



# CONSTRUCTION EQUIPMENT

## VOLVO EC220E 314027 - DIESEL ENGINE



**Sample No:** VCP424006  
**Oil Type:** VOLVO VDS-4.5 Premium Motor Oil 15W40  
**Job No:**



**ULSTER COUNTY RESOURCE RECOVERY AGENCY**  
 999 FLATBUSH AVE  
 KINGSTON, NY  
 US 12401  
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### SAMPLE INFORMATION

Sample Number	<b>VCP424006</b>	VCP404692	VCP323031	VCP303778
Sample Date	<b>30 Oct 2023</b>	27 Apr 2023	21 Sep 2021	15 Apr 2021
Machine Hours	<b>7650</b>	6997	4100	3159
Oil Hours	<b>0</b>	700	500	600
Oil Changed	<b>N/A</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

### OIL CONDITION

Visc @ 100°C	cSt	<b>13.5</b>	13.6	13.3	13.8
Base Number (BN)	mg KOH/g	<b>8.9</b>	8.7	---	---
Oxidation (PA)	%	<b>96</b>	88	90	97

### CONTAMINATION

Soot %	%	<b>0.2</b>	0.2	0.2	0.2
Nitration (PA)	%	<b>80</b>	78	67	73
Sulfation (PA)	%	<b>64</b>	58	62	65
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>20</b>	13	20	16
Sodium	ppm	<b>2</b>	3	3	4
Potassium	ppm	<b>0</b>	1	0	<1

### WEAR METALS

Iron	ppm	<b>17</b>	12	8	12
Copper	ppm	<b>&lt;1</b>	<1	<1	2
Lead	ppm	<b>0</b>	0	<1	1
Tin	ppm	<b>&lt;1</b>	0	<1	1
Aluminum	ppm	<b>12</b>	7	10	9
Chromium	ppm	<b>1</b>	2	<1	1
Molybdenum	ppm	<b>43</b>	48	45	45
Nickel	ppm	<b>&lt;1</b>	<1	<1	1
Titanium	ppm	<b>&lt;1</b>	<1	0	<1
Silver	ppm	<b>0</b>	0	<1	<1
Manganese	ppm	<b>&lt;1</b>	<1	<1	<1
Vanadium	ppm	<b>0</b>	0	0	<1

### ADDITIVES

Calcium	ppm	<b>1786</b>	1708	1867	1882
Magnesium	ppm	<b>576</b>	561	573	550
Zinc	ppm	<b>1255</b>	1184	1033	988
Phosphorus	ppm	<b>1032</b>	930	848	816
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>27</b>	35	28	36

### 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 acceptable for the time in service.

**Depot:** ULSKIN  
**Unique No:** 10728031  
**Signed:** Don Baldrige  
**Report Date:** 08 Nov 2023



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## VOLVO GRAPHS

