



# CONSTRUCTION EQUIPMENT

## VOLVO L220H 3440 - DIESEL ENGINE



**Sample No:** VCP432423  
**Oil Type:** SHELL ROTELLA T3 15W40  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP432423</b>	VCP404565	VCP404569	VCP404561
Sample Date	<b>27 Jan 2024</b>	08 Jan 2024	27 Dec 2023	08 Dec 2023
Machine Hours	<b>7338</b>	7046	6733	6478
Oil Hours	<b>292</b>	313	255	302
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	NORMAL	NORMAL	NORMAL

**COVANTA ENERGY**  
 141 CRANBERRY HWY  
 WEST WAREHAM, MA  
 US 02576  
 Contact: SAWYER  
 ssawyer@woodcomachinery.com  
 T:  
 F:

### OIL CONDITION

Visc @ 100°C	cSt	<b>13.4</b>	13.4	13.6	13.4
Base Number (BN)	mg KOH/g	<b>6.6</b>	6.7	5.7	6.6
Oxidation (PA)	%	<b>40</b>	41	41	42

### CONTAMINATION

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>0.1</b>	0.1	0.1	0.1
Nitration (PA)	%	<b>53</b>	53	54	54
Sulfation (PA)	%	<b>48</b>	47	46	48
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	<1.0
Silicon	ppm	<b>9</b>	8	10	8
Sodium	ppm	<b>0</b>	1	1	1
Potassium	ppm	<b>2</b>	0	0	2

### WEAR METALS

Iron	ppm	<b>3</b>	2	2	3
Copper	ppm	<b>&lt;1</b>	<1	0	<1
Lead	ppm	<b>&lt;1</b>	0	0	<1
Tin	ppm	<b>&lt;1</b>	0	0	<1
Aluminum	ppm	<b>&lt;1</b>	<1	<1	1
Chromium	ppm	<b>&lt;1</b>	0	0	<1
Molybdenum	ppm	<b>13</b>	12	17	18
Nickel	ppm	<b>&lt;1</b>	0	0	<1
Titanium	ppm	<b>&lt;1</b>	0	0	<1
Silver	ppm	<b>0</b>	0	0	0
Manganese	ppm	<b>&lt;1</b>	0	0	<1
Vanadium	ppm	<b>0</b>	<1	<1	0

### ADDITIVES

Calcium	ppm	<b>2133</b>	2160	2102	2264
Magnesium	ppm	<b>57</b>	53	81	78
Zinc	ppm	<b>1115</b>	1132	1131	1104
Phosphorus	ppm	<b>885</b>	954	973	908
Barium	ppm	<b>0</b>	0	0	11
Boron	ppm	<b>14</b>	14	18	18

### 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:** 10860873  
**Signed:** Wes Davis  
**Report Date:** 05 Feb 2024



# CONSTRUCTION EQUIPMENT



## GRAPHS

