



# CONSTRUCTION EQUIPMENT

## VOLVO L220H 3440 - DIESEL ENGINE



**Sample No:** VCP432426  
**Oil Type:** SHELL ROTELLA T3 15W40  
**Job No:**



### SAMPLE INFORMATION

Sample Number	VCP432426	VCP432412	VCP404564	VCP415185
Sample Date	06 Nov 2023	20 Oct 2023	06 Oct 2023	21 Sep 2023
Machine Hours	5889	5566	5284	5008
Oil Hours	323	282	276	294
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

**COVANTA ENERGY**  
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### OIL CONDITION

Visc @ 100°C	cSt	13.5	13.3	13.3	13.4
Base Number (BN)	mg KOH/g	6.5	6.6	7.1	7.0
Oxidation (PA)	%	44	43	45	45



### CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	56	52	55	53
Sulfation (PA)	%	50	47	48	47
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	16	13	13	14
Sodium	ppm	1	1	3	1
Potassium	ppm	2	1	2	<1



### WEAR METALS

Iron	ppm	1	2	<1	2
Copper	ppm	<1	<1	<1	<1
Lead	ppm	0	<1	<1	<1
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	<1	1	2	0
Chromium	ppm	0	<1	0	0
Molybdenum	ppm	8	27	24	30
Nickel	ppm	0	0	<1	0
Titanium	ppm	0	0	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	0	<1	<1	<1
Vanadium	ppm	0	0	0	<1



### ADDITIVES

Calcium	ppm	2133	2124	2021	2128
Magnesium	ppm	48	159	145	185
Zinc	ppm	1126	1175	1107	1164
Phosphorus	ppm	904	964	920	944
Barium	ppm	0	0	0	0
Boron	ppm	8	30	26	37

### 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:** 10736450  
**Signed:** Wes Davis  
**Report Date:** 10 Nov 2023



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## GRAPHS

