



# CONSTRUCTION EQUIPMENT

## VOLVO L220H 3440 - DIESEL ENGINE



**Sample No:** VCP441405  
**Oil Type:** SHELL ROTELLA T3 15W40  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP441405</b>	VCP441590	VCP440504	VCP440713
Sample Date	<b>17 May 2024</b>	03 May 2024	19 Apr 2024	05 Apr 2024
Machine Hours	<b>9541</b>	9275	9005	8728
Oil Hours	<b>266</b>	270	277	268
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

**COVANTA ENERGY**  
 141 CRANBERRY HWY  
 WEST WAREHAM, MA  
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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.2</b>	13.3	13.4	13.3
Base Number (BN)	mg KOH/g	<b>6.6</b>	6.3	6.6	6.6
Oxidation (PA)	%	<b>39</b>	39	39	39



### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.1</b>	0.1	0.1	0.1
Nitration (PA)	%	<b>54</b>	53	53	53
Sulfation (PA)	%	<b>46</b>	46	47	47
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>7</b>	10	4	4
Sodium	ppm	<b>&lt;1</b>	5	<1	1
Potassium	ppm	<b>3</b>	5	<1	<1



### WEAR METALS

Iron	ppm	<b>3</b>	5	0	<1
Copper	ppm	<b>&lt;1</b>	3	3	<1
Lead	ppm	<b>&lt;1</b>	3	0	<1
Tin	ppm	<b>&lt;1</b>	3	0	0
Aluminum	ppm	<b>1</b>	4	0	<1
Chromium	ppm	<b>&lt;1</b>	2	0	0
Molybdenum	ppm	<b>13</b>	17	10	11
Nickel	ppm	<b>&lt;1</b>	2	0	0
Titanium	ppm	<b>&lt;1</b>	2	0	0
Silver	ppm	<b>0</b>	3	0	0
Manganese	ppm	<b>0</b>	2	0	0
Vanadium	ppm	<b>&lt;1</b>	2	0	<1



### ADDITIVES

Calcium	ppm	<b>2180</b>	2903	2485	2295
Magnesium	ppm	<b>62</b>	54	44	56
Zinc	ppm	<b>1071</b>	1340	1184	964
Phosphorus	ppm	<b>935</b>	1146	981	899
Barium	ppm	<b>0</b>	<1	0	0
Boron	ppm	<b>9</b>	14	5	10

### 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:** COVWES  
**Unique No:** 11059533  
**Signed:** Wes Davis  
**Report Date:** 04 Jun 2024



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## VOLVO GRAPHS

