppm	<b>0</b>	0	0	<1



### ADDITIVES

Calcium	ppm	<b>1750</b>	1832	1773	1642
Magnesium	ppm	<b>598</b>	508	483	464
Zinc	ppm	<b>1260</b>	1188	1159	1106
Phosphorus	ppm	<b>987</b>	987	912	938
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>27</b>	30	20	55

### Diagnosis

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. The tin level is severe. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

**Depot:** VOLVO4596  
**Unique No:** 10457791  
**Signed:** Don Baldrige  
**Report Date:** 09 May 2023



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## GRAPHS

