



# CONSTRUCTION EQUIPMENT

## 2181BO HORST EXC VOLVO EC340D 210404 - DIESEL ENGINE



**Sample No:** VCP400619  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** 2181BO HORST EXC



### SAMPLE INFORMATION

Sample Number	<b>VCP400619</b>	VCP293493	VCP279974	VCP220787
Sample Date	<b>19 Jan 2023</b>	01 Aug 2022	06 Aug 2020	08 Oct 2018
Machine Hours	<b>7880</b>	7212	5292	3598
Oil Hours	<b>0</b>	0	0	0
Oil Changed	<b>Changed</b>	Changed	Changed	N/A
Sample Status	<b>NORMAL</b>	ATTENTION	ATTENTION	NORMAL

**HIGHWAY EQUIPMENT & SUPPLY CO MAIN**  
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### OIL CONDITION

Visc @ 100°C	cSt	<b>12.8</b>	12.2	11.6	14.21
Base Number (BN)	mg KOH/g	<b>10.6</b>	10.7	---	---
Oxidation (PA)	%	<b>80</b>	63	55	57



### CONTAMINATION

Soot %	%	<b>0.9</b>	1.1	0.4	0.2
Nitration (PA)	%	<b>82</b>	80	60	45
Sulfation (PA)	%	<b>61</b>	60	53	52
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	1.9	<1.0
Silicon	ppm	<b>7</b>	7	4	7
Sodium	ppm	<b>3</b>	0	0	2
Potassium	ppm	<b>2</b>	2	0	4



### WEAR METALS

Iron	ppm	<b>17</b>	17	10	4
Copper	ppm	<b>3</b>	4	2	<1
Lead	ppm	<b>2</b>	2	<1	0
Tin	ppm	<b>1</b>	<1	0	0
Aluminum	ppm	<b>5</b>	5	<1	2
Chromium	ppm	<b>&lt;1</b>	<1	0	<1
Molybdenum	ppm	<b>49</b>	80	50	43
Nickel	ppm	<b>0</b>	0	0	<1
Titanium	ppm	<b>&lt;1</b>	<1	0	20
Silver	ppm	<b>&lt;1</b>	<1	0	0
Manganese	ppm	<b>&lt;1</b>	<1	0	<1
Vanadium	ppm	<b>&lt;1</b>	0	0	0



### ADDITIVES

Calcium	ppm	<b>1559</b>	1084	1395	1951
Magnesium	ppm	<b>567</b>	830	798	438
Zinc	ppm	<b>1118</b>	1180	1307	1161
Phosphorus	ppm	<b>920</b>	967	1051	991
Barium	ppm	<b>1</b>	1	0	0
Boron	ppm	<b>18</b>	10	22	95

### 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.

**Depot:** VOLVO0025  
**Unique No:** 10307162  
**Signed:** Wes Davis  
**Report Date:** 25 Jan 2023



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## GRAPHS

