



# CONSTRUCTION EQUIPMENT

## VOLVO L220H 3440 - DIESEL ENGINE



**Sample No:** VCP432412  
**Oil Type:** SHELL ROTELLA T3 15W40  
**Job No:**



### SAMPLE INFORMATION

Sample Number	VCP432412	VCP404564	VCP415185	VCP415184
Sample Date	20 Oct 2023	06 Oct 2023	21 Sep 2023	05 Sep 2023
Machine Hours	5566	5284	5008	4714
Oil Hours	282	276	294	301
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

**COVANTA ENERGY**  
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### OIL CONDITION

Visc @ 100°C	cSt	13.3	13.3	13.4	13.4
Base Number (BN)	mg KOH/g	6.6	7.1	7.0	---
Oxidation (PA)	%	43	45	45	47

### CONTAMINATION

Soot %	%	0.1	0.1	0.1	0.1
Nitration (PA)	%	52	55	53	54
Sulfation (PA)	%	47	48	47	49
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	13	13	14	13
Sodium	ppm	1	3	1	<1
Potassium	ppm	1	2	<1	0

### WEAR METALS

Iron	ppm	2	<1	2	2
Copper	ppm	<1	<1	<1	1
Lead	ppm	<1	<1	<1	0
Tin	ppm	<1	<1	<1	0
Aluminum	ppm	1	2	0	1
Chromium	ppm	<1	0	0	<1
Molybdenum	ppm	27	24	30	32
Nickel	ppm	0	<1	0	0
Titanium	ppm	0	0	<1	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	<1	0

### ADDITIVES

Calcium	ppm	2124	2021	2128	2224
Magnesium	ppm	159	145	185	205
Zinc	ppm	1175	1107	1164	1201
Phosphorus	ppm	964	920	944	987
Barium	ppm	0	0	0	0
Boron	ppm	30	26	37	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 suitable for further service.

**Depot:** COVWES  
**Unique No:** 10710538  
**Signed:** Don Baldrige  
**Report Date:** 26 Oct 2023



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## VOLVO GRAPHS

