



# CONSTRUCTION EQUIPMENT

## VOLVO L220H 3440 - DIESEL ENGINE



**Sample No:** VCP431636  
**Oil Type:** SHELL ROTELLA T3 15W40  
**Job No:**



### SAMPLE INFORMATION

Sample Number	VCP431636	VCP432426	VCP432412	VCP404564
Sample Date	22 Nov 2023	06 Nov 2023	20 Oct 2023	06 Oct 2023
Machine Hours	6176	5889	5566	5284
Oil Hours	287	323	282	276
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

**COVANTA ENERGY**  
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### OIL CONDITION

Visc @ 100°C	cSt	13.4	13.5	13.3	13.3
Base Number (BN)	mg KOH/g	6.7	6.5	6.6	7.1
Oxidation (PA)	%	43	44	43	45

### CONTAMINATION

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

### 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.

### WEAR METALS

Iron	ppm	3	1	2	<1
Copper	ppm	<1	<1	<1	<1
Lead	ppm	<1	0	<1	<1
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	1	<1	1	2
Chromium	ppm	<1	0	<1	0
Molybdenum	ppm	21	8	27	24
Nickel	ppm	<1	0	0	<1
Titanium	ppm	<1	0	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	0	<1	<1
Vanadium	ppm	0	0	0	0

### ADDITIVES

Calcium	ppm	2259	2133	2124	2021
Magnesium	ppm	94	48	159	145
Zinc	ppm	1126	1126	1175	1107
Phosphorus	ppm	944	904	964	920
Barium	ppm	11	0	0	0
Boron	ppm	22	8	30	26

**Depot:** COVWES  
**Unique No:** 10782381  
**Signed:** Wes Davis  
**Report Date:** 13 Dec 2023



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## GRAPHS

